

Financial and Investment Management

**M.Com.Degree
Second Year
Paper No. VII**

**School of Distance Education
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Produced and Printed
by
EXCEL BOOKS PRIVATE LIMITED
A-45, Naraina, Phase-I,
New Delhi-110028
for
SCHOOL OF DISTANCE EDUCATION
Bharathiar University
Coimbatore-641046

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FINANCIAL AND INVESTMENT MANAGEMENT

SYLLABUS

UNIT I

Nature, Meaning, Scope and Features of Investment Management - Investment Media - Investment Process - Risk and Return - Financial Markets. Capital Market - New Issue Market - Stock Exchange - SEBI & its Regulations - NSE - OTCEI - Recent Trends.

UNIT II

Fundamental and Technical Analysis and Security Evaluation - Economic, Industrial, Company and Technical Analysis - Portfolio analysis and Management - Scope - Markowitz Theory - Portfolio Selection and Types of Portfolio - Diversification.

UNIT III

Merchant Banking - Meaning, Evaluation - Scope of Merchant Banking - Organization and Pattern of Management - Role of Merchant Banker - Lease Financing - Types of Lease - Factors Influencing Lease - Evaluation of Leasing - Hire Purchase - Meaning, Growth of Hire Purchase in India - RBI Guidelines - Source of Finance.

UNIT IV

Mutual Fund - Concept and Origin of Mutual Fund - Growth of Mutual Fund in India - Mutual Fund Schemes - Money Market Mutual Fund - UTI - LIC - SBI and other commercial banks - Entry of Private Financing Companies in Mutual fund schemes.

UNIT V

Credit Rating - Objectives - Institutions engaged in credit rating - Purpose and procedure of rating for debentures - Fixed Deposits - Short-term instruments. Role of CRISIL and ICRA. Venture Capital - Difference between Venture Capital and Conventional Funding - Venture capital schemes - Legal aspects - Agencies involved in providing venture capital.

UNIT I

LESSON

1

INTRODUCTION TO INVESTMENT MANAGEMENT

CONTENTS

- 1.0 Aims and Objectives
- 1.1 Introduction
- 1.2 Meaning of Investment
- 1.3 Nature and Scope of Investment
- 1.4 Features of Investment Management
- 1.5 Investment Media
- 1.6 Investment Process
- 1.7 Risk and Return
 - 1.7.1 Definitions and Concepts of Risk
 - 1.7.2 Types of Investment Risk
 - 1.7.3 Risk and Expected Return
- 1.8 Let us Sum up
- 1.9 Lesson End Activity
- 1.10 Keywords
- 1.11 Questions for Discussion
- 1.12 Suggested Readings

1.0 AIMS AND OBJECTIVES

After studying this lesson, you should be able to:

- Understand the nature, meaning, scope and features of investment management
- Attempt on the concept of investment media and investment process
- Analyse the factors of risk and return

1.1 INTRODUCTION

Investment involves making of a sacrifice in the present with the hope of deriving future benefits. Investment has many meanings and facets. Two most important features of an investment are current sacrifice and future benefit. We can identify a variety of activities which display the two features of investment. For example, A Portfolio manager buys 10,000 shares of ITC Ltd for his mutual fund; your relative may have subscribed to the 6-year Post Office Monthly Income Scheme. A corporate firm may spend Rs. 5 crores for expansion programmes; a middle aged man with a family decides to spend Rs. 10 lakhs to buy an apartment in a city and so on. All these constitute investment activities because they involve current sacrifice of consumption and hope of future gain. Perhaps,

an investment in an apartment for the purpose of living in it may involve, partially at least certain, current consumption but because the family will continue to live in the house for a very long period of time, the act of purchasing a house or apartment may be taken as an investment activity.

1.2 MEANING OF INVESTMENT

We can now give a simple yet a broad definition of investment. We can define investment as “Postponed Consumption”.

When you postpone consumption, sacrifice takes place in the present and is certain whereas the benefits occur in future and are uncertain. Therefore, Risk and Expected return from the investment are the two key determinants of Investment process.

At this point, it is necessary to distinguish between certain activities which are in the nature of gambling and those which are genuine investments. For instance, if you buy Rs. 1000 worth of lottery ticket you may be sacrificing current consumption in the hope of winning a handsome return but you are not really investing. In gambling or chance games, winning involves a lot of luck and the outcome is largely very uncertain. A buyer of lottery tickets knows that he will lose the money spent if he does not win and that the act of winning is not in his hands. However, an investor, not being a speculator, does not proceed with the assumption that he would lose his money because the act of investment decision-making is a well-thought out process. Genuine investors would always have an appropriate information. In relative to the risk profile of the investor, and thereafter the actual investment avenue is selected. However, in real life, it is very difficult to draw a very clear demarcating line to separate speculative or gambling motives from the genuine investment motives and the differences purely a matter of opinion.

1.3 NATURE AND SCOPE OF INVESTMENT

Investment refers to a commitment of funds to one or more assets that will be held over some future time period. Almost all individuals have wealth of some kind, ranging from the value of their services in the workplace to tangible assets to monetary assets. Anything not consumed today and saved for future use can be considered an investment. For our purposes, investment will mean a measurable asset retained in order to increase one's personal wealth.

We invest to improve our future welfare. Funds to be invested come from assets already owned, borrowed money, and savings or foregone consumption. By foregoing consumption today and investing the savings, we expect to enhance our future consumption possibilities. Anticipated future consumption may be by other family members, such as education funds for children or by ourselves, possibly in retirement when we are less able to work and produce for our daily needs. Regardless of why we invest we should all seek to manage our wealth effectively, obtaining the most from it. This includes protecting our assets from inflation, taxes and other factors.

1.4 FEATURES OF INVESTMENT MANAGEMENT

If we are making investment decisions today that will directly affect our future wealth, it would make sense that we utilize a plan to help guide our decisions. Surprisingly, the majority of people do not have in place any type of formalized investment plan. Taking some time to put together a financial plan can reap tremendous benefits. First, let's define financial planning.

Financial planning is the process of meeting our life goals through the proper management of our finances. Life goals can include buying a home, saving for our child's education or planning for retirement.

Financial planning provides direction and meaning to our financial decisions. It allows us to understand how each financial decision we make affects other areas of our finances. For example, buying a particular investment product might help us to pay off our mortgage faster or it might delay our retirement significantly. By viewing each financial decision as part of a whole, we can consider its short and long-term effects on our life goals. We can also adapt more easily to life changes and feel more secure that our goals are on track.

1.5 INVESTMENT MEDIA

The financial planning process consists of six steps that help us to take a “big picture” look at where we are financially. Using these six steps, we can work out where we are now, what we may need in the future and what we must do to reach our goals. These six steps are:

1. The financial planner should clearly explain or document the services to be provided to you and define both his and your responsibilities. The planner should explain fully how he will be paid and by whom. You and the planner should agree on how long the professional relationship should last and on how decisions will be made.
2. The financial planner should ask for information about your financial situation. You and the planner should mutually define your personal and financial goals, understand your time frame for results and discuss, if relevant, how you feel about risk. The financial planner should gather all the necessary documents before giving you the advice you need.
3. The financial planner should analyze your information to assess your current situation and determine what you must do to meet your goals. Depending on what services you have asked for, this could include analyzing your assets, liabilities and cash flow, current insurance coverage, investments or tax strategies.
4. The financial planner should offer financial planning recommendations that address your goals, based on the information you provide. The planner should go over the recommendations with you to help you understand them so that you can make informed decisions. The planner should also listen to your concerns and revise the recommendations as appropriate.
5. We and the planner should agree on how the recommendations will be carried out. The planner may carry out the recommendations or serve as your “coach,” coordinating the whole process with you and other professionals such as attorneys or stockbrokers.
6. We and the planner should agree on who will monitor your progress towards your goals. If the planner is in charge of the process, she should report to you periodically to review your situation and adjust the recommendations, if needed, as your life changes.

It may be helpful to be aware of some common mistakes people make when approaching financial planning:

1. Don't set measurable financial goals.
2. Make a financial decision without understanding its effect on other financial issues.
3. Confuse financial planning with investing.

4. Neglect to re-evaluate their financial plan periodically.
5. Think that financial planning is only for the wealthy.
6. Think that financial planning is for when they get older.
7. Think that financial planning is the same as retirement planning.
8. Wait until a money crisis to begin financial planning.
9. Expect unrealistic returns on investments.
10. Think that using a financial planner means losing control.
11. Believe that financial planning is primarily tax planning.

Check Your Progress 1

Define the following:

1. Investment

.....
.....

2. Financial Planning

.....
.....

1.6 INVESTMENT PROCESS

In this section we shall cover the background of Investment decision-making process in terms of:

- a) Risk and Return
- b) Investment avenues
- c) Investment attributes and
- d) An outline of Indian Capital market structure.

1.7 RISK AND RETURN

1.7.1 Definitions and Concepts of Risk

Of all possible questions which the investor may ask, the most important one is concerned with the probability of actual yield being less than zero, that is, with the probability of loss. This is the essence of risk. A useful measure of risk should somehow take into account both the probability of various possible “bad” outcomes and their associated magnitudes. Instead of measuring the probability of a number of different possible outcomes, the measure of risk should somehow estimate the extent to which the actual outcome is likely to diverge from the expected.

- i. **Risk Avoidance:** Investment planning is almost impossible without a thorough understanding of risk. There is a risk/return trade-off. That is, the greater risk accepted, the greater must be the potential return as reward for committing one's funds to an uncertain outcome. Generally, as the level of risk rises, the rate of return should also rise, and vice versa. Before we discuss risk in detail, we should

first explain that risk can be perceived, defined and handled in a multitude of ways. One way to handle risk is to avoid it. Risk avoidance occurs when one chooses to completely avoid the activity the risk is associated with. An example would be the risk of being injured while driving an automobile. By choosing not to drive a person could avoid that risk altogether. Obviously, life presents some risks that cannot be avoided. One may view a risk in eating food that might be toxic. Complete avoidance, by refusing to eat at all, would create the inevitable outcome of death, so in this case, avoidance is not a viable choice. In the investment world, avoidance of some risk is deemed to be possible through the act of investing in “risk-free” investments. Short-term maturity United States government bonds are usually equated with a “risk-free” rate of return. Stock market risk can be completely avoided by one choosing to have no exposure to it by not investing in equity securities.

- ii. **Risk Transfer:** Another way to handle risk is to transfer the risk. An easy to understand example of risk transfer is the concept of insurance. If one has the risk of becoming severely ill (and unfortunately we all do), then health insurance is advisable. An insurance company will allow you to transfer the risk of large medical bills to them in exchange for a fee called an insurance premium. The company knows that statistically, if they collect enough premiums and have a large enough pool of insureds, they can pay the costs of the minority who will require extensive medical treatment and have enough left over to record a profit. Risk transfer can also occur in investing. One may choose to purchase a municipal bond that is insured. One may purchase a put option on a stock which allows that person to “put to” or sell to someone their stock at a set price, regardless of how much lower the stock may drop. There are many examples of risk transfer in the area of investing.
- iii. **The Risk Averse Investor:** Do investors dislike risk? In economics in general, and investments in particular, the standard assumption is that investors are rational. Rational investors prefer certainty to uncertainty. It is easy to say that investors dislike risk, but more precisely, we should say that investors are risk averse. A risk-averse investor is one who will not assume risk simply for its own sake and will not incur any given level of risk unless there is an expectation of adequate compensation for having done so. Note carefully that it is not irrational to assume risk, even very large risk, as long as we expect to be compensated for it. In fact, investors cannot reasonably expect to earn larger returns without assuming larger risks.

Investors deal with risk by choosing (implicitly or explicitly) the amount of risk they are willing to incur. Some investors choose to incur high levels of risk with the expectation of high levels of return. Other investors are unwilling to assume much risk, and they should not expect to earn large returns.

We have said that investors would like to maximize their returns. Can we also say that investors, in general, will choose to minimize their risks? No! The reason is that there are costs to minimizing the risk, specifically a lower expected return. Taken to its logical conclusion, the minimization of risk would result in everyone holding risk-free assets such as savings accounts and Treasury bills. Thus, we need to think in terms of the expected return/risk trade-off that results from the direct relationship between the risk and the expected return of an investment.

- iv. **Influence of Time on Risk:** Investors need to think about the time period involved in their investment plans. The objectives being pursued may require a policy statement that speaks to specific planning horizons. In the case of an individual investor this could be a year or two in anticipation of a down payment on a home

purchase or a lifetime if planning for retirement. Generally speaking, the longer the time horizon the more risk can be incorporated into the financial planning.

Time has a different effect when analyzing the risk of owning fixed income securities, such as bonds. There is more risk associated with holding a bond long-term than short-term because of the uncertainty of future inflation and interest rate levels. If one were to “lock in” a rate of 6 percent for a bond that matured in one year, an upward move in inflation or interest rates would have a less adverse effect on the price of that bond than a 6 percent bond that matured in thirty years. That is because the bond could be redeemed in one year and reinvested in a bond with a presumably higher interest rate. The thirty years bond, however, will continue to pay only 6 percent for the rest of its thirty years life.

1.7.2 Types of Investment Risk

Systematic versus Unsystematic Risk: Modern investment analysis categorizes the traditional sources of risk causing variability in returns into two general types: those that are pervasive in nature, such as market risk or interest rate risk, and those that are specific to a particular security issue, such as business or financial risk. Therefore, we must consider these two categories of total risk. The following discussion introduces these terms. Dividing total risk into its two components, a general (market) component and a specific (issuer) component, we have systematic risk and non-systematic risk, which are additive:

$$\begin{aligned}\text{Total risk} &= \text{General risk} + \text{Specific risk} \\ &= \text{Market risk} + \text{Issuer risk} \\ &= \text{Systematic risk} + \text{Non systematic risk}\end{aligned}$$

Systematic Risk: An investor can construct a diversified portfolio and eliminate part of the total risk, the diversifiable or non-market part. What is left is the non-diversifiable portion or the market risk. Variability in a security’s total returns that is directly associated with overall movements in the general market or economy is called **systematic (market) risk**.

Virtually all securities have some systematic risk, whether bonds or stocks, because systematic risk directly encompasses interest rate, market, and inflation risks. The investor cannot escape this part of the risk because no matter how well he or she diversifies, the risk of the overall market cannot be avoided. If the stock market declines sharply, most stocks will be adversely affected; if it rises strongly, as in the last few months of 1982, most stocks will appreciate in value. These movements occur regardless of what any single investor does. Clearly, market risk is critical to all investors.

Non-systematic Risk: The variability in a security’s total returns not related to overall market variability is called the **non-systematic (non-market) risk**. This risk is unique to a particular security and is associated with such factors as business and financial risk as well as liquidity risk. Although all securities tend to have some non-systematic risk, it is generally connected with common stocks.

Remember the difference: Systematic (Market) Risk is attributable to broad macro factors affecting all securities. Non-systematic (Non-Market) Risk is attributable to factors unique to a security.

Market Risk: The variability in a security’s returns resulting from fluctuations in the aggregate market is known as market risk. All securities are exposed to market risk including recessions, wars, structural changes in the economy, tax law changes, even changes in consumer preferences. Market risk is sometimes used synonymously with systematic risk.

Interest Rate Risk: The variability in a security's return resulting from changes in the level of interest rates is referred to as interest rate risk. Such changes generally affect securities inversely; that is, other things being equal, security prices move inversely to interest rates. The reason for this movement is tied up with the valuation of securities. Interest rate risk affects bonds more directly than common stocks and is a major risk faced by all bondholders. As interest rates change, bond prices change in the opposite direction.

Purchasing Power Risk: A factor affecting all securities is purchasing power risk also known as inflation risk. This is the chance that the purchasing power of invested dollars will decline. With uncertain inflation, the real (inflation-adjusted) return involves risk even if the nominal return is safe (e.g., a Treasury bond). This risk is related to interest rate risk, since interest rates generally rise as inflation increases, because lenders demand additional inflation premiums to compensate for the loss of purchasing power.

Regulation Risk: Some investments can be relatively attractive to other investments because of certain regulations or tax laws that give them an advantage of some kind. Municipal bonds, for example pay interest that is exempt from local, state and federal taxation. As a result of that special tax exemption, municipals can price bonds to yield a lower interest rate since the net after-tax yield may still make them attractive to investors. The risk of a regulatory change that could adversely affect the stature of an investment is a real danger. In 1987, tax law changes dramatically lessened the attractiveness of many existing limited partnerships that relied upon special tax considerations as part of their total return. Prices for many limited partnerships tumbled when investors were left with different securities, in effect, than what they originally bargained for. To make matters worse, there was not an extensive secondary market for these illiquid securities and many investors found themselves unable to sell those securities at anything but "firesale" prices if at all.

The risk of doing business in a particular industry or environment is called business risk. For example, as one of the largest steel producers, U.S. Steel faces unique problems. Similarly, General Motors faces unique problems as a result of such developments as the global oil situation and Japanese imports.

Reinvestment Risk: It is important to understand that YTM is a promised yield, because investors earn the indicated yield only if the bond is held to maturity and the coupons are reinvested at the calculated YTM (yield to maturity). Obviously, no trading can be done for a particular bond if the YTM is to be earned. The investor simply buys and holds. What is not so obvious to many investors, however, is the reinvestment implications of the YTM measure. Because of the importance of the reinvestment rate, we consider it in more detail by analyzing the reinvestment risk.

The YTM calculation assumes that the investor reinvests all coupons received from a bond at a rate equal to the computed YTM on that bond, thereby earning interest on interest over the life of the bond at the computed YTM rate. In effect, this calculation assumes that the reinvestment rate is the yield to maturity.

If the investor spends the coupons, or reinvests them at a rate different from the assumed reinvestment rate of 10 percent, the realized yield that will actually be earned at the termination of the investment in the bond will differ from the promised YTM. And, in fact, coupons almost always will be reinvested at rates higher or lower than the computed YTM, resulting in a realized yield that differs from the promised yield. This gives rise to **reinvestment rate risk**.

This interest-on-interest concept significantly affects the potential total dollar return. The exact impact is a function of coupon and time to maturity, with reinvestment becoming more important as either coupon or time to maturity, or both, rises. Specifically:

1. Holding everything else constant, the longer the maturity of a bond, the greater the reinvestment risk.
2. Holding everything else constant, the higher the coupon rate, the greater the dependence of the total dollar return from the bond on the reinvestment of the coupon payments.

Let's look at realized yields under different assumed reinvestment rates for a 10 percent noncallable 20-year bond purchased at face value. If the reinvestment rate exactly equals the YTM of 10 percent, the investor would realize a 10 percent compound return when the bond is held to maturity, with \$4,040 of the total dollar return from the bond attributable to interest on interest. At a 12 percent reinvestment rate, the investor would realize a 11.14 percent compound return, with almost 75 percent of the total return coming from interest on interest (\$5,738/\$7,738). With no reinvestment of coupons (spending them as received), the investor would achieve only a 5.57 percent return. In all cases, the bond is held to maturity.

Clearly, the reinvestment portion of the YTM concept is critical. In fact, for long-term bonds the interest-on-interest component of the total realized yield may account for more than three-fourths of the bond's total dollar return.

International Risk: International Risk can include both Country risk and Exchange Rate risk.

1. **Exchange Rate Risk:** All investors who invest internationally in today's increasingly global investment arena face the prospect of uncertainty in the returns after they convert the foreign gains back to their own currency. Unlike the past when most U.S. investors ignored international investing alternatives, investors today must recognize and understand **exchange rate risk**, which can be defined as the variability in returns on securities caused by currency fluctuations. Exchange rate risk is sometimes called *currency risk*.

For example, a U.S. investor who buys a German stock denominated in marks must ultimately convert the returns from this stock back to dollars. If the exchange rate has moved against the investor, losses from these exchange rate movements can partially or totally negate the original return earned. Obviously, U.S. investors who invest only in U.S. stocks on U.S. markets do not face this risk, but in today's global environment where investors increasingly consider alternatives from other countries, this factor has become important. Currency risk affects international mutual funds, global mutual funds, closed-end single country funds, American Depository Receipts, foreign stocks, and foreign bonds.

2. **Country Risk:** Country risk, also referred to as political risk, is an important risk for investors today. With more investors investing internationally, both directly and indirectly, the political, and therefore economic, stability and viability of a country's economy need to be considered. The United States has the lowest country risk, and other countries can be judged on a relative basis using the United States as a benchmark. Examples of countries that needed careful monitoring in the 1990s because of country risk included the former Soviet Union and Yugoslavia, China, Hong Kong, and South Africa.

Liquidity Risk: Liquidity risk is the risk associated with the particular secondary market in which a security trades. An investment that can be bought or sold quickly and without significant price concession is considered liquid. The more uncertainty about the time element and the price concession, the greater the liquidity risk. A Treasury bill has little or no liquidity risk, whereas a small OTC stock may have substantial liquidity risk.

Measurement of Risk

Volatility: Of all the ways to describe risk, the simplest and possibly most accurate is “the uncertainty of a future outcome”. The anticipated return for some future period is known as the **expected return**. The actual return over some past period is known as the **realized return**. The simple fact that dominates investing is that the realized return on an asset with any risk attached to it may be different from what was expected. Volatility may be described as the range of movement (or price fluctuation) from the expected level of return. The more a stock, for example, goes up and down in price, the more volatile that stock is. Because wide price swings create more uncertainty of an eventual outcome, increased volatility can be equated with increased risk. Being able to measure and determine the past volatility of a security is important in that it provides some insight into the riskiness of that security as an investment.

Standard Deviation: Investors and analysts should be at least somewhat familiar with the study of probability distributions. Since the return an investor will earn from investing is not known, it must be estimated. An investor may expect the TR (total return) on a particular security to be 10 percent for the coming year, but in truth this is only a “point estimate.”

Probability Distributions: To deal with the uncertainty of returns, investors need to think explicitly about a security’s distribution of probable TRs. In other words, investors need to keep in mind that, although they may expect a security to return 10 percent, for example, this is only a one-point estimate of the entire range of possibilities. Given that investors must deal with the uncertain future, a number of possible returns can, and will, occur.

In the case of a Treasury bond paying a fixed rate of interest, the interest payment will be made with, 100 percent certainty barring a financial collapse of the economy. The probability of occurrence is 1.0, because no other outcome is possible. With the possibility of two or more outcomes, which is the norm for common stocks, each possible likely outcome must be considered and a probability of its occurrence assessed. The result of considering these outcomes and their probabilities together is a probability distribution consisting of the specification of the likely returns that may occur and the probabilities associated with these likely returns.

Probabilities represent the likelihood of various outcomes and are typically expressed as a decimal. Sometimes fractions are used. The sum of the probabilities of all possible outcomes must be 1.0, because they must completely describe all the (perceived) likely occurrences. How are these probabilities and associated outcomes obtained? In the final analysis, investing for some future period involves uncertainty, and therefore subjective estimates. Although past occurrences (frequencies) may be relied on heavily to estimate the probabilities, the past must be modified for any changes expected in the future. Probability distributions can be either discrete or continuous. With a discrete probability distribution, a probability is assigned to each possible outcome. With a continuous probability distribution an infinite number of possible outcomes exist. The most familiar continuous distribution is the normal distribution depicted by the well-known bell-shaped curve often used in statistics. It is a two-parameter distribution in that the mean and the variance fully describe it.

To describe the single most likely outcome from a particular probability distribution, it is necessary to calculate its expected value. The expected value is the average of all possible return outcomes, where each outcome is weighted by its respective probability of occurrence. For investors, this can be described as the expected return.

We have mentioned that it's important for investors to be able to quantify and measure risk. To calculate the total risk associated with the expected return, the **variance or standard deviation** is used. This is a measure of the spread or dispersion in the probability distribution; that is, a measurement of the dispersion of a random variable around its mean. Without going into further details, just be aware that the larger this dispersion, the larger the variance or standard deviation. Since variance, volatility and risk can in this context be used synonymously, remember that the larger the standard deviation, the more uncertain the outcome.

Calculating a standard deviation using probability distributions involves making subjective estimates of the probabilities and the likely returns. However, we cannot avoid such estimates because future returns are uncertain. The prices of securities are based on investors' expectations about the future. The relevant standard deviation in this situation is the ex ante standard deviation and not the ex post based on realized returns.

Two measures are used for this purpose: the average (or mean) absolute deviation and the standard deviation Table 1.1(a) shows how the average absolute deviation can be calculated. First the expected return is determined. In this case it is 10.00 percent. Next, each possible outcome is analyzed to determine the amount by which the value deviates from the expected amount. These figures shown in Column (5) of the table, include both positive and negative values. As shown in Column (6), a weighted average, using probabilities as weights, will equal zero. This is a mathematical necessity, given the way expected value is Calculated. To assess the risk the signs of deviations can simply be ignored. As shown in column (7), the weighted average of the absolute values of the deviations, using probabilities as weights, is per cent. This constitutes the first measure of "likely" deviation.

Table 1.1(a): Calculating the Mean Absolute Deviation

Event	Probability	Return %	Probability X Return	Deviation	Probability X Deviation	Probability X Absolute Deviation
(1)	(2)	(3)	(4)	(5)	(6)	(7)
a	.20	-10	-2.0	-25.0	-5.0	5.0
b	.40	25	10.0	10.0	4.0	4.0
c	.30	20	6.0	.0	1.5	1.5
d	.10	10	-1.0	-5.0	-0.5	0.5
			Expected Return = 15.0		0	Average = 10.0 Absolute Deviation

Table 1.1(b): Calculating the Standard Deviation

Event	Probability	Deviation	Deviation squared	Probability X Deviation
(1)	(2)	(3)	(4) = (3) 2	(5) = (2) X (4)
a	.20	-25.0	625.0	125.0
b	.40	10.0	100.0	40.0
C	.30	5.0	25.5	7.5
d	.10	-5.0	25.5	2.4
			Variation = Weighted average squared deviation = 175.0	
			Standard Deviation = square root of variance = 13.2287	

Table 1.1(b) presents slightly more complex but preferably analytical measure. In this, the deviations are squared (making the value all positive); then a weighted average of these amounts is taken using the probabilities as weighs. The result is termed the variance. It is converted to the original units by taking the square root. The result is termed the standard deviation.

Although the two measures are often interchangeable in this manner, the standard deviation is generally preferred for investment analysis. The reason is simple. The standard deviation of a portfolio's return can be determined from (among other things) the standard deviations of the returns of its components securities, no matter what the distributions. No relationship of comparable simplicity exists for the average absolute deviations.

When an analyst predicts that a security will return 15% next year, he or she is presumably stating something comparable to an expected value. If asked to express the uncertainty about the outcome, he or she might reply that the odds are 2 out of 3 that the actual return will be within 10% of the estimate (i.e., 5% and 25%). The standard deviation is a formal measure of uncertainty, or risk, expressed in this manner, just as the expected value is a formal measure of a "best guess" estimate. Most analysts make such predictions directly, without explicitly assessing probabilities and making the requisite computations.

Although standard deviations based on realized returns are often used as proxies for *ex ante* standard deviations, investors should be careful to remember that the past cannot always be extrapolated into the future without modifications. *Ex post* standard deviations may be convenient, but they are subject to errors. One important point about the estimation of standard deviation is the distinction between individual securities and portfolios. Standard deviations for well-diversified portfolios are reasonably steady across time, and therefore historical calculations may be fairly reliable in projecting the future. Moving from well-diversified portfolios to individual securities, however, makes historical calculations much less reliable. Fortunately, the number one rule of portfolio management is to diversify and hold a portfolio of securities, and the standard deviations of well-diversified portfolios may be more stable.

Something very important to remember about standard deviation is that it is a measure of the **total risk** of an asset or a portfolio, including therefore **both systematic and unsystematic risk**. It captures the total variability in the asset's or portfolio's return, whatever the sources of that variability. In summary, the standard deviation of return measures the total risk of one security or the total risk of a portfolio of securities. The historical standard deviation can be calculated for individual securities or portfolios of securities using total returns for some specified period of time. This *ex post* value is useful in evaluating the total risk for a particular historical period and in estimating the total risk that is expected to prevail over some future period.

The standard deviation, combined with the normal distribution, can provide some useful information about the dispersion or variation in returns. In a normal distribution, the probability that a particular outcome will be above (or below) a specified value can be determined. With one standard deviation on either side of the arithmetic mean of the distribution, 68.3 percent of the outcomes will be encompassed; that is, there is a 68.3 percent probability that the actual outcome will be within one (plus or minus) standard deviation of the arithmetic mean. The probabilities are 95 and 99 percent that the actual outcome will be within two or three standard deviations, respectively, of the arithmetic mean.

Beta

Beta is a measure of the systematic risk of a security that cannot be avoided through diversification. Beta is a relative measure of risk—the risk of an individual stock relative to the market portfolio of all stocks. If the security's returns move more (less) than the market's returns as the latter changes, the security's returns have more (less) volatility (fluctuations in price) than those of the market. It is important to note that beta measures a security's volatility, or fluctuations in price, relative to a benchmark, the market portfolio of all stocks.

Securities with different slopes have different sensitivities to the returns of the market index. If the slope of this relationship for a particular security is a 45-degree angle, the beta is 1.0. This means that for every one percent change in the market's return, on average this security's returns change 1 percent. The market portfolio has a beta of 1.0. A security with a beta of 1.5, indicates that, on average, security returns are 1.5 times as volatile as market returns, both up and down. This would be considered an aggressive security because when the overall market return rises or falls 10 percent, this security, **on average**, would rise or fall 15 percent. Stocks having a beta of less than 1.0 would be considered more conservative investments than the overall market.

Beta is useful for comparing the relative systematic risk of different stocks and, in practice, is used by investors to judge a stock's riskiness. Stocks can be ranked by their betas. Because the variance of the market is a constant across all securities for a particular period, ranking stocks by beta is the same as ranking them by their absolute systematic risk. Stocks with high betas are said to be high-risk securities.

Check Your Progress 2

What do you understand by:

1. Systematic risk

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.....

2. Unsystematic risk

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.....

1.7.3 Risk and Expected Return

Risk and expected return are the two key determinants of an investment decision. The next chapter in this study material will study Risk in Some greater detail: therefore, for the present only a sketchy presentation will be made about Risk. Risk, in simple terms, is associated with the variability of the rates of return from an investment; how much do individual outcomes deviate from the expected value? Statistically, risk is measured by any one of the measures of dispersion such as Co-efficient of range, variance, standard deviation etc.

The Risk involved in investment depends on various factors such as:

- i) The length of the maturity period—longer maturity periods impart greater risk to investments.
- ii) The Credit-worthiness of the issuer of securities – the ability of the borrower to make periodical interest payments and pay back the principal amount will impart safety to the investment and this reduces risk.
- iii) The nature of the instrument or security also determines the risk. Generally, government securities and fixed deposits with banks tend to be the riskless or least risky; Corporate debt instruments like the Debentures tend to be riskier than government bonds and ownership instruments like equity shares tend to be riskiest. The relative ranking of instruments by risk is once again connected to the safety of the investment.

- iv) Equity shares are considered to be the most risky investment on account of the variability of the rates of returns and also because the residual risk of bankruptcy has to be borne by the equity holders.
- v) The liquidity of an investment also determines the risk involved in that investment. Liquidity of an asset refers to its quick sale ability without a loss or with a minimum of loss.
- vi) In addition to the foretasted factors, there are also various others such as the economic, industry and firm specific factors which affect the risk an investment. A detailed analysis of these risk factors will be taken up in the next chapter.

Another major factor determining the investment decision is the rate of return expected by the investor. The rate of return expected by the investor consists of the yield and capital appreciation.

Before we look at the methods of computing the rate of return from an investment, it is necessary to understand the concept of the return on investment. We have noted earlier that an investment is a postponed consumption. Postponement of consumption is synonymous with the concept of 'time preference for money'. Other things remaining the same, individuals prefer current consumption to future consumption. Therefore, in order to induce individuals to postpone current consumption they have to be paid a certain compensation which is the time preference for consumption. The compensation paid should be a positive real rate of return. The Real Rate of Return is generally equal to the rate of return expected by an investor from a risk-free capital asset assuming a world without inflation. However, in real life, inflation is a common feature of a capitalist economy. If the investor is not compensated for the effects of inflation, the real rate of return may turn out to be either zero or negative. Therefore, the investors, generally, add expected inflation rate to the real rate of return to arrive at the Nominal Rate of Return.

For example, assume that the present value of an investment is Rs. 100, the investor expects a real time rate of 3 percent per annum and the expected inflation rate is 3 percent per annum. If the investor were to receive only the real time rate he would get back Rs. 103 at the end of one year. The real rate of return received by the investor would be equal to zero because the time preference rate of 3% per annum is matched by the inflation of 3% per annum. If the actual inflation rate is greater than 3% annum, the investor would suffer negative returns.

Thus, Nominal Rate of Return on a Risk Free Asset is equal to the time preference real rate plus expected inflation rate.

If the investment is capital assets other than government obligations, such assets would be associated with a degree of risk which is idiosyncratic to the investment. For an individual to invest in such assets, an additional compensation, called the Risk Premium will have to be paid over and above the Nominal rate of return. Therefore, three major determinants of the Rate of Return expected by the investor are:

- i) The time preference risk free real rate
- ii) The expected rate of inflation
- iii) The risk associated with the investment which is unique to the investment.

Hence,

Required return = Risk free real rate + Inflation premium + Risk premium

It was stated earlier that the rate of return from an investment consists of the yield and capital appreciation if any. The difference between the sale price and the purchase price

is the capital appreciation and the interest or dividend divided by the purchase price is the yield. Accordingly

$$\text{Rate of return } (R_t) = \frac{I_t + [P_t - P_{t-1}]}{P_{t-1}} \quad (\text{Eqn 1.1})$$

Where R_t = Rate of return per time period 't'

I_t = Income for the period 't'

P_t = Price at the end of time period 't'

P_{t-1} = Initial price, i.e., price at the beginning of the period 't'.

In the above equation 't' can be a day or a week or a month or a year or years and accordingly daily, weekly, monthly or annual rates of return could be computed for most capital assets.

The above equation can be split in to two components. Viz.,

$$\text{Rate of return } (R_t) = \frac{I_t}{P_{t-1}} + \frac{P_t - P_{t-1}}{P_{t-1}} \quad (\text{Eqn 1.2})$$

Where $\frac{I_t}{P_{t-1}}$ is called the current yield, and

$\frac{P_t - P_{t-1}}{P_{t-1}}$ is called the capital gain yield.

To illustrate, suppose the following information is given for a corporate bond:

Price of the bond at the beginning of the year : Rs. 90

Price of the bond at the end of the year : Rs. 95.40

Interest received for the year : Rs. 13.50

The rate of return can be computed as follows:

$$\frac{13.50 + (95.40 - 90)}{90} = 0.21 \text{ or } 21\% \text{ per annum}$$

the return of 21% consist of 15% current yield and 6% capital gain yield.

There is always a direct association between the rates of return and the asset prices. Finance theory stipulates that the price of any asset is equal to the sum of the discounted cash flows which the capital asset owner would receive. Accordingly the current price of any capital asset can be expected, symbolically, as

$$P_0 = \sum_{t=1}^n \frac{E(I_t)}{(1+r)^t} + \frac{P_n}{(1+r)^n} \quad (\text{Eqn 1.3})$$

Where $E(R_t)$ = expected income to be received in year 't'

P_0 = Current price of the capital asset

P_n = Price of the asset on redemption or on liquidation

R = The rate of return investors expect given the risk inherent in that capital asset.

Thus, 'r' is the rate or return, which the investors require in order to invest in a capital asset, that is used to discount the expected future cash flows from that capital asset.

Risk-Return Relationship: The most fundamental tenet of Finance Literature is that there is a trade-off between risk and return. The risk-return relationship requires that the return on a security should be commensurate with its riskiness. If the capital markets are efficient operationally then all investment assets should provide a rate or return that is consistent with the risks associated with them. The Risk and return are directly variable. i.e., an investment with higher risk should produce higher return.

The risk/return trade-off could easily be called the “ability-to-sleep-at-night test.” While some people can handle the equivalent of financial skydiving without batting an eye, others are terrified to climb the financial ladder without a secure harness. Deciding what amount of risk you can take while remaining comfortable with your investments is very important.

In the investing world, the dictionary definition of risk is the chance that an investment’s actual return will be different than expected. Technically, this is measured in statistics by standard deviation. Risk means you have the possibility of losing some, or even all, of our original investment.

Low levels of uncertainty (low risk) are associated with low potential returns. High levels of uncertainty (high risk) are associated with high potential returns. The risk/return trade-off is the balance between the desire for the lowest possible risk and the highest possible return. This is demonstrated graphically in the chart below. A higher standard deviation means a higher risk and higher possible return.

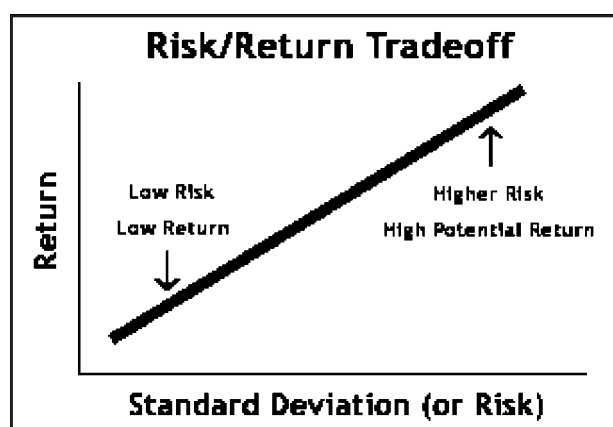


Figure 1.1

A common misconception is that higher risk equals greater return. The risk/return trade-off tells us that the higher risk gives us the *possibility* of higher returns. There are no guarantees. Just as risk means higher potential returns, it also means higher potential losses.

On the lower end of the scale, the risk-free rate of return is represented by the return on Treasury Bill of Government Securities because their chance of default is next to nothing. If the risk-free rate is currently 8 to 10%, this means, with virtually no risk, we can earn 8 to 10% per year on our money.

The common question arises: who wants to earn 6% when index funds average 12% per year over the long run? The answer to this is that even the entire market (represented by the index fund) carries risk. The return on index funds is not 12% every year, but rather—5% one year, 25% the next year, and so on. An investor still faces substantially greater risk and volatility to get an overall return that is higher than a predictable government security. We call this additional return the risk premium, which in this case is 8% (12% - 8%).

Determining what risk level is most appropriate for you isn't an easy question to answer. Risk tolerance differs from person to person. Your decision will depend on your goals, income and personal situation, among other factors.

The portfolio analysis begins where the security analysis ends and this facts has important consequences for investors. Portfolios, which are combinations of securities, may or may not take on the aggregate characteristics of their individual parts.

Portfolio analysis considers the determination of future risk and return in holding various blends of individual securities. Portfolio expected return is a weighted average of the expected return of individual securities but portfolio variance, in sharp contrast, can be something less than a weighted average of security variances. As a result an investor can than any other security in the portfolio. This seemingly curious result occurs because risk depends greatly on the covariance among returns of individual securities. We will show how an investor can reduce expected risk through diversification, why this risk reduction and expected risk level of a given portfolio of assets.

Portfolio and Security Returns

A Portfolio is a collection of securities. Since it is rarely desirable to invest the entire funds of an individual or an institution in a single security, it is essential that every security be viewed in a portfolio context. Thus, it seems logical that the expected return of a portfolio should depend on the expected return of each of the security contained in the portfolio. It also seems logical that the amounts invested in each security should be important. Indeed, this is the case. The example of a portfolio with three securities shown in Table 1.2(a) illustrates this point. The expected holding period value – relative for the portfolio is clearly:

$$\frac{\text{Rs. 23,100}}{\text{Rs. 20,000}} = 1.155$$

Giving an expected holding period return of 15.50%.

Table 1.2(b) combines the information in a somewhat different manner. The portfolio's expected holding-period value-relative is simply a weighted average of the expected value-relative of its component securities, using current market values as weights.

The procedure can be used as easily with holding-period returns. Table 1.2(c) provides an illustration. Holding period return is simply 100 times the value obtained by subtracting one from the holding period value-relative. Thus a weighted average of the former will have the same characteristics as weighted average of the latter.

Table 1.2(a): Security and Portfolio Values

Security	No. of Shares	Current Price Per Share	Current Value	Expected End-of-Period Share Value	Expected End-of-Period Share Value
(1)	(2)	(3)	(4)	(5)	(6)
XYZ	100	Rs. 15.00	1,500	Rs.18.00	Rs. 1,800
ABC	150	20.00	3,000	22.00	3,300
RST	200	40.00	8,000	45.00	9,000
KNF	250	25.00	6,250	30.00	7,500
DET	100	12.50	1,250	15.00	1,500
			Rs. 20,000		Rs. 23,100

Table 1.2(b): Security and Portfolio Value-Relatives

Security	Current Value	Proportion of current value of Properties	Current Price Per Share	Expected End-of-Period Value per share	Expected Holding-Period Value-Relative	Contribution to Portfolio Expected Holding-Period Value-Relative
(1)	(2)	3 = (2) Rs. 20,000	(4)	(5)	(6) = (5) / (4)	(7) = (3) X (6)
XUZ	Rs.1,500	.0750	Rs. 15,00	Rs. 18.00	1,200	0.090000
ABC	3,000	.1500	20,00	22.00	1,100	0.165000
RST	8,000	.4000	40,00	45.00	1,125	0.450000
KNF	6,250	.3125	25,00	30.00	1,200	0.375000
DET	1,250	.0625	12,50	15.00	1,200	0.075000
	20,000	1.0000				1.155000

Table 1.2(c): Security and Portfolio Holding-period Returns

Security	Proportion of Current Value of Portfolio	Expected Holding Period Return (%)	Contribution to Portfolio Expected Holding Period Return (%)
(1)	(2)	(3)	(4)
XYZ	.0750	20.00	1.50
ABC	.1500	10.00	1.50
RST	.4000	12.50	5.00
KNF	.3125	20.00	6.25
DET	.0625	20.00	1.25
	1.0000		15.50

Since portfolio's expected return is a weighted average of the expected returns of its securities, the contribution of each security to the portfolio's expected returns depends on its expected returns and its proportionate share of the initial portfolio's market value. Nothing else is relevant. It follows that an investor who simply wants the greatest possible expected return should hold one security : the one which is considered to have the greatest expected return. Very few investors do this, and very few investment advisers would counsel such an extreme policy. Instead, investors should diversify, meaning that their portfolio should include more than one security. This is because diversification can reduce risk.

Portfolio Risk

In order to estimate the total risk of a portfolio of assets, several estimates are needed: the variance of each individual of each individual asset under consideration for inclusion in the portfolio and the covariance, or correlation co-efficient, of each asset with each of the other assets.

Table 1.3: Portfolio and Security Risks

(A) Return

Event	Probability	Return on Security X	Return on Security Y	Return on Portfolio
(1)	(2)	(3)	(4)	(5) = .6X(3)+.4X(4)
a	.20	-10%	5.0%	-4.0%
b	.40	25	30.0	27.0
c	.30	20	20.0	20.0
d	.10	10	10.0	10.0

Contd....

(B) Summary Measures

	Security X	Security Y	Portfolio
Expected Return	15.0	20.0	17.0
Variance of Return	175.0	95.0	135.8
Standard deviation of Return	13.2287	9.7468	11.65

(C) Covariance and Correlations

Event	Probability	Deviation of Return for Security X	Deviation of Return for Security Y	Product of Deviation	Probability Times Product of Deviation
(1)	(2)	(3)	(4)	(5)=(3)X(4)	(6) = (2) X (5)
a	.20	-25%	-15.0%	375	75.00
b	.40	10.0	10.0	100	40.00
c	.30	5.0	0	0	0
d	.10	-5.0	-10.0	50	5.00
				Covariance = 120.00	
Correlation Co-efficient = 120.00 13.2287X9.7468 = 0.9307					

Table 1.3 (A) shows the returns on two securities and on a portfolio that includes both of them. Security X constitutes 60 percent of the market value of the portfolio and security Y the other 40 percent. The predicted return on the portfolio is simply a weighted average of the predicted returns on the securities, using the proportionate values as weights. Summary measures show values computed from the estimates in Table 1.3(B). The expected return for the portfolio is simply the weighted average of the expected returns on its securities, using the proportionate values as weights ($17.0\% = .6 \times 15\% + .4 \times 20\%$). However, this is not true for either the variance or the standard deviation of return for the portfolio are smaller than the corresponding values for either of the component securities. This rather surprising result has a simple explanation. The risk of a portfolio depends not only on the risk of its securities, considered in isolation, but also on the extent to which they are affected similarly by underlying events. To illustrate this, two extreme cases are shown in Table 1.4. In the first case both the variance and the standard deviation of the portfolio are the same as the corresponding values for the securities. Then diversification has no effect at all on risk. In the second case the situation is very different. Here the security's returns offset one another in such a manner that the particular combination that makes up this portfolio has no risk at all. Diversification has completely eliminated risk. The difference between these two cases concerns the extent to which the security's returns are correlated i.e., tend to "go-together". Either of two measures can be used to state the degree of such a relationship: the covariance or the correlation co-efficient.

The computations required to obtain the covariance for the two securities are presented in Table 1.3(C). The deviation of each security's return from its expected value is determined and the product of the two obtained column (5). The variance is simply a weighted average of such products, using the probabilities of the events as weights. A positive value for the covariance indicates that the securities returns tend to go together – for example, a better than expected return for one is likely to occur along with a better-than-expected return for the other. A small or zero value for the covariance indicates that there is little or no relationship between the two returns. The correlation coefficient is obtained by dividing the covariance by the product of the two security's standard deviation. As shown in Table 1.3(C), in this case the value is 0.9307.

Table 1.4: Risk and Return for a Two-Security Portfolio**(A) Two Securities with Equal Returns**

Event	Probability	Return on Security X	Return on Security Y	Return Portfolio
(1)	(2)	(3)	(4)	(5)=.6X(3)+.4X(4)
A	.20	-10.0	-10.0	-10.0
B	.40	25.0	25.0	25.0
C	.30	20.0	20.0	20.0
D	.10	10.0	10.0	10.0
Expected Return		15.0	15.0	15.0
Variance of Return		175.0	175.0	175.0
Standard deviation of Return		13.2287	13.2287	13.2287

(B) Two Securities with Offsetting Returns

Event	Probability	Return on Security X %	Return on Security Y %	Return Portfolio
(1)	(2)	(3)	(4)	(5)
a	.20	-10.	40.0	10.0
b	.40	25.0	-20.0	10.0
c	.30	20.0	-5.0	10.0
d	.10	10.0	10.0	10.0
Expected Return (%)		15.0	-0.5	10.0
Variance of Return		175.0	37.47	0
Standard deviation		13.2287	6.1217	0

Correlation coefficients always lie between +1.0 and -1.0, inclusive. The former value represents perfect positive correlation, of the type shown in the example in Table 1.4(A). The latter value represents perfect negative correlation in Table 1.4(B). The relationship between the covariance and the correlation coefficient can be represented as follows:

$$C_{xy} = r_{xy} S_x S_y \quad (1)$$

Or
$$R_{xy} = \frac{C_{xy}}{S_x S_y} \quad (2)$$

Where:

C_{xy} = covariance between return on X and return on Y.

R_{xy} = coefficient of correlation between return on X and return on Y.

S_x = standard deviation of return for X.

S_y = standard deviation of return for Y.

For two securities, X and Y, the relationship between the risk of a portfolio of two securities and the relevant variables, the formula is:

$$V_p = W_x^2 V_x + 2W_x W_y C_{xy} + W_y^2 V_y \quad (3)$$

Where:

V_p = the variance of return for the portfolio.

V_x = the variance of return for the security X.

V_y = the variance of return for the security Y.

C_{xy} = the covariance between the return on security X and the return on security Y.

W_x = the proportion of the portfolio's value invested in security X.

W_y = the proportion of the portfolio's value invested in security Y.

For the case shown in Table 1.3

$$W_x = 0.6; W_y = .4$$

$$V_x = 175.0 \quad V_y = 95.0 \quad C_{xy} = 120.0$$

Inserting these values in formula (3), we get the variance of the portfolio as a whole:

$$\begin{aligned} V_p &= (0.6)^2 \times 175.0 + 2 \times 0.6 \times 0.4 \times 120 + (0.4)^2 \times 95.0 \\ &= 63.00 + 57.60 + 15.20 \\ &= 135.80 \end{aligned}$$

The relationship that gives the variance for a portfolio with more than two securities is similar in nature but more extensive. Both the risks of the securities and all their correlations have to be taken into account.

a. When Diversification does not Help

Perfectly Positively Correlated Returns

The return from two securities are perfectly positively correlated when a cross-plot gives points lying precisely on a upward-sloping straight line. Each point indicates the return on security A (horizontal axis) and the return on security B (vertical axis) corresponding to one event. The example shown in Table 1.4 (A) confirms to this pattern.

What is the effect on risk when two securities of this type are combined? The general formula is:

$$V_p = W_x^2 V_x + 2 W_x W_y C_{xy} + W_y^2 V_y$$

The covariance term can, of course, be replaced, using formula (1):

$$C_{xy} = r_{xy} S_x S_y$$

However, in this case there is perfect positive correlation, so $r_{xy} = +1$ and $C_{xy} = S_x S_y$.

As always, $V_x = S_x^2$, $V_y = S_y^2$ and $V_p = S_p^2$

Substituting all these values in general formula gives:

$$\begin{aligned} S_p^2 &= W_x^2 S_x^2 + 2 W_x W_y S_x S_y + W_y^2 S_y^2 \\ S_p^2 &= (W_x S_x + W_y S_y)^2 \\ S_p &= W_x S_x + W_y S_y \quad \text{When } r_{xy} = +1 \end{aligned} \tag{4}$$

This is an important result. When two securities returns are perfectly positively correlated, the risk of a combination, measured by the standard deviation of return, is just a weighted average of the risks of the component securities, using market value as weights. The principle holds as well if more than two securities are included in a portfolio. In such cases, diversification does not provide risk reduction but only risk averaging.

b. When Diversification can Eliminate Risk

Perfectly Negatively Correlated Returns

Diversification can eliminate risk in case of perfectly negatively correlated returns. Since $r_{xy} = -1$, the general formula becomes :

$$S_p^2 = W_x^2 S_x^2 - 2 W_x W_y S_x S_y + W_y^2 S_y^2$$

This can be factored to obtain:

$$S^2p = (W_x S_x - W_y S_y)^2 \text{ when } r_{xy} = -1. \quad (5)$$

Assuming a portfolio in which the proportionate holdings are inversely related to the relative risks of the two securities, i.e.,:

$$\frac{W_x}{W_y} \text{ or } \frac{S_y}{S_x} \text{ or } W_x = \frac{S_y W_y}{S_x}$$

For this combination the parenthesized term in formula (6) will be:

$$W_x S_x - W_y S_y = \frac{S_y W_y}{S_x} S_x - W_y S_y = 0 \quad (6)$$

If this term is zero, of course, the portfolio's standard deviation of return must be zero as well. When two securities returns are perfectly negatively correlated, it is possible to combine them in a manner that will eliminate all risk. This principle motivates all hedging strategies. This object is to take position that will offset each other with regard to certain kinds of risk, reducing or completely eliminating such sources of uncertainty.

Check Your Progress 3

1. What is risk-return trade-off?

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2. Define portfolio.

.....
.....

c. Practice Problems on Risk Return Analysis

1. You are evaluating an investment in two companies whose past ten years of returns are shown below:

Companies	Per cent Return During year									
	1	2	3	4	5	6	7	8	9	10
FST	37	24	-7	6	18	32	-5	21	18	6
SND	32	29	-12	1	15	30	0	18	27	10

- (a) Calculate the standard deviation of each company's returns.
- (b) Calculate the correlation coefficient of the companies returns.
- (c) If you had placed 50% of your money in each, what would have been the standard deviation of your portfolio and the average yearly return?
- (d) What percentage investment in each would have resulted in the lowest risk?
- (e) Assume that a yearly risk-free return of 8% was available and that you had held only one of the two companies. Which would have been the better to own?
- (f) Graph the risk and return of each fund. Given your answer to part (d), what was the single efficient portfolio of the two?

- (g) Use part (f) to determine:
- How an average return of 10.8% would have been obtained.
 - How an average return of 17.8% would have been obtained.

Ans:

- (a) To find the average returns:

$$R_{FST} = (37 + 24 + \dots + 6)/10 = 15\%$$

$$R_{SND} = (32 + 29 + \dots + 10)/10 = 15\%$$

Next, find the SD:

$$\sigma_{FST} = \frac{(37-15)^2 + (24-15)^2 + \dots + (6-15)^2}{10} = 14.0\%$$

$$\sigma_{SND} = \frac{(37-15)^2 + (29-15)^2 + \dots + (10-15)^2}{10} = 14.3\%$$

- (b) To find the Covariance term:

$$\text{Cov.} = \frac{(37-15)(32-15) + (24-15)(29-15) + \dots + (6-15)(10-15)}{10} = 187.4\%$$

The Correlation coefficient

$$r = \frac{187.4}{(14.0)(14.3)} = 0.94$$

- (c) $\sigma_p = (0.5)^2(14.0)^2 + (0.5)^2(14.3)^2 + 2(0.5)(0.5)(14.0)(14.3)(0.94) = 13.9\%$

$$E(R_p) = 0.5(15.0) + 0.5(15.0) = 15\%$$

- (d) Using the minimum variance equation and let W stand for FST:

$$W_{FST} = \frac{\sigma_2^2 - \sigma_1 \sigma_2 \sigma_{1,2}}{\sigma_1^2 + \sigma_2^2 - \sigma_1 \sigma_2 \sigma_{1,2}}$$

$$W_{FST} = \frac{14.3^2 - (14.0)(14.3)(0.94)}{14.0^2 + 14.3^2 - 2(14.0)(14.3)(0.94)} = 67.06\%$$

$$W_{SND} = 32.4\%$$

- (e) This part asks which of the funds provided the greater return per unit of risk.

The risk-slope of the line:

$$\text{For FST} = \frac{15.0 - 8}{14.0} = 0.5\% \text{ per unit of } \sigma$$

$$\text{For SND} = \frac{15.0 - 8}{14.3} = 0.49\% \text{ per unit of } \sigma$$

They were very close, but FST was better.

- (f) Both funds have identical average returns. The minimum variance portfolio of W = 67.6 % and W = 32.4% would also have had a 15 % average return, but its risk would be lower than holding either company in isolation. The minimum standard deviation was 13.9%.

- (g) Using 8% as the risk-free rate and the single efficient portfolio in part (f) as the optimal risky portfolio, the following risk/return relationship was available:

$$E(R_c) = R + \sigma_c \left[\frac{E(R_p) - T}{\sigma_p} \right]$$

where $\sigma_c = (1 - W_T)\sigma_p$

$$= R + \sigma_c \left[\frac{E(R_p) - T}{\sigma_p} \right]$$

$$= 8.0\% + \sigma_c [0.5036]$$

To earn 10.8%, invest 60% risk-free and 40% in the optimal risky portfolio:

$$10.8\% = 8\% + (0.4)(13.9\%)(0.5036)$$

To earn 17.8%, borrow 40% on your equity and invest it with your equity in the optimal risky portfolio:

$$17.8\% = 8.0\% + W (13.9\%)(0.5036)$$

$$= 8.0\% + (1.4)(13.9\%)(0.5036)$$

2. K.S. Bhatt holds a well-diversified portfolio of stocks in XYZ Group. During the last 5 years returns on these stocks have average 20.0% per year and had a standard deviation of 15.0%. He is satisfied with the yearly availability of his portfolio and would like to reduce its risk without affecting overall returns. He approaches you for help in finding an appropriate diversification medium. After a lengthy review of alternatives, you conclude: (i) future average returns and volatility of returns on his current portfolio will be the same as he has historically expected, (ii) to provide a quarter degree of diversification in his portfolio, investment could be made in stocks of the following groups:

Groups	Expected Return	Correlation of Returns with Group XYZ	Standard Deviation
ABC	20%	+1.0	15.0%
KLM	20%	-1.0	15.0%
RST	20%	+0.0	15.0%

- (a) If Bhatt invest 50% of his funds in ABC Group and leaves the remainder in XYZ Group, how would this affect both his expected return and his risk? Why?
- (b) If Bhatt invests 50% of his funds in KLM Group and leaves the remainder in XYZ Group, how would this affect both his expected return and his risk? Why?
- (c) What should he do? Indicate precise portfolio weighting.

Ans:

- (a) Risk and return of ABC Portfolio are the same as those of XYZ portfolio and the correlation coefficient is 1.0, so there is no diversification gain.
- (b) Return would remain at 20% but risk would fall to zero since $r = -1.0$.
- (c) Invest 50/50 in Group XYZ portfolio and group KLM portfolio.
3. Consider the two stocks ABC and XYZ with a standard deviation 0.05 and 0.10 respectively. The correlation coefficient for these two stocks is 0.8:

- (a) What is the diversification gain from forming a portfolio that has equal proportions of each stock?
- (b) What should be the weights of the two assets in a portfolio that achieves a diversification gain of 3%?

Ans:

- (a) The gain from diversification is:

$$\frac{0.075 - 0.0716}{0.75} = 4.53\%$$

- (b) To obtain a diversification gain of 3%, the weighting of the portfolio should be 30% to 70%.

4. Vinay Gautam is considering an investment in one of two securities. Given the information that follows, which investment is better, based on risk (as measured by the standard deviation) and return?

Security ABC		Security XYZ	
Probability	Return	Probability	Return
0.30	19%	0.20	22%
0.40	15%	0.30	6%
0.30	11%	0.30	14%
		0.20	-5%

Ans:

Investment in security ABC				Investment in security XYZ			
Probability	Return	Expected Return	Weighted Deviation	Probability	Return	Expected Return	Weighted Deviation
				0.20	22%	4.4	31.752%
0.30	19%	5.7%	4.8%	0.30	6	1.8	3.468
0.40	15%	6.0	1.0	0.30	14	4.2	6.348
0.30	11%	3.3	4.8	0.20	5	-1.0	41.472
		E(R) =	$\sigma^2 = 9.6\%$			E(R) = 15.0%	$\sigma = 83.04$
		15.0%	S = 3.09				S = 9.113

5. You have been asked by a client for advice in selecting a portfolio of assets based on the following data:

Year	Return		
	A	B	C
1995	0.14	0.18	0.14
1996	0.16	0.16	0.16
1997	0.18	0.14	0.18

You have been asked to create portfolios by investing equal proportions (i.e., 50%) in each of two different securities. No probabilities have been supplied.

- (a) What is the expected return on each of these securities over the three-year period?

- (b) What is the standard deviation on each security's return?
- (c) What is the expected return on each portfolio?
- (d) For each portfolio, how would you characterize the correlation between the returns on its two assets?
- (e) What is the standard deviation of each portfolio?
- (f) Which portfolio do you recommend? Why?

Ans:

- (a) $E(R_A) = E(R_B) = E(R_C) = .16$
- (b) $\sigma_A = (.00027)^5 = 0.0164$
 $\sigma_B = (.00027)^5 = 0.0164$
 $\sigma_C = (.00027)^5 = 0.0164$
- (c) $E(R_{AB}) = E(R_{AC}) = E(R_{BC}) = .16$
- (d) A and B are perfectly negatively correlated. A and C are perfectly positively correlated. B and C are perfectly negatively correlated.
- (e) $\sigma_{AB} = 0$; $\sigma_{AC} = 0.0164$
 Since A and C are identical,
 $\sigma_{AB}^2 = 0$;
 $\sigma_{AC} = 0$
- (f) Choose either AB or BC. All three portfolios have $E(R_p) = .16$, but AB and BC have no risk,
 while AC has $\sigma_{AC} = .0164$. Therefore, AB BC provide the most reward for the least amount of risk.

6. National Corporation is planning to invest in a security that has several possible rates of return. Given the following probability distribution returns, what is the expected rate return on investment? Also compute the standard deviation of the returns. What do the resulting numbers represent?

Ans:

Probability (P) (1)	Return (R) (2)	Expected Return [E(R)] (3) = (1) X (2)	Weighted Return [E(R)-R] ² P
0.10	-10%	-1%	52.9%
0.20	5%	1%	12.8%
0.30	10%	3%	2.7%
0.40	25%	10%	57.6%
E = 13%			$\sigma^2 = 126.0$
			$\sigma = 11.22\%$

From our studies in statistics, we know that if the distribution of returns were normal, then National could expect a return of 13% with a 67% possibility that this return would vary up or down by 11.22% between 1.78% (13% -11.22%) and 24.22%(13% + 11.22%). However, it is apparent from the probabilities that the distribution is not normal.

7. Assume that the current rate on a one – year security is 7 percent. You believe that the yield on a one-year security will be 9 percent one year from now and 10 percent 2 years from now. According to the expectations hypothesis, what should the yield be on a three-year security?

Ans:

Find the geometric mean by averaging the continuously compounded rates.

$$[\ln(1.07) + \ln(1.09) + \ln(1.10)]/3$$

$$(0.06766 + 0.08618 + 0.09531)/3$$

$$= 0.24915/3$$

$$= 0.08305$$

Then converting to nominal rate:

$$\text{Exp. } (0.08305) - 1 = 0.0866$$

Your expectation imply that the current rate on a three-year security shall be 8.66 percent.

8. A.K. Kapoor is evaluating a security. One year Treasury bills are currently paying 9.1 percent. Calculate the below investment's expected return and its standard deviation. Should Kapoor invest in this security?

Probability	.15%	.30%	.40%	.15%
Return	15	7	10	5

Ans:

Probability (P)	Return (R)	Expected Return	Weighted Return
(1)	(2)	(3) = (1) X (2)	
0.15	15%	2.25%	5.22
0.30	7	2.10	1.32
0.40	10	4.00	0.32
0.15	5	0.75	2.52
E(R) = 9.1%			$\sigma^2 = 9.39\%$
			$\sigma = 3.06\%$

Kapoor should not invest in this security. The level of risk is excessive for a return which is equal to the rate offered on treasury bills.

9. T.S. Shekhar has a portfolio of five securities. The expected rate and amount of investment in each security is as follows:

Security	A	B	C	D	E
Expected Return	.14	.08	.15	.09	.12
Amount invested	Rs.20,000	Rs.10,000	Rs.30,000	Rs.25,000	Rs.15,000

Compute the expected return on Shekhar's portfolio.

Ans:

The expected return on Shekhar's portfolio is:

$$E(R_p) = (20,000/1,00,000).14 + (10,000/1,00,000).08 + (30,000/1,00,000).15 \\ + (25,000/1,00,000).09 + (15,000/1,00,000).12$$

$$= .028 + .008 + .045 + .0225 + .018 = .1215$$

$$= 12.15\%$$

10. T.S. Kumar holds a two-stock portfolio. Stock ABC has a standard deviation of returns of .6 and stock XYZ has a standard deviation of .4. The correlation coefficient of the two stocks returns is 0.25. Kumar holds equal amounts of each stock. Compute the portfolio standard deviation for the two-stock portfolio.

Ans:

$$\sigma_p = \sqrt{.5^2 \times .6^2 + 2 \times .5 \times .5 \times .6 \times .4 \times .25 + .5^2 \times .4^2}$$

$$= \sqrt{.09 + .03 + .04}$$

$$= \sqrt{.16} = .4$$

11. Ravi Shankar has prepared the following information regarding two investments under consideration. Which investment should be accepted?

Security ABC		Security XYZ	
Probability	Return	Probability	Return
0.30	27%	0.21	15%
0.50	18%	0.30	6%
0.30	-2%	0.40	10%
-	-	0.10	4%

Ans:

Investment in security ABC				Investment in security XYZ			
Probability	Return	Expected Return	Weighted Deviation	Probability	Return	Expected Return	Weighted Deviation
0.30	27%	8.1%	31.8%	0.20%	15%	3.0%	6.728%
0.40	18	9.0	0.8	0.30	6	1.8	3.072
0.30	-2	-0.4	69.9	0.30	10	4.0	0.256
<div style="display: flex; justify-content: space-between;"> $E(R) = 16.7\%$ $\sigma = 102.5\%$ </div> <div style="display: flex; justify-content: space-between;"> $\sigma = 10.12\%$ </div>				<div style="display: flex; justify-content: space-between;"> $E(R) = 9.2\%$ $\sigma = 12.76\%$ </div> <div style="display: flex; justify-content: space-between;"> $\sigma = 3.57\%$ </div>			

12. Nenny, a Korean- based auto manufacturer, is evaluating two overseas locations for proposed expansion of production facilities, one site in Neerland and another on Forexland. The likely future return from investment in cash site depends to great extent on future economic conditions. These scenarios are postulated, and the internal rate of return from cash investment is computed under each scenario. The results with their estimated probabilities are shown below:

Probability	Internal Rate of Return (%)	
	Neerland	Forexland
0.3	20	10
0.3	10	30
0.4	15	20

Required:

Calculate the expected value of the IRR and the standard deviation of the return of investments in each location. What would be the expected return and the standard deviation of the following split investment strategies:

- (i) committing 50% of the available funds to the site in Neeroland and 50% to Forexland.
- (ii) committing 75% of the available funds to the site in Neeroland and 25% to Forexland site?

(Assume zero correlation between the returns from the two sites)

Ans:

Neeroland:

Expected Value of IRR

$$= (0.3 \times 20\%) + (0.3 \times 10\%) + (0.4 \times 15\%) = 6\% + 3\% + 6\% = 15\%$$

Outcome (1)	Deviation (2)	Sq'd Dev (3)	P (4)	Sq'd Dev. Xp (5) = (3) (4)
20	+5	25	.3	7.5
10	-5	25	.3	7.5
15	0	0	.4	0
Variance = Total =				15
$\sigma = 3.87$				

Forexland:

Expected Value of IRR

$$= (0.3 \times 10) + (0.3 \times 30\%) + (0.4 \times 20\%)$$

$$= 3\% + 9\% + 8\% = 20\%$$

Outcome (1)	Deviation (2)	Sq'd Dev (3)	P (4)	Sq'd Dev. Xp (5) = (3) (4)
10	-10	100	.3	30
30	+10	100	.3	30
20	0	0	.4	0
Variance = Total =				60
$\sigma = 7.75$				

- (i) For a 50/50 split investment

EV for IRR

$$= (0.5 \times 15) + (0.5 \times 20\%)$$

$$= 17.5\%$$

$$\sigma = 4.33$$

- (ii) For a 75/25 split investment

$$= (10.75 \times 15\%) + (0.25 \times 20\%)$$

$$= 16.25\%$$

$$\sigma = 3.49, \text{ i.e., Lower Risk, Lower Return}$$

13. You have invested Rs. 50,000, 30 percent of which is invested in Company A, which has a expected rate of return of 15 percent, and 70 percent of which is invested in Company B, with an expected return of 12 percent. What is the return on your portfolio ? What is the expected percentage rate of return?

Ans:

- (a) The rate of return is the percentage of the amount invested in as stock multiplied by its expected rate of return. Thus, of the Rs. 50,000 invested.

Company A – 30 percent of total with 15 percent rate of return :

$$30 \times \text{Rs. } 50,000 \times .15 = \text{Rs. } 2,250$$

Company B – 70 percent with a 12 percent rate of return :

$$70 \times \text{Rs. } 50,000 \times .12 = \text{Rs. } 4,200$$

The total return is Rs. 6450 (i.e., Rs. 2250 + Rs.4,200)

- (b) The expected percentage rate of return is the total return divided by the amount invested:

$$r = \frac{\text{Total Return}}{\text{Total amount}}$$

$$r = \frac{\text{Rs. } 6450}{\text{Rs. } 50,000} \times 100 = 12.90\%$$

14. Suppose you invest in four securities. Company ABC has on expected return of 20 percent, Company BCD has on expected return of 10 percent, Company CDE has on expected return of 12 percent, and Company DEF has an expected return of 9 percent. You have invested Rs. 40,000. What is the expected rate of return on your portfolio?

Ans:

The expected rate of return is the weighted average of expected rates in the portfolio:

$$E(R_p) = \sum_{i=1}^n W_i E(R_i)$$

The portfolio weights are first determined by the formula

$$W_A = \frac{\text{Rs. Invested in ABC}}{\text{Total equity investment}}$$

Since you have invested equally in four securities and total investment is Rs.40,000, the portfolio weight are equal ($W_{ABC} = W_{BCD} = W_{CDE} = W_{DEF}$) and are determined:

$$W_A = \frac{\text{Rs. } 10,000}{\text{Rs. } 40,000} = .25$$

Hence, the expected return on the individual securities and the expected rate of return on the portfolio is:

$$\begin{aligned} R_p &= (W_{ABC} \times r_{ABC}) + (W_{BCD} \times r_{BCD}) + (W_{CDE} \times r_{CDE}) + (W_{DEF} \times r_{DEF}) \\ &= (.25 \times .20) + (.25 \times .10) + (.25 \times .12) + (.25 \times .09) \\ &= .1275 = 12.75\% \end{aligned}$$

15. Assume the investor in Problem 14 wants to determine how risky his portfolio and wants you to compute the portfolio variance. If the expected correlations and variance of the stocks are as follows, what is the variance of the portfolio?

Correlations	ABC	BCD	CDE	DEF
BCD	.50			
CDE	.60	.30		
DEF	-.30	-.20	-.10	
Variances:	.04	.16	.02	.10

Ans:

To Compute the variance, you need to make a covariance matrix. Using the square roots of the variances and correlations given, the covariance are calculated:

$$\text{Cov}(r_{ABC}, R_{BCD}) = .500 \times .200 \times .400 = .040$$

$$\text{Cov}(r_{ABC}, R_{CDE}) = .600 \times .200 \times .141 = .070$$

$$\text{Cov}(r_{ABC}, R_{DEF}) = -.300 \times .200 \times .316 = -.019$$

$$\text{Cov}(r_{BCD}, R_{CDE}) = .300 \times .400 \times .141 = .017$$

$$\text{Cov}(r_{BCD}, R_{DEF}) = .200 \times .400 \times .316 = -.025$$

$$\text{Cov}(r_{CDE}, R_{DEF}) = .100 \times .141 \times .316 = .004$$

With the given variance and the portfolio weights, the covariance matrix is as follows:

Securities	Weights	ABC .25	BCD .25	CDE .25	DEF .25
ABC	.25	.04	.040	.017	-.019
BCD	.25	.040	.16	.017	-.025
CDE	.25	.017	.017	.02	-.004
DEF	.25	-.019	-.025	-.004	.10

Multiplying each covariance by the weight at the top of the column and at the left of the row and summing, we get;

$$.25 \times .04 = .0025$$

$$.25 \times .25 \times .040 = .0025$$

$$.25 \times .25 \times .017 = .0011$$

$$.25 \times .25 \times -.019 = .0012$$

$$.25 \times .25 \times .040 = .0025$$

$$.25 \times .25 \times .160 = .0100$$

$$.25 \times .25 \times .017 = .0011$$

$$.25 \times .25 \times -.025 = .0016$$

$$.25 \times .25 \times .017 = .0011$$

$$.25 \times .25 \times .017 = .0011$$

$$.25 \times .25 \times .020 = .0013$$

$$.25 \times .25 \times -.004 = .0003$$

$$.25 \times .25 \times -.019 = .0012$$

$$.25 \times .25 \times -.025 = -.0016$$

$$.25 \times .25 \times .004 = -.0003$$

$$.25 \times .25 \times .100 = .0063$$

$$\text{Total portfolio variance} = .0223$$

16. Suppose you have Rs. 10,000 to invest and would like to sell Rs. 5000 in stock XYZ short to invest in ABC. Assuming no correlation between the two securities, compute the expected return and the standard deviation of the portfolio from the following characteristics:

Security	ABC	XYZ
E(R)	.12	.02
$\sigma(R)$.08	.10

Ans:

Expected Return:

$$\begin{aligned} E(R)_p &= W_{ABC} E(R_{ABC}) + W_{XYZ} E(R_{xyz}) \\ &= \frac{15,000 \times .2}{10,000} - \frac{5,000 \times .2}{10,000} \\ &= .18 - .01 = .17 \end{aligned}$$

Standard deviation:

$$\begin{aligned} [W_{ABC}^2 \sigma^2(R_{ABC}) + W_{XYZ}^2 \sigma^2(R_{XYZ})]^{1/2} &= \sigma_p \\ &= [(1.5)^2 \times (.08)^2 + (-.5)^2 \times (.10)^2]^{1/2} \\ &= .130 \end{aligned}$$

17. An investor saw an opportunity to invest in new security with excellent growth potential. He wants to invest more than he had, which was only Rs. 10,000, he sold another security short with an expected rate of return of 15 percent. The total amount he sold of was Rs. 40,000, and his total amount invested in the growth security, which had an expected rate of return of 30 percent, was that Rs. 50,000. Assume no margin requirements, what is his expected rate of return on this portfolio.

Ans:

Computing the portfolio weights for each security with the formula:

$$\frac{\text{Investment in A (sold short)}}{\text{Total equity investment}}$$

We find

$$W_A = \frac{-\text{Rs. } 40,000}{\text{Rs. } 10,000} = -4.0$$

$$W_B = \frac{-\text{Rs. } 50,000}{\text{Rs. } 10,000} = -5.0$$

$$\begin{aligned} R_p &= (-4.0 \times 15) + (5.0 \times .24) \\ &= -.60 + 1.2 \\ &= .60 = 60\% \end{aligned}$$

18. Suppose we have two portfolio known to be on the minimum variance set for a population of three securities. A, B, and C. There are no restrictions on short sales. The weights for each of the two portfolios are as follows:

	W_A	W_B	W_C
Portfolio X	.24	.52	.24
Portfolio Y	-.36	.72	.64

- (a) What would the stock weights be for a portfolio constructed by investing Rs. 2,000 in portfolio X and Rs. 1000 in portfolio Y?
- (b) Suppose you invest Rs. 1500 of the Rs. 3000 in Security X. How will you allocate the remaining Rs. 1500 between Securities X and Y to ensure that your portfolio is on the minimum variance set?

Ans:

- (a) Given a Rs. 2000 investment in portfolio X and Rs. 1000 investment in portfolio Y, the investment committed to each security would be:

	A	B	C	Total
Portfolio X	Rs. 480	Rs. 1040	Rs. 480	Rs. 2000
Portfolio Y	-360	720	640	1000
Confirmed Portfolio	Rs. 120	Rs. 1760	Rs. 1120	Rs. 3000

Since we are investing a total of Rs.3000 in the combined portfolio, the investment position in three securities are consistent with the following portfolio weights.

	W_A	W_B	W_C
Combined portfolio	.04	.59	.37

- (b) Since the equation for the critical line takes the following form:

$$W_B = a + bW_A$$

Substituting in the values for W_A and W_B from portfolio X and Y, we get

$$.52 = a + .24b$$

$$.72 = a + -.36b$$

By solving these equations simultaneously, we can obtain the slope and the intercept of the critical line

$$W_B = .6 - 1/3 W_A$$

Using this equation, we can find W for any given W_A if we invest half of the funds in security A ($W_A = .5$), then

$$W_B = .6 - 1/3 (.5) = .43$$

Since $W_A + W_B + W_C = 1$, we know $W_C = 1 - W_A - W_B$

Substituting in our value for W and W, we find

$$W_C = .6 - .5 - .43 = .07$$

19. A stock that pays no dividends is currently selling at Rs.100. The possible prices for which the stock might sell at the end of one year, with associated probabilities, are:

End-of-year Price	Probability
Rs.90	0.1
100	0.2
110	0.4
120	0.2
130	0.1

- (a) Calculate the expected rate of return by year-end.
(b) Calculate the standard deviations of the expected rate of return.

Ans:

(a)	Probable	0.1	0.2	0.4	0.2	0.1	
	Return		-10	0	10	20	30

$$\begin{aligned}
 E(R) &= 0.1(-10) + 0.2(0) + 0.4(10) + 0.2(20) + 0.1(30) \\
 &= -1.0 + 0 + 4.0 + 4 + 3.0 \\
 &= 10.0\%
 \end{aligned}$$

$$\begin{aligned}
 (b) \quad \sigma &= [0.1(-10-10)^2 + 0.2(0-10)^2 + 0.4(10-10)^2 + 0.2(20-10)^2 + 0.1(30-10)^2]^{1/2} \\
 &= 10.95\%
 \end{aligned}$$

1.8 LET US SUM UP

In this lesson investment was defined as Postponed Consumption. Investment differs from gambling. Gambling is based on luck whereas investment is a calculated effort. The main determinants of an investment decision are:

Risk and Return: Risk in an investment is the variability of the returns from an expected value. Return from an investment consists of a risk less time rate + expected inflation premium + risk premium unique to the investment.

Investment Avenues: Investment can be divided into two classes – investment in financial assets and investment in physical assets. Investment in financial assets can be in security forms of physical assets investment in financial assets can be in security forms of investment or non-security forms of investment. The choice of which asset to invest in is determined by the assessment of risk in that asset and the return expected from that asset. Every investment decision involves a trade off between risk and return. Investment Attributes : Investment decisions are taken in the light of investor needs such as extent of liquidity required, tax smelters he expects and his convenience. Market Structure : The structure of the capital market, operational efficiency of the market, existence of specialized intermediaries, availability of adequate number of instruments, transparency of transactions are some of the major parameters required for the growth of investment culture in a country.

1.9 LESSON END ACTIVITY

Compare the advantages of Equity investments with those of fixed income securities.

1.10 KEYWORDS

Non-systematic Risk: The variability in a security's total returns not related to overall market variability is called the **non-systematic (non-market) risk**.

Market Risk: The variability in a security's returns resulting from fluctuations in the aggregate market is known as market risk.

Interest Rate Risk: The variability in a security's return resulting from changes in the level of interest rates is referred to as interest rate risk.

Business Risk: The risk of doing business in a particular industry or environment is called business risk.

Reinvestment Risk: The YTM calculation assumes that the investor reinvests all coupons received from a bond at a rate equal to the computed YTM on that bond, thereby earning interest on interest over the life of the bond at the computed YTM rate.

International Risk: International Risk can include both Country risk and Exchange Rate risk.

Volatility: Of all the ways to describe risk, the simplest and possibly most accurate is "the uncertainty of a future outcome".

Standard Deviation: Investors and analysts should be at least somewhat familiar with the study of probability distributions.

Risk-return Relationship: The most fundamental tenet of Finance Literature is that there is a trade-off between risk and return. The risk-return relationship requires that the return on a security should be commensurate with its riskiness.

Portfolio: Is a collection of securities. Since it is rarely desirable to invest the entire funds of an individual or an institution in a single security, it is essential that every security be viewed in a portfolio context.

1.11 QUESTIONS FOR DISCUSSION

1. Define Investment. How does it differ from speculation?
2. Distinguish between security and non-security forms of investment.
3. Write a detailed note on Government securities.
4. Describe fully the features of Corporate Debentures. What are the latest innovations in Indian corporate debentures?
5. Explain the investor classification of Equity shares.
6. Give a full description of investment attributes.
7. Give a brief outline of Indian Capital market.
8. Explain how expectations on rates of return are formed?
9. When is the standard deviation of a portfolio identical to the weighted average standard deviation of the securities held?
10. Is it always possible to construct a portfolio having zero return variable from two component securities having return covariance of minus one?

11. If portfolio expected return is equal to the weighted expected returns of the component securities, why is not portfolio variance-of-return necessarily equal to the weighted sum of component variance?
12. Two investments X and Y have the following returns for the specified events:

Event	Probability	Security X	Security Y
1	.5	4	0
2	.4	2	3
3	.1	0	3

Calculate the variance of V_x and V_y and covariance C_{xy} .

Check Your Progress: Model Answers

CYP 1

1. Investment refers to a commitment of funds to one or more assets that will be held over some future time period.
2. Financial planning is the process of meeting our life goals through the proper management of our finances. Life goals can include buying a home, saving for our child's education or planning for retirement.

CYP 2

1. Variability in a security's total returns that is directly associated with overall movements in the general market or economy is called systematic (market) risk.
2. The variability in a security's total returns not related to overall market variability is called the non-systematic (non-market) risk. This risk is unique to a particular security and is associated with such factors as business and financial risk as well as liquidity risk.

CYP 3

1. The most fundamental tenet of Finance Literature is that there is a trade-off between risk and return. The risk-return relationship requires that the return on a security should be commensurate with its riskiness. If the capital markets are efficient operationally then all investment assets should provide a rate or return that is consistent with the risks associated with them. The Risk and return are directly variable, i.e., an investment with higher risk should produce higher return.
2. A Portfolio is a collection of securities. Since it is rarely desirable to invest the entire funds of an individual or an institution in a single security, it is essential that every security be viewed in a portfolio context. Thus, it seems logical that the expected return of a portfolio should depend on the expected return of each of the security contained in the portfolio.

1.12 SUGGESTED READINGS

Sudhindra Bhat, *Security Analysis and Portfolio Management*, Excel Books, Delhi.

Preeti Singh, *Security Analysis and Portfolio Management*.

V.A. Avadhani, *Investment Management*.

M.Y. Khan, *Financial Services*.

V.K. Bhalla, *Financial Services*.

G.S. Batra, *Financial Services and Markets*.

Mahana Rao, *Financial Services, Cases and Strategies*.

L. M. Bhole, *Financial Markets and Services*.

LESSON

2

FINANCIAL MARKETS

CONTENTS

- 2.0 Aims and Objectives
- 2.1 Introduction
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Contd...

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2.0 AIMS AND OBJECTIVES

After studying this lesson, you should be able to:

- Understand the nature, meaning, of financial markets
- Attempt on the capital market and new issue market
- Learn about the functioning of the stock exchange
- Know about SEBI and its regulations
- Have knowledge about NSE, OTCEI and recent trends in the financial market

2.1 INTRODUCTION

In every economic system, some units which may be individual or institutions are surplus-generating other are deficit-generating. Surplus-generating units are called savers while deficit-generators are called spend. In our country, at spectral level, households are surplus-generating while corporate and government are deficit-generating. This is, however, true only at an aggregative level. You would definitely come across individual house who

are deficit generating and corporate bodies who are surplus generating at some point of time. The question that arises here is: What do the surplus-generating units do with their surpluses or savings? You can now imagine that they have only two alternatives before them. They can either invest or hold their savings in liquid. Holding liquid cash is required to meet transaction or precautionary or speculative needs. The surplus-generating units could invest in different forms. They could invest in physical assets viz. land and building, plant and machine or in precious metal viz. gold and silver, or in financial assets viz. shares and debentures, units of the Unit Trust of India, treasury bills commercial paper etc.

2.2 FINANCIAL MARKETS

The financial assets are also called financial claims or financial securities or paper assets. These financial securities are issued by deficit-generating units in exchange for their savings. It is for this reason that surplus-generating units are called investors while deficit-generating units are called issuers. These investors and issuers of financial securities constitute two important elements of the securities market. The third critical element of markets is the intermediaries who act as conduits between the investors and issuer. Regulatory bodies, which regulate the functioning of the securities markets, constitute the last but very significant element of securities markets. Thus, there are four important elements of securities markets namely investors, issuers, intermediaries and regulators. Now depending upon the nature of the relationship among these elements of securities markets, the markets are classified as primary and secondary. Further, depending upon the nature of securities markets, the markets are classified as short term and long term and depending upon the issuers, these are classified as government securities or industrial securities. Government securities are also called gilt-edged securities. In order to pick up the right kind of securities, an investor or a portfolio manager should be fully conversant with the different segments of securities markets, different types of securities which are traded and different trading arrangements which exist in the market. In this unit, we shall distinguish between primary market and secondary market securities and discuss various traded securities and trading arrangements prevalent in India. Let us begin distinguishing primary and secondary markets.

2.3 CAPITAL MARKET

- It is a place where people buy and sell financial instruments be it equity or debt.
- It is a mechanism to facilitate the exchange of financial assets.

Examples of capital market

In India: BSE & NSE are the two capital markets.

International: NYSE, LSE & TSE are the largest capital markets.

2.3.1 Classification

- Primary market
- Secondary market

It can also be classified on the basis of life span of the asset into:

- Money market – Less than one year
- Capital market proper – More than one year.

2.3.2 Purpose of Stock Market

1. It helps in the capital formation of the country.
2. It maintains active trading.
3. It increases liquidity of assets.
4. It also helps in price recovery process.

2.3.3 Shortcomings of Stock Markets

- **Scarcity of floating stocks:** Financial institutions, banks and insurance companies own 80 percent of the equity capital in the private sector.
- **Speculation:** 85 percent of the transactions on the NSE and BSE are speculative in nature.
- **Price rigging:** Evident in relatively unknown and low quality scrips. Causes short time fluctuations in the prices.
- **Insider trading:** Obtaining market sensitive information to make money in the markets.

Financing from capital markets There are two ways a company can raise money from the financial markets: debt and equity.

2.3.4 Raising Equity

Equity shares are issued to the public for a consideration, which would be at least the par value of the share and sometimes include the share premium.

2.3.5 Advantages of Going Public

- **Permits diversification:** As a company becomes more valuable, it's founders can sell some of their stock in a public offering.
- **Increases liquidity:** The stock of a closely held firm is illiquid. It's hard for the owners to raise cash by selling shares.
- **Facilitates raising new corporate cash:** Outsiders may not be ready to put money in a closely held company, where they will not have voting control.
- **Establish a value for the firm:** Book value is not the real value. The best way is to get the valuation of the business done by the market

2.3.6 Disadvantages of Going Public

- **Cost of reporting:** Filing of semi annual and annual reports can be costly.
- **Disclosure:** Management may not like the idea of reporting operating data. A publicly owned company must disclose the number of shares owned by it's officers, directors and major shareholders.
- **Self dealings:** The owners of closely held companies have many opportunities for legal self dealings, which are designed to minimize taxes. This is not possible if the company is publicly owned.
- **Inactive market:** Shares of small firms which are not traded with much frequency, maybe illiquid. Stock brokers will not simply follow the stock.
- **Control:** Because of dramatic increase in tender offers, proxy fights and institutional investor activism, the managers of publicly owned firms, who don't have voting

control must be concerned about maintaining control. The share holder's best long term interests maybe in adopting a strategy that focuses on the earnings in future years.

Check Your Progress 1

Define the following:

1. Investor and Issuer

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.....

2. Capital market

.....
.....

2.4 NEW ISSUE MARKET

Primary or new issue market is the segment in which new issues are made whereas secondary market is the segment which outstanding issues are traded. It is for this reason that the Primary Market is also called New issues Market and the Secondary market is called Stock Market.

In the primary market, new issues may be made in three ways namely, public issue, rights issue and private issue. Public Issue involves sale of securities to members of public. Rights issue involves sale of securities of the existing shareholders/debenture holders. Private placement involves selling securities privately to a selected ... of investors. In the primary market, equity shares, fully convertible debentures (FCD), partially convertible investors. In the primary market, equity shares, fully convertible debentures (FCD), partially convertible centers (PCD), and non-convertibles debentures (NCD) are the securities commonly issued by non-government shared companies issue equity shares and bonds.

Corporate's may raise capital in the primary market by way of an initial public offer, rights issue or private placement. An Initial Public Offer (IPO) is the selling of securities to the public in the primary market. This Initial Public Offering can be made through the fixed price method, book building method or a combination of both.

In case the issuer chooses to issue securities through the book building route then as per SEBI guidelines, an issuer company can issue securities in the following manner:

- a) 100% of the net offer to the public through the book building route.
- b) 75% of the net offer to the public through the book building process and 25% through the fixed price portion.

The industrial securities markets in India consist of new issue market and stock exchange. The new issue market deals with the new securities which were not previously available to the investing public i.e. the securities that are offered to the investing public for the first time. The market, therefore, makes available a new block of securities for public subscription. The other words, new issue market deals with raising of fresh capital by companies either for cash or for consideration other than cash.

The new issue market encompasses all institution dealing in fresh claim. The forms in which these claims created are equity shares, preference shares, debentures, rights

issues, deposits etc. All financial institutions which contribute, underwrite and directly subscribe to the securities are part of new issue markets.

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According to a study by Prime Database, for the Indian primary capital market, the year 1992 recorded a .. phenomenal 245 percent increase in amount raised and 96 percent in number of issued including Public and a whopping amount of Rs. 16656.98 crore. The year belonged to the mega issue, specially on the rights front. When there were as many as 65 issues during the year which crossed Rs. 50 crore, and 36 issues crossed 1000 crore mark. The primary market frenzy began with the scrapping of the Capital Issues Control Act and we pricing of issues introduced by Securities and Exchange Board of India (SEBI) which has been constituted as sanitary body since Jan 30, 1992. SEBI had functioned as an administrative body since 1988 and we will learn more about in Unit 5.

In the primary market, issues are made either 'at par' or 'at premium'. Pricing the new issues is regulated refer guidelines on Capital issues or what are also known as guidelines for disclosure and investors protection of the Securities and Exchanges Board of India (SEBI). Prior to the promulgation of the ordinance no. 9 of 1982 by which the Capital issues (Control) Act has been repealed, the pricing of the new issues was regulated under the controller of Capital Issues (CCI) pricing formula.

Companies entering the capital market are required to advertise in the newspapers announcing the proposed public issue. Apart from announcements ; companies also place advertisements in the newspapers/television in support of the public issue. New issues are also publicized by mass mailing. It has become a general practice to distribute prospectus, application forms and other literature regarding new issues among the investing it. Thus information about new issues may be obtained by investors from different sources viz., newspaper, telephone, mail, stock exchange members, brokers and sub-brokers, investment advisory firms etc. A number of circulars and guidelines have been issued by the Department of Company Affairs. Then Exchange Division of the Ministry of Finance, Government of India, and the Securities and Exchange both India. Since 1991, the format of the prospectus to be sent along with the application form for public issue revised ad a memorandum containing the salient features of the Prospectus was prescribed among disclosures, the companies are now required to highlight the risk factors of the projects in the prospectus as in the memorandum. A new financial instrument. 'Stock invest' has been introduced to be used by the invest as application money for new issues. Indeed, in order to protect the interest of investors in the new issues make as well as stock market specific provisions have been made under the Companies Act 1956, Capital Act (Control) Act, 1947 (repealed since May 29, 1992). Securities Contracts (Regulation) Act, 1956 and the security and Exchange Board of India Act, 1992. Detailed discussion of the regulatory provisions has been made in.

The secondary market as pointed out above is the segment in which outstanding issues are traded secondary market however differs from the primary market in a fundamental

sense. While in primary market investors exchange their savings for securities issued by deficit-units primarily for gaining expected returns. Secondary market investors exchange their holdings with other investors for liquidity. The secondary made role. Investors, who seek both profitability and liquidity, need both primary and secondary markets. There is a direct and complementary interface between the primary and secondary markets. We will discuss more it after discussing types of securities traded in the secondary market in the following section.

2.4.1 Functions of New Issue Market

The main function of new issue market is to facilitate transfer resources from savers to the users. The savers are individuals, commercial banks, insurance company etc. the users are public limited companies and the government. The new issue market plays an important role of mobilizing the funds from the savers and transfer them to borrowers for production purposes, an important requisite of economic growth. It is not only a platform for raising finance to establish new enterprises but also for expansion/diversification/modernizations of existing units. In this basis the new market can be classified as:

1. Market where firms go to the public for the first time through initial public offering (IPO).
2. Market where firms which are already trade raise additional capital through seasoned equity offering (SEO).

The main function of new issue market can be divided into a triple service functions:

1. Origination
2. Underwriting
3. Distribution

Origination

Origination refers to the work of investigation, analysis and processing of new project proposals. Origination starts before an issue is actually floated in the market. There are two aspects in this functions:

1. A careful study of the technical, economic and financial viability to ensure soundness of the project. This is a preliminary investigation undertaken by the sponsors of the issue.
2. Advisory services which improve the quality of capital issues and ensure its success. The advisory services include:
 - a) **Type of issue:** This refers to the kind of securities to be issued whether equity share, preference share, debenture or convertible debenture.
 - b) Magnitude of issue
 - c) Time of floating an issue
 - d) Pricing of an issue – whether shares are to be issued at per or at premium
 - e) Methods of issue
 - f) Technique of selling the securities

The function of origination is done by merchant bankers who may be commercial banks, all Indian financial institutions or private firms. Initially this service was provided by specialized division of commercial banks. At present, financial institutions and private firms also perform this service. Though this service is highly important, the success of the issue depends, to a large extent, on the efficiency of the market.

The origination itself does not guarantee the success of the issue. Underwriting, a specialized service is required in this regard.

Underwriting

Underwriting is an agreement whereby the underwriter promises to subscribe to a specified number of shares or debentures or a specified amount of stock in the event of public not subscribing to the issue. If the issue is fully subscribed then there is no liability for the underwriter. If a part of share issues remain unsold, the underwriter will buy the shares. Thus underwriting is a guarantee for the marketability of shares.

Method of Underwriting

An underwriting agreement may take any of the following three forms:

1. ***Standing behind the issue:*** Under this method, the underwriter guarantees the sale of a specified number of shares within a specified period. If the public do not subscribe to the specified amount of issue, the underwriter buys the balance in the issue.
2. ***Outright purchase:*** The Underwrite, in this method, makes outright purchase of shares and resell them to the investors.
3. ***Consortium method:*** Underwriter is jointly done by a group of underwriters in this method. The underwriters form syndicate for this purpose. This method is adopted for large issue.

Advantages of Underwriting

Underwriting assumes great significance as it offers the following advantages to the issuing company:

1. The issuing company is relieved from the risk the risk of finding buyers for the issue offered to the public. The company is assured of raising adequate capital.
2. The company is assured of getting minimum subscription within the stipulated time, a statutory time, a statutory obligation to be fulfilled by the issuing company.
3. Underwriters undertake the burden of highly specialized function of distributing securities.
4. Provide expert advice with regard to timing of security issue, the pricing of issue, the size and type of securities to be issued etc.
5. Public confidence on the issue enhances when underwritten by reputed underwriters.

The underwriters in India may be classified into two categories:

- Institutional underwriters
- Non-institutional underwriters.

The institutional underwriters are:

- Life Insurance Corporation of India (LIC)
- Unit Trust of India (UTI)
- Industrial Development Bank of India (IDBI)
- Industrial Credit and Investment Corporation of India (ICICI)
- Commercial banks and general insurance companies.

The pattern of underwriting of the above institutional underwriters differs vastly in India. LIC and UTI have purchased industrial securities from the new issue market with a

view to hold them on their own portfolio. They have a preference for underwriting shares in large and well established firms. The development banks have given special attention to the issues in backward states and industries in the priority list. The trust of the development states and industries in the priority list. The thrust of the development banks is also towards small and new issues which do not have adequate support from other institutions. General insurance companies have shown preference in underwriting the securities of fairly new issues.

The non-institutional underwriters are brokers. They guarantee shares only with a view to earn commission from the company floating the issue. They are known to off load the shares later to make a profit. The brokers work profit motive in underwriting industrial securities. After the elimination of forward trading, stock exchange broker have begun to take an underwritten to the total private capital issue varies between 72 percent to 97 percent.

Distribution

Distribution is the function of sale of securities to ultimate investors. This service is performed by brokers and agents who maintain regular and direct contact with the ultimate investors.

2.4.2 Methods of Floating New Issues

The various methods which are used in the floating of securities in the new issue market are:

- Public issues
- Offer of sale
- Placement
- Rights issues

Public issues: Under this method, the issuing company directly offers to the general public/institutions a fixed number of shares at a stated price through a document called prospects. This is the most common method followed by joint stock companies to raise capital through the issues of securities.

1. Name of the company
2. address of the registered office of the company
3. existing and proposed activities
4. location of the industry
5. names of directors
6. authorized and proposed issue capital to the public
7. dates of opening and closing the subscription list
8. minimum subscription
9. Names of brokers/underwriters/bankers/managers and registrars to the issue.
10. A statement by the company that it will apply to stock exchange for quotations of its shares.

According to the Companies Act, 1956 every application form must be accompanied by a prospectus. Now, it is no longer necessary to furnish a copy of the prospectus along with every application form as per the Companies Amendment Act, 1988. Now, an abridged prospectus is being annexed to every share application form.

Merits of issue through prospectus

1. Sale through prospectus has the advantage of inviting a large section of the investing public through advertisement.
2. It is a direct method and no intermediaries are involved in it.
3. Shares, under this method, are allotted to a large section of investors on a non-discriminatory basis. This procedure helps in wide dispersion of shares and to avoid concentration of wealth in few hands.

Demerits

1. It is an expensive method. The company has to incur expenses on printing of prospects, advertisement, banks commission, underwriting commission, legal chargers, stamp duty listing fee and registration charges.
2. This method is suitable only for large issues.

Offer of sale: The method of offer of sale consists in outright sale of securities through the intermediary of issue houses or share brokers. In other words, the shares are not offered to the public directly. This method consist of two stages : the first stage is a direct sale by the issuing company to the issue house and brokers at an agreed price. In the second stage, the intermediaries resell the above securities to the ultimate investors. The issue houses or stock brokers purchase the securities at a negotiated price and resell at a higher price. The difference in the purchase and sale price is called turn or spread.

The advantages of this method is that the company is relieved from the problem of printing and advertisement of prospectus and making allotment of shares. Offer of sale is not common in India. This method is used generally in two instances:

- Offer by a foreign company of a part of it to Indian investors
- Promoters diluting their stake to comply with requirements of stock exchange at the time of listing of shares.

Placement: Under this method, the issue houses or brokers buy the securities outright with the intention of placing them with their clients afterwards. Here the brokers act as almost wholesalers selling them in retail to the public. The brokers would make profit in the process of reselling to the public. The issue houses or brokers maintain their own list of client and through customer contact sell the securities.

Placement has the following advantages:

1. Timing of issue is important for successful floatation of shares. In a depressed market conditions when the issues are not likely to get public response though prospectus, placement method is a useful method of floatation of shares.
2. This method is suitable when small companies issue their shares.

The main disadvantage of this method is that the securities are not widely distributed to the large section of investors. A selected group of small investors are able to buy a large number of shares and get majority holding in a company.

This method of private placement is used to a limited extent in India. The promoters sell the shares to their friends, relatives and well wishers to get minimum subscription which is a precondition for issue of shares to the public.

2.4.3 Types of Trade Securities

The Securities which are traded in the secondary market may be classified as follows:

On the basis of issuer, Securities may be classified as industrial securities, government securities financial intermediaries securities. Industrial securities issued by industrial and common undertakings in the private and public sector whereas government, state governments, municipalities and public utilities. Government securities are generally considered risk-free, low return securities compared to industrial securities. Besides these two classes of issue financial intermediaries are emerging as the third important group. The securities issued by financial institute and banks would fall, in terms of risk-return features, somewhere in between the industrial securities and government securities.

On the basis of maturity, securities may be classified into short term and long term or money market capital market securities. Treasury bills, commercial bills, commercial paper, certificate of deposit are short or money market securities. Equities, preference shares, debentures and bonds are long-term or capital market securities. On the basis of settlement of deals, securities may be classified into forward securities and backward securities. Forward securities are those settlement date for which can be shifted from one settlement date to other by paying badla charges. Cash securities are those for which settlement dates cannot be shifted. For the securities are known by different names viz. specified shares, group A shares or forward section. Cash securities are also known as Non-specified shares, group B shares or cash section.

Check Your Progress 2

What do you understand by underwriting?

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2.5 STOCK EXCHANGE

From scattered and small beginnings in the 19th Century, India's stock market has risen to great height. By 1990, we had 19 stock exchanges in the country. There were around 6,000 listed companies and the invested population stood around 15 million. You might be interested in knowing more about the growth of stock market in India. What functions does it perform? What is the form of organization of stock exchange in India? How are these administered? What is the trading system followed on these exchanges? We shall address these and other questions in the following:

2.5.1 Origin and Growth

Organizations and institutions, whether they are economic, social or political, are products of history events and exigencies. They continually replace and/or reform the existing organizations, so as to make them relevant and operational in contemporary situations. It is, therefore, useful to briefly acquaint ourselves with the origin and growth of the stock market in India.

Stock exchanges in India. The Company and a few commercial banks floated shares sporadically through a very long six broad stages.

1800-1865: The East India Company and a few commercial banks floated shares sporadically, through a very long recognized brokers. The year 1850 marked a watershed. A wave of company flotation took over the market the number of brokers surged to 60.

The backbone of industrial growth and the resulting boom in share market the gender personality of the financial world, Premchand Rouchand.

Stock market created a unique history. The entire market was gripped by what is known as “share market”. The American Civil War created cotton famine. Indian cotton manufacturers exploited this situation and exported large quantities of cotton. The resulting increase in export earnings opened opportunities for share investments. New companies started to come up. Excessive speculation and reckless buying became the order. This mania lasted up to 1865. It marks end of the first phase in the Indian stock exchange history with the cessation of the Civil War, demand for Indian cotton slumped abruptly. The share became worthless of paper. To be exact, on July 1, 1865 all shares ceased to exist because all time bargains which are matured could be fulfilled .

1866-1900: We find another distinct phase during 1866-190. The mania effect haunted the stock exchange during these 25 years. Above everything else, it led to foundation of a regular market for securities. Since the market was established in Bombay, it soon became and still is the leading and the most organized stock exchange in India. A number of stock brokers who geared up themselves, set up a voluntary organization in 1887, called Native Share and Stockbrokers Associations. The brokers drew up codes of conduct for brokerage business and mobilized private funds for industrial growth. It also mobilized funds for government securities (gilt ages securities), especially of the Bombay Port Trust and the Bombay Port Trust and the Bombay Municipality. A similar organization was started at Ahmedabad in 1894.

1901-1913: Political development gave a big fillip to share investment. The Swadeshi Movement led by Mahatma Gandhi encourage the indigenous trading and business class to start industrial enterprises. As a ... Calcutta became another major center of share trading. The trading was prompted by the coal boom of 1904 -1908. Thus the third stock exchange was started by Calcutta stock brokers. During Inter-war years demand of Industrial goods kept increasing due to British involvement in the World Wars. Existing enterprises in steel and cotton textiles, woolen textiles, tea and engineering goods expanded and new ventures were floated. Yet another stock exchange was started at Madras in 1920.

The Period 1935-1965 can be considered as the period of development of the existing stock exchanges in India, in this period industrial development planning played the pivotal role of expanding the industrial and commercial state of the independence seven stock exchanges were functioning located in the major cities of the country. Between 1946 and 1990, 12 more stock exchanges were set up trading the shares of 4843 additional listed companies.

From seven stock exchanges in 1946, the country has moved to form 19 stock exchanges by 1990. There were companies listed on these exchanges as against 1125 in 1946, correspondingly the number of stock issues started companies had grown from 1506 in 1946 to 8289 in 1990.

The paid up capital of these issues has multiplies several fold. From Rs. 270 crores in 1946 it rise to Rs. 27761 at 1990. As a result paid up capital listed company has risen from Rs. 24 lakhs in 1948 to Rs. 465 lakhs in 1990.

In **1992**, the number of stock exchanges had increased to 21 and number of listed companies to over 6500.

It is equally important to not that the network of Indian stock exchanges is spread through the length and widths of the country. Figure 4.1 clearly show the spread of recognized stock exchanges and collection centers throughout the country. In addition to recognized stock exchanges, there are 36 collection centers. At these centers, licensed dealers are

authorized to transact business in securities. Bombay, Delhi, Ahmedabad, Calcutta and Madras are linked by the PTI stocks can service.

2.5.2 Role and Stock Exchange Functions

The history of stock exchanges in foreign countries as well as India shows that the development of joint stock enterprise would never have reached its present stage but for the facilities which the stock exchanges provided for dealing the securities. Stock exchanges have a very important function to fulfill in the country's economy. In *Union of India Vs. Allied International Products Ltd* (1971) 41 Comp Cas 127 (SC): (1970) 3 SCC 1941, the Supreme Court of India has enunciated the role of the stock exchanges in these words.

A Stock Exchange fulfils a vital function in the economic development of nation : its main function 'liquefy' capital enabling a person who was invested money in, say a factory or a railway, to convert it into by disposing off his shares in the enterprise to someone else. Investment in joint stock companies is attach the public, because the value of the shares is announced day after day in the stock exchanges, and shares quantity on the exchanges are capable of almost immediate conversion into money. In modern days a company stock little chance of inducing the public to subscribe to its permission from reputed exchanges for securing quotation of their shares and the management of a company is anxious to inform the investing public that the shares in company will be quoted on the stock exchange.

The stock exchange is really an essential pillar of the private sector corporate economy. It discharges essential functions in the process of capital formation and in raising resources for the corporate sector.

First the stock exchange provides a market place for purchase and sale of securities viz., shares, bonds, debentures etc. It, therefore, ensures the free transferability of securities which is the essential basis for the stock enterprise system. The private sector economy cannot function without the assurance provided by the exchange to the owners of shares and bonds that they can be sold in the market at any time. At the same those who with to invest their surplus funds in securities for long-term capital appreciation or for speculative can also by scripts of their choice in the market.

Secondly, the stock exchange provides the linkage between the savings in the household sector and investment in corporate economy. It mobilizes savings, channelises them as securities into those enterprises which are favored by the investors on the basis of such criteria as future growth prospects, good returns appreciation of capital. The importance of this function has remained undiminished in spite of the prevalence of India scene of such interventionist factors as industrial licensing, provisions of credit to private sector by public sector development banks, price controls and foreign exchange regulations. The stock exchanges discharge function by laying down a number of regulations which have to be complied with while making public issues offering at least the prescribed of capital to the public, keeping the subscription list open for a minimum period three days, making provisions for receiving applications at least at the centers where there are recognized such exchanges and allotting the shares against applications on a fair and unconditional basis with the weightage be given to the applications in lower categories, particularly those applying for shares worth Rs. 500 or Rs. 1000. Members of stock exchanges also assist in the flotation of new issues by acting as managing brokers of new issue. In that capacity, they, inter alia, try to sell these issues to investors spread all over country. They also act as underwriters to new issues. In this way, the broker community provide an organized linkage between the primary and the secondary markets.

Thirdly, by providing a market quotation of the prices of shares and bonds – a sort of collective judgment simultaneously reached by many buyers and sellers in the market- the stock exchange serves the role of barometer, not only of the state of health of individual companies, but also of the nation's economy as a whole is often not realized that changes in share prices are brought about by a complex set of factors, all operating the market simultaneously. Share values as a whole are subject to secular trends set by the economic programme of the nation, and governed by factors like general economic situation, financial and monetary policies, tax change, political environment, international economic and financial development, etc. These trends are influenced to see extend by periodical cycles of booms and depressions in the free market economics. As against these long-term trends, the day-to-day prices are influenced by another variety of factors notably, the buying or selling of many operators, the buying and selling of shares by the investment financial institutions such as the U.T.I. or LIC which have in recent years emerged as the largest holder of corporate securities. Speeches and pronouncement by ministers and other government spokesmen, statements by company chairmen at annual general meeting and reports of bonus issues or good dividends by companies etc. While these factors, both long-term and short-term, act as macro influences on the corporate sector and the level of stock prices as a whole, there is also any of micro influences relating to prospects of individual companies such as the reputation of the related prospected capitalizations of reserves, etc. which have a bearing on the level of prices. In the complex interplay of all the forces, which leads to day-to-day quotation of prices of all listed securities, speculation plays a crucial role. In absence of speculative operations, every purchase by an investor has to be matched by a sale of the same security by an investor-seller, and this may lead to sharp fluctuation in prices. With speculative sale and purchase place continuously, actual sale and purchase by investors on a large scale are absorbed by market with changes in prices. There are always some professional operators who are hoping that the prices would rise are others predicting that prices will fall. Both these groups acting on their respective assumption buy or sell continuously in the market. Their operation helps to bring about an orderly adjustment of prices. Without these active operations, a stock exchange can become a very mechanical thing. However, excessive speculation fingers market-equilibrium and must be discouraged through appropriate safeguards. The regulatory authorities always take necessary precautionary measures to prevent and penalize excessive speculation and to the trading.

A fact which needs to be emphasized is that the stock exchanges in India also serve the joint sector units as income extent public sector enterprises. There is substantial private participation in the share capital of government companies such as Balmer Lawrie, Ander Yule, Gujarat State Fertilizers Corporation, Narmada Fertilizers Corporation, Hyderabad Allwyn, Polymers Corporation of Gujarat etc. In recent times of the Central public sector companies have gone in for public debentures through the stock exchanges. There are some public sector companies which have made their share capital open for public subscriptions. Another important function that the stock exchanges in India discharge is of providing a market for gilt-edged i.e., securities issued by the Central Government. State government, Municipalities, Improvement, Trusts reactions in these take place regularly on the stock exchanges.

2.5.3 Membership, Organization and Management

Nature of the century-old tradition, stock exchanges are a highly organized and smooth functioning network world. The membership of stock exchanges initially comprised of individuals and partnership firms. Later on this were also allowed to become members. A number of financial institutions are now members of Indian changes. Over the years, stock exchanges have been organized in various forms. For example, while the stock

Exchange, Ahmedabad Stock Exchange and M.P. (Indore) Stock Exchange were organized as Non-profit making association of persons, the Calcutta Stock Exchange, Delhi Stock Exchange, U.P. Stock Exchange. Cochin Stock Exchange, Gauhati Stock Exchange, Jaipur Stock Exchange and (Mangalore) Stock Exchange were organized as public limited companies. Quite a few others have been send on company limited by guarantee. The internal governance of exchange rests in a governing board comprising members of the board and Executive Director of Members of the governing boards include brokers and non-brokers. Governing bodies of stock exchanges of government nominees, however, dominated by stock brokers. The Executive Direct/President is expected to ensure the position of Executive Director can't be expected to be very strong because if he really tries to be may bring him into conflict with influential broker-members who may also be on the exchange's board which determines Executive Director's terms and conditions of service and his re-appointment on this term. It is not human nature to displease one's appointing authorities and it may be too much that Executive Director is to be strict under the present scheme of things. Subject to the previous approval of the law, governing bodies of stock exchanges have wide powers to make bye-laws. Governing bodies furnish, censure and also expel any member, any remiser, and authorized clerk and employee. It has to adjudicate disputes. Above all, it has the power to make, amend, suspend and enforce rules, bye-regulations and supervise the entire functioning of a stock exchange.

2.5.4 Trading System

Trading on stock exchanges is done through brokers and dealers. All members can cat as brokers and or this purpose they have to maintain security deposits. Brokers act as agents buying and selling or others for which they receive brokerage commission at stipulated rates. Dealers act as principals. And selling securities on their own accounts.

However, members cannot enter into contract with any person other that member without prior permission Governing Body.

The stock exchange rules , bye laws and regulations have identified eight major functional specialization the members.

1. **Commission Broker:** The commission broker executes buying and selling on the floor of the Stock Exchange.
2. **Floor Broker:** Floor brokers are not many. They executes orders for fellow members and receives a share brokerage commission charged by a commission broker to his/her constituent.
3. **Tataniwala:** He/she is a jobber or specialist in selected shares He/she 'makes the market' i.e. continuity to dealings. They specialize is stocks which are traded inactively.
4. **Dealer in Non-cleared securities:** He/she deals in securities which are not on the active list.
5. **Odd-lot Dealer:** He/she specialize in buying and selling in amounts which are less than present trading units. They buy and sell odd lots, make them up into marketable trading units. These dealers receives commission. Their earnings come from the difference between the process at which they buy and sell odd-lot dealer has become an important operator since the growth of new issues. When the number of apply for a new issue is large, shares may be allotted in lots which are smaller than prescribed lots. The Odd-Lots makes profit on the large numbers of odd- lots by buying and selling at different prices.

6. **Budiwalas:** He/she specializes in buying and selling simultaneously in different markets. The difference between the buying price in another market constitutes his profit. However, he can transact such business only if a security is traded on more than one stock exchange and if the exchange is telephonically or ax-linked. In India arbitrage has become a growing business. Arbitrage requires prior approval of the governing body "in order to avoid the evil of joint account" with members of other stock exchanges and consequent involvement of one exchange in the difficulties of another.
7. **Security Dealer:** This dealer specializes in trading in government securities. He/she mainly acts as a jobber and takes the risks inherent in the ready purchase and sale of securities. The government securities are over the counter and not on the floor. They maintain daily contacts with the Reserve Bank of India and common banks and other financial institutions. As a result of their activities, government securities are quoted finely.

Members are permitted to deal only in listed securities. However, with the approval of the Governing body they can deal in listed securities of other exchanges. There are three types of contracts permitted by the stock exchanges, members can transact for Delivery, i.e., for delivery as well as payment on the same day as the date of contract or at the most the next day for Hand-Delivery, i.e., delivery and payment within the time and dates stipulated at the time of entering into a contract which time shall not exceed 14 days following the date of contract, for Special Delivery i.e., for delivery of the and payment for it within anytime exceeding 14 days from the date of contract when entering into a bargain permitted by the Governing Body or President.

Dealings in government securities are transacted between 12 noon and 3 p.m. on the Bombay Stock Exchange. The securities are largely transacted by institutional investors and also brokers and dealers. The business is settled largely through banks. The documents are delivered through banks against payment at the contract plus interest rate accrued to the date of delivery.

In the matter of delivery, equity share trades are classified into two groups—Delivery Orders and Rate Orders. For both groups there is now a computerized system of settlement. These orders are issued to the first and last party respectively. Delivery in respect of the first group passes through the Clearing House. In the order of the other group the delivering member hands over directly to the receiving member named in the Receive order share certificate together with duly executed transfer deeds. Such deliveries should be effected before 2 p.m. in the prescribed day which is generally Thursday.

All bargains except in Equity Shares entered into from Thursday of any week up to the following Wednesday are required to be settled by delivery and payment on Wednesday in the week after. Many other procedures are involved for final settlement.

There is a Clearing House, established in Bombay in 1921, which receives delivery and payment to the customers. All the banks of the country are its members. The Clearing House guarantees that where shares are delivered payments would be duly made, or it returns the shares to the concerned bank if a member defaults, and per contra when payment is made the shares would be duly delivered, or return the money to the bank if a member defaults. Clearing operations cost huge sums of money to the Bombay Stock Exchange. Policies are tendered in the interest of the investing public. The clearing operations were introduced in Calcutta and in Madras and Delhi in 1957.

2.5.5 Stock Market Information System

Stock exchange quotations and indices published in daily newspapers are the main source of information of the exchange traders and turnover. Dailies like Economic Times,

Financial Express, Business Standard, Times of India and Hindustan Times publish daily quotations and indices. As for Bombay Stock Exchange, quotation published in Economic Times, information on equity shares, starting from the first column, is presented in the following order.

Company's name;

previous day's closing price in brackets, all the daily traded prices as published ..SE, key financial parameters such as earnings per share (EPS) on Tuesdays, cash earnings per share (SPS) Wednesdays, cash P/E ; and the high and low prices in the preceding 52 weeks.

The first traded price is the day's opening price. If only one such price is recorded, it is also the day's closing balance. If there are two prices recorded, then the first is the opening and the second the closing price. If there are a prices, then the middle quote is either the high or low price. If there are four prices, then one of the middle prices is the day's high and the other, the low. If there are no transactions in a company's share on any day, the previous day's closing price is presented in brackets.

The EPS is the average net profit after tax per equity share and the CPS the average cash profit (after adding the depreciation) per share. The cash P/E is the ratio of the day's closing price to the cash earnings per share distinct from the P/E ratio which relates price to the net profit per share. PE values are not printed when earnings are either nil or negative.

The RNW is the net profit as a percentage of the net worth and measures the return earned on the shareholders .. i.e., equity capital plus reserves. The GPM is the gross profit margin (before depreciation and tax) as a percentage of gross sales and measures the company's profit margin which is available to absorb depreciation charges arising from capital expenditures, tax payments, dividend distribution and profit plough back. All the figures taken from the latest available results (audited/unaudited) of the company.

The 52 week high and low prices of each share are worked out a new every day on the basis of the higher and lowest points scaled during the immediately preceding 52 weeks. The high and lows are adjusted for bonus of rights issue of equity shares.

If any of the day's traded price is yearly high or low, the entire line, including the name of the company, is .. in bold types, with a 'H' attached to the high value or 'L' attached to the low value.

Whenever there is a significant changes in the day's closing values as compared to the previous closing, it is own in bold types with a 'plus ' or 'minus' sign as the case may be, after the closing value. For specified shares, Wherever a share goes ex-dividend or ex-bonus or ex-rights, it is indicated by notation XD or XB or XR, as the .. may be, placed next to its closing price.

Symbol of face values other than Rs. 10 are indicated as follows:

* For Rs. 100, * Rs. 50, 0 for Rs. 25, for Rs. 250.

For debentures, the information starting from the first column presented in the following order, the nominal value of interest on the face value : company's name : face value : previous day's closing-price : the day's opening .. yield to maturity (YTM) and yield (both annualized). The yield is nominal interest expressed in percentage .. of closing value. The YTM adjust the nominal return for the maturity period, frequency of interest payment, as per of principal repayment, redemption premium, if any, and thereby enables investors to compare different investment options in debentures on a uniform scale. If there are no quotations for a company's debenture on a .. the opening price is shown as nil, and the closing price the same as the previous days closing.

Besides these quotations share price indices are also published in different dailies. Bombay Stock Exchange's of share 'Sensex' and 100 – share 'National' indices are quite popular. Besides these, there are other indices also which include The Economic Times Index of Ordinary Share Price, Business Standard Index of Ordinary Shares price and few others. Reserve Bank of India also publishes Share Price Index. PTI Stock scan provides minute-to-minute share price information about Bombay, Delhi, Ahmedabad, Calcutta and Madras stock exchanges.

2.5.6 Principle Weaknesses of Indian Stock Market

While in terms of number of stock exchanges, listed companies, daily turnover, market capitalization and investor population, the Indian stock market has witnessed impressive growth over the last four decades. It still others form serious weaknesses. We may point our principle weaknesses of the Indian stock Market as follows:

- a) **Rampant Speculation:** Indian stock exchanges have been witnessing spells of unprecedented booms and crashes. While the cost has been experiencing generally 4-5% rate of growth, the share prices have shown high volatility. This only that the speculative activities have been rampant. This does not reflect a very healthy state of affairs. Over speech character and high volatility have made the Indian stock market crises prone. The distinction that Keynes in 1929 in Wall Street Journal between 'Speculators' operating on the basis of forecasting the psychology market, and 'Investor's trying to forecast the prospective yield of the assets over the whole life has almost vary in India's market conditions.
- b) **Insider Trading:** Like speculation insider trading is rampant on Indian stock exchanges. Insider trading means operation information which is price-sensitive and not available to the public. Insider trading is thus trading from a post privilege in respect of price-sensitive information. Insider trading is thus trading from a post privilege in respect of price-sensitive information. Insider trading is decried because it violates, level playing a state where equal opportunity to information is available to all the participants in the market.
- c) **Oligopolistic Market:** The Indian stock market cannot be called truly competitive. It is highly dominated by large financial institute big brokers, and operators and is thus oligopolistic in structure.
- d) **Limited Forward Trading:** As pointed out above, there can be three types of transactions undertaken at the stock exchanges not spot delivery, hand delivery and forward delivery. Trading in share, for clearing, or 'forward trading' was common banned in India in 1969. It had a very adverse effect on share prices. The situation was further aggravated in 1974 restriction put on dividend by companies as part of the anti-inflationary measures adopted by the given from 1974 onwards, under a scheme first evolved by the Bombay Stock Exchanges and thereafter accept Calcutta, Delhi and Ahmedabad, a certain informal type of forward trading was revived. This was done by can forward the delivery contract beyond 14 days in an informal manner, by concluding the earlier contract and earn into a new contract without any actual delivery, but merely by payment of the balance between the country price and market price, between the buyer and the seller. This system had been continued for selected often called cleared securities, in an extra-legal manner without anyone questioning its legality. In 1981 government at long last proceeded to permit the revival of limited volume of forward trading. This was done reviving the previous practice of trading in cleared securities, but by permitting carry forward of contracts beyond reviving the previous practice of trading in cleared securities, but by permitting carry forward of contracts beyond days up to three months. The

real problem however, still persisted. While a certain volume of forward trade useful for providing liquidity and avoiding payment crises, when speculation runs not and the actual price transfer of securities lays far behind, there will inevitably be a payment crisis.

- e) ***Outdated Share Trading System:*** The share trading system followed in India stock exchanges, watched in an international prospectus total outdated and inefficient. Major problem areas include settlement periods, margin system and carry forward (badla) system. The settlement period is 14 days in most of the Indian stock exchanges whereas most countries are moving towards a rolling three days settlement period. Apart from encouraging the rise of shops outside the stock exchange system. Such a lengthy settlement period increases the risk exposed market participants due to price movements. Avoidance of margin payment under the margin system is a problem area. Margin system is the deposit which the members have to maintain with the clearing house stock exchange. The deposit is a certain percentage of the value of the security which is being traded by men. Under the margin system, if a member buys or sells securities marketed for margin above the free limit, a spot amount per share has to be deposited in the clearing house. Before we point out major weaknesses of the margin system, we may distinguish it from margin. Margin trading means a customer buys a share paying a portion of the purchase price. The portion of the purchase price paid by the customer is called margin. For example, if a customer purchases shares worth Rs. 1 lakh market value by paying Rs. 60,000. He is trading paying a margin of 60%. In this case, the balance is being lent by the broker and the securities bought are collateral for the loan and have to be left with the broker.

Now, returning to the Indian margin system, its major weakness is that it is totally discretionary in charge of the margin varying from zero to sometimes 50 per cent from share to share and from day to day. It has often to contain runaway booms. Further, under the present settlement and margin system, there is a strong tendency to collude for the buyers and sellers/brokers for the purpose of avoiding margin payments.

The carry forward (or badla) system is an Indian system evolved essentially to facilitate speculative shares. It promotes a wholly spurious kind of share trading in which neither the buyer has the money to pay .. at the time of settlement nor the seller has the shares to deliver, or at least one of the two is spurious. Trading to one study, roughly around three-fourths of outstanding positions at the end of a settlement period get .. forward to the next settlement and one-fourth gets settled by actual delivery on the major Indian stock exchange.

- f) ***Lack of a single market:*** Due to the inability of various stock exchanges to function cohesively, the growth in business in any region has not been transmitted to other exchanges. The limited inter-market operations have resulted in increased costs and risks of investors in smaller towns. This problem has been further aggravated by the lack .. of cohesion among exchanges in terms of legal structure, trading practices, settlement procedures and jobbing.
- g) ***Problem of interface between the primary and secondary markets:*** The recent upsurge of the primary market has created serious problems of interfacing with the secondary market, viz. the stock exchanges which still, by and large, continue with the same old infrastructure and ways of long which suited the very narrow base of the capital market in the yesteryears but are totally out of time with last market and the desired tempo of work at present. Unless the secondary market is re-oriented so as to charge the new responsibilities cast on it by the recent developments, this will act as a drag on the future preface.

The existing Stock Exchange Regulations were essentially meant for times when buyers and sellers as also stockbrokers were small in number and mostly located in the same city or around the few stock exchange. These regulations have therefore little, relevance in today's context when the number of shareholders has gone up to around 15 million and they are dispersed over the entire length and breadth of the country. Restrictions based on share transfer under Section 108(1)(b) requiring transfer forms to be stamped by a prescribed government rural, and the validity of such transfer deeds lasting only for about two months have outlived their utility. A shareholder located, say at Jabalpur, is first required to obtain the transfer deed from a stock exchange center and then send it to the stock broker, say at Delhi or Bombay, for arranging the sale. More often than not, the transfer deed is presented to the company, its validity period would have expired. Normally, all the correspondence between the company and the shareholders, including the dispatch of share certificates is required to be done by registered post. This, coupled with an inefficient postal system, leads to delays and often loss of the scripts in transit, causing immense harassments to both the buyer and the seller. The dilatory and inefficiency of the banking system under which outstation cheque's take very long to encashed, the difficulty in necessary payments in reply to calls or in connection with the subscription for issues also affects the long... The E.F.R.A. restrictions on inflow and outflow of foreign exchange and the time consuming procedures irritants not only to foreign but the non-residents Indian investors, who have grown substantially in recent years. All this militates against the ...functioning of the secondary market. The situation is very much like the problem faced by a small airstrip to handling only Dakota planes being suddenly called upon to handle Jumbo Jets without any necessary change in its infrastructure.

- h) ***Inadequacy of investor service:*** It is commonly felt that exchanges, particularly the smaller ones, have been unable to service their investor of adequately, and have been able to make a limited contribution to the spread of the equity cult in their region. Level of computerization across stock exchanges has been inadequate, resulting in lower operational flexibility stock exchanges and brokers to handle sudden surges in volumes. The absence of computer linkage between stock exchanges and its members has also hampered effective inter-market operations, monitoring of trading and trading operations, as well as the free flow of information on an intra- and inter-exchange basis. The inadequate structure and ineffective trading practices/settlements have also resulted in lack of NRI confidence in the capital market. Major Indian corporate today need to diversify their sources of capital and seek the direct recitations of foreign investors. The areas of concern detailed above would effectively deter such direct foreign currency investments. The up gradation of existing stock exchanges thus has to be viewed as an integral component of the increasing globalization of the Indian economy.

2.5.7 Directions to Reform the Functioning of Stock Exchanges

While the efforts to reform the functioning of stock exchanges in India has been as old as the stock exchanges reserves and shall discuss history of regulations of the stock market in India in detail in the next Chapter, we could like to briefly reproduce the main recommendations of an expert study of Trading in Shares in the Indian Stock Exchanges which was commissioned in 1991 by the Department of Economic Affairs, Ministry of Foreign Government of India with the following terms of reference.

- a) To examine the trading system prevalent on the Indian stock exchanges with special reference to stock exchanges such as Bombay, Calcutta, Delhi and

Ahmedabad, covering both specified and non-specified shares, keeping in view the need avoid unwarranted fluctuations in prices and crises in stock exchanges also the need for ensuring the market's liquidity and investors confidence;

- b) To review the effectiveness of the system of regulation and market surveillance by stock exchanges trading operations;
- c) To look into the working of the 'badla' system in the shares and its effects on trading;
- d) To examine any other matter which relevant to the smooth and orderly operation of the trading in shares;
- e) To make recommendations for improvements in the system of trading in shares and form maintaining the confidence in the stock market.

Main recommendations made by the Expert study are as follows:

1. To introduce a uniform one-week settlement system in all stock exchanges and in all shares in on unify the market on a national basis and, at the same time, to reduce the risk exposure of market participant to long settlement periods and also to counter the strong tendency towards excessive speculation and except concentration of trading activity in a few shares only.
2. To replace the present margin system, because of its failure to prevent many defaults on several exchanges, by a system of "marketing to the market" on a daily basis (i.e., debiting the losses and credit gains daily to the members having outstanding positions).
3. To do away with the carry forward system which is incompatible with the recommendation of the .. shorten the settlement period and for which the whole rationale will disappear with the adoption of the system "marking to the market" daily, as suggested above.
4. To insist on all the stock exchanges to introduce formal market-marking arrangements I the best post manner in order to prevent exploitation of investors by market malpractices, and promote more orderly many all securities.
5. To make the governing bodies of stock exchanges equally representative of the share brokers interest the one hand and the public and the users of stock market services on the other, and strengthen exchange management generally.
6. To introduce in all stock exchanges a well-designed management information system (MIS), capital producing relevant information which could be used by the authorities for restructuring and regulating the on proper lines.

The high powered study group on Establishments of New Stock Exchanges , popularly known as Phase Committee, had in 1991 recommended the promotion of a new stock exchange at New Bombay as a Exchange', and to act as a 'National Stock Exchange'. The principal features of NSE would be that limit itself to listing only medium-sized companies, ad focus on creating a market for debt instruments which been wholly neglected until now by the Bombay Stock Exchanges as well as other existing stock exchanges, exchange should be completely automated in terms of both trading and settlement procedures. Further recommended that the concept of compulsory market makers/Jobbers should be introduced. Having many suggested features of NSE, over the Counter Exchange of India (OTCEI) has been established in 1992, briefly discuss the nature and unique feature of OTC Exchange of India in the following sub section.

2.5.8 Distinctions between New Issue Market and Stock Exchange

The stock exchange is a market for old securities i.e. those which have been already issued and listed on a stock exchange. These securities purchased and sold continuously among investors without involvement of companies. Stock exchange provides not only free transferability shares but also makes continuously evaluation of securities traded in the market.

The distinction between new issue market and stock exchange can be made on three grounds.

1. Functional difference
2. Organisational difference
3. Nature of contribution to industrial finance

Functional difference: New Issue market deals with new securities which are issued for the first time for public subscription. The stock exchange provides a ready market for buying and selling of old securities.

Organisational difference: The stock exchange have physical existence and are located in particular geographical areas. Stock exchange is a place where dealers of security meet regularly at appointed time announced by the market. It is well established organization with rule and regulations for conduct of the business. The members are supplied with information about companies and daily changes in prices of stocks.

New issue market enjoys neither any tangible form nor any administration organizational set up nor is subject to any centralized control and administration for the execution of the business. It renders services to the lenders and borrowers of funds at the time of any particular operation and the services are taken up entirely by banks, brokers and underwriters.

Nature of contribution to industrial finances: The new issue market provides the issuing company with funds for starting a new enterprises or for either expansion or diversification of an existing one by marking direct link between companies which require funds and the investing public. So, the contribution of new issue market is direct. The role of stock exchange in providing capital is indirect as it provides marketability to the shares.

2.5.9 Relationship between New Issue Market and Stock Exchange

Despite the above mentioned differences, the new issue market and stock exchange are inseparably connected and work in conjunction with each other.

The new issues first placed in the new issue market can be disposed of subsequently in the stock exchange. The stock exchange provides the mechanism for regular and continuous purchase and sale of securities. This facility is of immense utility to potential investors who are assured that they will be able to dispose of the allotment of shares at any time. Thus the two markets are complementary in nature.

Both the markets are connected to each other even at the time of new issue. The companies which makes new issue apply for listing of shares on a recognized stock exchange. Listing of shares adds prestige to the firm and widens the market for the investors. The companies which want stock exchange listing have to comply with statutory rules and regulations of the stock exchange to ensure fair dealing in them. The stock exchange, thus, exercise considerable control over the organization of new issues.

The new issue market and stock market are economically an integral part of a signal market i.e., industrial securities market. Both are susceptible to the common influence of the environment conditions such as political stability, economic conditions, monetary policy of the central bank and the fiscal policy of the government. The two markets act and react upon each other in the same direction. When the stock prices go up in the market, the new issues increase and when the stock prices show a downward trend the new issues decline. The new issue market also depends on the stock exchange to find out price movements and general economic outlook and to forecast the climate for the success of new issues.

2.5.10 Book Building

Book Building is basically a capital issuance process used in Initial Public Offer (IPO) which aids price and demand discovery. It is a process used for marketing a public offer of equity shares of a company. It is a mechanism where, during the period for which the book for the IPO is open, bids are collected from investors at various prices, which are above or equal to the floor price. The process aims at tapping both wholesale and retail investors. The offer/issue price is then determined after the bid closing date based on certain evaluation criteria.

The Process

- The Issuer who is planning an IPO nominates a lead merchant banker as a 'book runner'.
- The Issuer specifies the number of securities to be issued and the price band for orders.
- The Issuer also appoints syndicate members with whom orders can be placed by the investors.
- Investors place their order with a syndicate member who inputs the orders into the 'electronic book'. This process is called 'bidding' and is similar to open auction.
- A Book should remain open for a minimum of 5 days.
- Bids cannot be entered less than the floor price.
- Bids can be revised by the bidder before the issue closes.
- On the close of the book building period the 'book runner evaluates the bids on the basis of the evaluation criteria which may include:
 - ❖ Price Aggression
 - ❖ Investor quality
 - ❖ Earliness of bids, etc.
- The book runner and the company conclude the final price at which it is willing to issue the stock and allocation of securities.
- Generally, the number of shares are fixed, the issue size gets frozen based on the price per share discovered through the book building process.
- Allocation of securities is made to the successful bidders.
- Book Building is a good concept and represents a capital market which is in the process of maturing.

Guidelines for Book Building

Rules governing book building is covered in Chapter XI of the Securities and Exchange Board of India (Disclosure and Investor Protection) Guidelines 2000.

BSE's Book Building System

- BSE offers the book building services through the Book Building software that runs on the BSE Private network.
- This system is one of the largest electronic book building networks anywhere spanning over 350 Indian cities through over 7000 Trader Work Stations via eased lines, VSATs and Campus LANS
- The software is operated through book-runners of the issue and by the syndicate member brokers. Through this book, the syndicate member brokers on behalf of themselves or their clients' place orders.
- Bids are placed electronically through syndicate members and the information is collected on line real-time until the bid date ends.
- In order to maintain transparency, the software gives visual graphs displaying price v/s quantity on the terminals.

Difference between shares offered through book building and offer of shares through normal public issue:

Features	Fixed Price process	Book Building process
Pricing	Price at which the securities are offered/allotted is known in advance to the investor.	Price at which securities will be offered/allotted is not known in advance to the investor. Only an indicative price range is known.
Demand	Demand for the securities offered is known only after the closure of the issue	Demand for the securities offered can be known everyday as the book is built.
Payment	Payment if made at the time of subscription wherein refund is given after allocation.	Payment only after allocation.

Check Your Progress 3

Describe, in brief, the trading system on stock exchanges.

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2.6 LISTING OF SECURITIES

Listing means admission of the securities to dealings on a recognised stock exchange. The securities may be of any public limited company, Central or State Government, quasi governmental and other financial institutions/corporations, municipalities, etc.

The objectives of listing are mainly to:

- provide liquidity to securities;
- mobilize savings for economic development;
- protect interest of investors by ensuring full disclosures.

The Exchange has a separate Listing Department to grant approval for listing of securities of companies in accordance with the provisions of the Securities Contracts (Regulation) Act, 1956, Securities Contracts (Regulation) Rules, 1957, Companies Act, 1956, Guidelines issued by SEBI and Rules, Bye-laws and Regulations of the Exchange.

A company intending to have its securities listed on the Exchange has to comply with the listing requirements prescribed by the Exchange. Some of the requirements are as under:

2.6.1 Minimum Listing Requirements for New Companies

The following revised eligibility criteria for listing of companies on the Exchange, through Initial Public Offerings (IPOs) & Follow-on Public Offerings (FPOs), effective August 1, 2006.

Eligibility Criteria for IPOs/FPOS

1. Companies have been classified as large cap companies and small cap companies. A large cap company is a company with a minimum issue size of Rs. 10 crores and market capitalization of not less than Rs. 25 crores. A small cap company is a company other than a large cap company.
 - a) In respect of Large Cap Companies:
 - i) The minimum post-issue paid-up capital of the applicant company (hereinafter referred to as “the Company”) shall be Rs. 3 crores;
 - ii) The minimum issue size shall be Rs. 10 crores; and
 - iii) The minimum market capitalization of the Company shall be Rs. 25 crores (market capitalization shall be calculated by multiplying the post-issue paid-up number of equity shares with the issue price).
 - b) In respect of Small Cap Companies:
 - i) The minimum post-issue paid-up capital of the Company shall be Rs. 3 crores;
 - ii) The minimum issue size shall be Rs. 3 crores;
 - iii) The minimum market capitalization of the Company shall be Rs. 5 crores (market capitalization shall be calculated by multiplying the post-issue paid-up number of equity shares with the issue price);
 - iv) The minimum income/turnover of the Company should be Rs. 3 crores in each of the preceding three 12-months period;
 - v) The minimum number of public shareholders after the issue shall be 1000; and
 - vi) A due diligence study may be conducted by an independent team of Chartered Accountants or Merchant Bankers appointed by the Exchange, the cost of which will be borne by the company. The requirement of a due diligence study may be waived if a financial institution or a scheduled commercial bank has appraised the project in the preceding 12 months.
2. For all companies:
 - i) In respect of the requirement of paid-up capital and market capitalisation, the issuers shall be required to include in the disclaimer clause forming a part of the offer document that in the event of the market capitalisation (product of

issue price and the post issue number of shares) requirement of the Exchange not being met, the securities of the issuer would not be listed on the Exchange.

- ii) The applicant, promoters and/or group companies, should not be in default in compliance of the listing agreement.
- iii) The above eligibility criteria would be in addition to the conditions prescribed under SEBI (Disclosure and Investor Protection) Guidelines, 2000.

2.6.2 Minimum Listing Requirements for Companies Listed on Other Stock Exchanges

The Governing Board of the Exchange at its meeting held on 6th August, 2002 amended the direct listing norms for companies listed on other Stock Exchange(s) and seeking listing at BSE. These norms are applicable with immediate effect.

1. The company should have minimum issued and paid up equity capital of Rs. 3 crores.
2. The Company should have profit making track record for last three years. The revenues/profits arising out of extra ordinary items or income from any source of non-recurring nature should be excluded while calculating distributable profits.
3. Minimum networth of Rs. 20 crores (networth includes Equity capital and free reserves excluding revaluation reserves).
4. Minimum market capitalisation of the listed capital should be at least two times of the paid up capital.
5. The company should have a dividend paying track record for the last 3 consecutive years and the minimum dividend should be at least 10%.
6. Minimum 25% of the company's issued capital should be with Non-Promoters shareholders as per Clause 35 of the Listing Agreement. Out of above Non Promoter holding no single shareholder should hold more than 0.5% of the paid-up capital of the company individually or jointly with others except in case of Banks/Financial Institutions/Foreign Institutional Investors/Overseas Corporate Bodies and Non-Resident Indians.
7. The company should have at least two years listing record with any of the Regional Stock Exchange.
8. The company should sign an agreement with CDSL & NSDL for demat trading.

2.6.3 Minimum Requirements for Companies Delisted by this Exchange Seeking Relisting of this Exchange

The companies delisted by this Exchange and seeking relisting are required to make a fresh public offer and comply with the prevailing SEBI's and BSE's guidelines regarding initial public offerings.

2.6.4 Permission to Use the Name of the Exchange in an Issuer Company's Prospectus

The Exchange follows a procedure in terms of which companies desiring to list their securities offered through public issues are required to obtain its prior permission to use the name of the Exchange in their prospectus or offer for sale documents before filing the same with the concerned office of the Registrar of Companies. The Exchange has

since last three years formed a “Listing Committee” to analyse draft prospectus/offer documents of the companies in respect of their forthcoming public issues of securities and decide upon the matter of granting them permission to use the name of “Bombay Stock Exchange Limited” in their prospectus/offer documents. The committee evaluates the promoters, company, project and several other factors before taking decision in this regard.

2.6.5 Submission of Letter of Application

As per Section 73 of the Companies Act, 1956, a company seeking listing of its securities on the Exchange is required to submit a Letter of Application to all the Stock Exchanges where it proposes to have its securities listed before filing the prospectus with the Registrar of Companies.

2.6.6 Allotment of Securities

As per Listing Agreement, a company is required to complete allotment of securities offered to the public within 30 days of the date of closure of the subscription list and approach the Regional Stock Exchange, i.e. Stock Exchange nearest to its Registered Office for approval of the basis of allotment.

In case of Book Building issue, Allotment shall be made not later than 15 days from the closure of the issue failing which interest at the rate of 15% shall be paid to the investors.

Check Your Progress 4

What are the objectives of listing of securities?

.....
.....

2.6.7 Requirement of 1% Security

The companies making public/rights issues are required to deposit 1% of issue amount with the Regional Stock Exchange before the issue opens. This amount is liable to be forfeited in the event of the company not resolving the complaints of investors regarding delay in sending refund orders/share certificates, non-payment of commission to underwriters, brokers, etc.

2.6.8 Payment of Listing Fees

All companies listed on the Exchange have to pay Annual Listing Fees by the 30th April of every financial year to the Exchange as per the Schedule of Listing Fees prescribed from time to time.

The schedule of listing fees for the year 2006-2007, prescribed by the Governing Board of the Exchange is given hereunder.

Schedule of Listing Fees for the Year 2006-2007

Sr. No.	Particulars	Amount (Rs.)
1.	Initial Listing Fees	20,000
2.	Annual Listing Fees	
	(i) Companies with paid-up capital* upto Rs. 5 crores	10,000
	(ii) Above Rs. 5 crores and upto Rs. 10 crores	15,000
	(iii) Above Rs. 10 crores and upto Rs. 20 crores	30,000
3.	Companies which have a paid-up capital* of more than Rs. 20 crores will pay additional fee of Rs. 750/- for every increase of Rs. 1 crores or part thereof.	
4.	In case of debenture capital (not convertible into equity shares) of companies, the fees will be charged @ 25% of the fees payable as per the above mentioned scales.	
*includes equity shares, preference shares, fully convertible debentures, partly convertible debenture capital and any other security which will be converted into equity shares.		
Kindly Note the last date for payment of listing fee for the year 2006-2007 is April 30, 2006. Failure to pay the listing fee (for the equity and/or debt segment) before the due date i.e. April 30, 2006 will attract imposition of interest @ 12% per annum w.e.f. May 1, 2006.		

2.6.9 Compliance with Listing Agreement

The companies desirous of getting their securities listed are required to enter into an agreement with the Exchange called the Listing Agreement and they are required to make certain disclosures and perform certain acts. As such, the agreement is of great importance and is executed under the common seal of a company. Under the Listing Agreement, a company undertakes, amongst other things, to provide facilities for prompt transfer, registration, sub-division and consolidation of securities; to give proper notice of closure of transfer books and record dates, to forward copies of unabridged Annual Reports and Balance Sheets to the shareholders, to file Distribution Schedule with the Exchange annually; to furnish financial results on a quarterly basis; intimate promptly to the Exchange the happenings which are likely to materially affect the financial performance of the Company and its stock prices, to comply with the conditions of Corporate Governance, etc.

The Listing Department of the Exchange monitors the compliance of the companies with the provisions of the Listing Agreement, especially with regard to timely payment of annual listing fees, submission of quarterly results, requirement of minimum number of shareholders, etc. and takes penal action against the defaulting companies.

2.6.10 Cash Management Services (CMS) - Collection of Listing Fees

As a further step towards simplifying the system of payment of listing fees, the Exchange has entered into an arrangement with HDFC Bank for collection of listing fees, from 141 locations, situated all over India. Details of the HDFC Bank branches, are available on our website www.bseindia.com as well as on the HDFC Bank website www.hdfcbank.com. The above facility is being provided free of cost to the Companies.

Companies intending to utilise the above facility for payment of listing fee would be required to furnish the information, (mentioned below) in the **Cash Management Cash Deposit Slip**. These slips would be available at all the HDFC Bank centers.

2.7 SEBI AND ITS REGULATIONS

As per Securities and Exchange Board of India Guidelines, the issuer company should complete the formalities for trading at all the Stock Exchanges where the securities are to be listed within seven working days of finalisation of Basis of Allotment.

A company should scrupulously adhere to the time limit for allotment of all securities and dispatch of Allotment Letters/Share Certificates and Refund Orders and for obtaining the listing permissions of all the Exchanges whose names are stated in its prospectus or offer documents. In the event of listing permission to a company being denied by any Stock Exchange where it had applied for listing of its securities, it cannot proceed with the allotment of shares. However, the company may file an appeal before the Securities and Exchange Board of India under Section 22 of the Securities Contracts (Regulation) Act, 1956.

2.8 NSE

The National Stock Exchange (NSE) is India's leading stock exchange covering various cities and towns across the country. NSE was set up by leading institutions to provide a modern, fully automated screen-based trading system with national reach. The Exchange has brought about unparalleled transparency, speed & efficiency, safety and market integrity. It has set up facilities that serve as a model for the securities industry in terms of systems, practices and procedures.

NSE has played a catalytic role in reforming the Indian securities market in terms of microstructure, market practices and trading volumes. The market today uses state-of-art information technology to provide an efficient and transparent trading, clearing and settlement mechanism, and has witnessed several innovations in products & services viz. demutualisation of stock exchange governance, screen based trading, compression of settlement cycles, dematerialisation and electronic transfer of securities, securities lending and borrowing, professionalisation of trading members, fine-tuned risk management systems, emergence of clearing corporations to assume counterparty risks, market of debt and derivative instruments and intensive use of information technology.

The National Stock Exchange of India Limited has genesis in the report of the High Powered Study Group on Establishment of New Stock Exchanges, which recommended promotion of a National Stock Exchange by financial institutions (FIs) to provide access to investors from all across the country on an equal footing. Based on the recommendations, NSE was promoted by leading Financial Institutions at the behest of the Government of India and was incorporated in November 1992 as a tax-paying company unlike other stock exchanges in the country.

On its recognition as a stock exchange under the Securities Contracts (Regulation) Act, 1956 in April 1993, NSE commenced operations in the Wholesale Debt Market (WDM) segment in June 1994. The Capital Market (Equities) segment commenced operations in November 1994 and operations in Derivatives segment commenced in June 2000.

NSE's mission is setting the agenda for change in the securities markets in India. The NSE was set-up with the main objectives of:

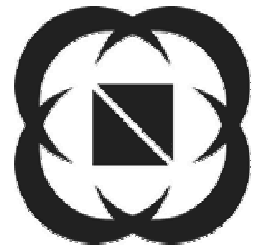
- establishing a nation-wide trading facility for equities, debt instruments and hybrids,
- ensuring equal access to investors all over the country through an appropriate communication network,
- providing a fair, efficient and transparent securities market to investors using electronic trading systems,

- enabling shorter settlement cycles and book entry settlements systems, and
- meeting the current international standards of securities markets.

The standards set by NSE in terms of market practices and technology have become industry benchmarks and are being emulated by other market participants. NSE is more than a mere market facilitator. It's that force which is guiding the industry towards new horizons and greater opportunities.

2.8.1 Logo of NSE

The logo of the NSE symbolises a single nationwide securities trading facility ensuring equal and fair access to investors, trading members and issuers all over the country. The initials of the Exchange viz., N, S and E have been etched on the logo and are distinctly visible. The logo symbolises use of state of the art information technology and satellite connectivity to bring about the change within the securities industry. The logo symbolises vibrancy and unleashing of creative energy to constantly bring about change through innovation.



2.8.2 Promoters

NSE has been promoted by leading financial institutions, banks, insurance companies and other financial intermediaries:

- Industrial Development Bank of India Limited
- Industrial Finance Corporation of India Limited
- Life Insurance Corporation of India
- State Bank of India
- ICICI Bank Limited
- IL & FS Trust Company Limited
- Stock Holding Corporation of India Limited
- SBI Capital Markets Limited
- Bank of Baroda
- Canara Bank
- General Insurance Corporation of India
- National Insurance Company Limited
- The New India Assurance Company Limited
- The Oriental Insurance Company Limited
- United India Insurance Company Limited
- Punjab National Bank
- Oriental Bank of Commerce
- Indian Bank
- Union Bank of India
- Infrastructure Development Finance Company Ltd.

2.8.3 Corporate Structure

NSE is one of the first de-mutualised stock exchanges in the country, where the ownership and management of the Exchange is completely divorced from the right to trade on it. Though the impetus for its establishment came from policy makers in the country, it has been set up as a public limited company, owned by the leading institutional investors in the country.

From day one, NSE has adopted the form of a demutualised exchange - the ownership, management and trading is in the hands of three different sets of people. NSE is owned by a set of leading financial institutions, banks, insurance companies and other financial intermediaries and is managed by professionals, who do not directly or indirectly trade on the Exchange. This has completely eliminated any conflict of interest and helped NSE in aggressively pursuing policies and practices within a public interest framework.

The NSE model however, does not preclude, but in fact accommodates involvement, support and contribution of trading members in a variety of ways. Its Board comprises of senior executives from promoter institutions, eminent professionals in the fields of law, economics, accountancy, finance, taxation, etc, public representatives, nominees of SEBI and one full time executive of the Exchange.

While the Board deals with broad policy issues, the Board to various committees constituted by it delegates decisions relating to market operations. Such committees include representatives from trading members, professionals, the public and the management. The day-to-day management of the Exchange is delegated to the Managing Director who is supported by a team of professional staff.

2.9 OVER THE COUNTER EXCHANGE OF INDIA (OTCEI)

Indeed in mid-eighties itself the G.S. Patel Committee on Stock Exchange reforms and the Abid Holi Committee on Capital Markets had recommended for the creation of a second tier stock market that will solve some of the problems of present stock exchanges. Over The Counter Exchange of India (OTCEI) has been promoted by UTI, IDBI, IFCI, LIC, GIC, SBI Capital Market and Canbank Financial Services as a non-making company under Section 25 of the Companies Act, 1956. The OTCEI is a recognized Stock Exchange under section 4 of the Securities Contracts (Regulation) Act, 1956. Hence companies listed on the OTC Exchange enjoy the same status as companies listed on any other stock exchanges in the country as regards to interest rates on borrowings, etc.

OTC Exchange of India has picked the model from the NASDAQ system (National Association of Security Dealers-Automated Quotations) prevalent in the United States of America. Modifications suited to Indian conditions have been adopted. OTC in America was an offshoot of their government's efforts to regulate the unlisted securities act. The Indian version of NASDAQ - National Association of Securities Dealers is what is called OTC Exchange of India. Unlike in the regular exchange, listing on OTCEI is a national listing from day one. Wherever and whenever countries start operating in the country they can trade in all the scripts of OTCEI. Separate listing in those regular places is not needed at all.

2.9.1 The Unique Features of OTCEI are as Under

Ringless Trading: OTCEI exchange has eliminated the traditional trading ring with a view to have greater accessibility to the factors. Trading will instead take place through a network of computers (screen based) of OTC dealers located several places within

the same city and even across cities. These computers allow dealers to quote, query and act through a central OTC computer using telecommunication links. Investors can walk into any of centers of members and dealers and see the quote display on the screen, decide to deal and conclude the transaction.

National Network: Unlike other stock exchanges, the OTC Exchange will have a nationwide reach, enabling widely dispersed ring across the cities, resulting in greater liquidity. Companies thus have the unique benefit of nationwide listing trading of their scrips by listing at one exchange, the OTC Exchange.

Computerized Totally: All the activities of the OTC trading will be computerized, making for a more transparent, quick and complained market.

Exclusives List of Companies: The OTC Exchange will not list and trade in companies listed on any other stock exchange. It will therefore an entirely new set of companies 'sponsored' by members of the OTC Exchange. However, it has recently viewed some 25 companies already listed on other exchanges to list on OTCEI.

Two Ways of Making a Public Offer: Another unique feature of OTCEI is its 'two ways' of making a public offer. Under 'direct offer', a company can of his shares directly to the public after getting it sponsored by a sponsor but under 'indirect offer' the company has give its shares first to the sponsor who along with the company can at a later and convenient time make a to offer.

Computerized Totally: All the activities of the OTC trading process will be computerized, making for a more transparent, quick and complained market.

Faster Transfers and Trading Without Shares: OTC trading also provides for transfer of shares of Registrars, upto a certain percentage per folio. This... in faster transfers. The concept of immediate settlement make it better for the investors. Investors will not with share certificates but with a different tradable document called counter receipt (CR). However, an investor can always exercise his right of having a share certificate his right of having a share certificate by surrendering the CR and again exchanging share certificate for CR when he wants to trade. There will be a custodian who will provide this facility along in a settler who will do the signature verification and CR validation.

2.9.2 Investor Registration

Yet another feature of OTCEI is investor registration, introduced for the first time in India. The investor registration required to be done only once and is valid for trading on any OTC counter in the country in any scrip. The purpose of the investor registration is to facilitate computerized trading. It also provides greater safety of operations the investors.

2.9.3 Trading Mechanism

An investor can buy and any listed scrip at any OTC Exchange counter, Similarly he can sell any listed scrip at by OTC Exchange counter. The investor can also make an application for services like transfer of shares, splitting and consolidation of shares, nomination and revocation of nomination, registering power of attorney, transmission shares and charge of holder's name, etc. The parties involved in trading on OTC are Investor, Counter, Settler registered Custodian, Company and Bank.

The trading documents mainly involved in OTC Exchange transactions are

- Temporary Counter Receipt (TCR),
- Permanent Counter Receipt (PCR),

- Sales Confirmation Slip (SCS),
- Transfer Deed (TD),
- Services Application Form (SAF),
- Application Acknowledgement Slip (AAS) and
- Deal Form (DF)

2.9.4 Customer Purchase (at Market Makers Counter)

Each market maker will be displaying the quantum of stock he is holding, the market lots and bid and offer prices. Customers will place the order and deliver the cheque. Counter will prepare TD, obtain all details of the buyers including signature on the transfer deed and forward to registrars for updating. Simultaneously cheque received from the customer will be sent for collection.

After scrutiny and confirmation by the registrar the TCRs which will be substituted by PCR's will be and delivered to the buyer. Copies will be distributed to the Counter; OTCEI and Registrar.

The counter receipts are tradable and it contains all the information which appears in a share certificate.

2.9.5 Customer Purchase (at Dealers Counter)

If the dealer is not a market maker, he can act as an agent/broker to procure the scrip to the investor, will also have a PTI scan which shows the scrips traded by various market makers. Against customers orders, he will make a deal with the market maker (over phone or otherwise) change.. and commission and deliver a CR.

Customer Sales when an investor comes to a customer to sell, he produces a CR delivers to the counter along with Transfer Deed duly signed. Before that he verifies the PTI scan and satisfies that the rate is acceptable. Customer will accept CR and Td, verify the details and compare TD with its own details and issue confirmation slips (SCS) in quadruplicate, which will contain required details. One copy each of SCS distributed to the investor, the counter, the OTCEI and the custodian registrar.

Check Your Progress 5

State whether the following statements are true or false:

1. Listing means admission of the securities to dealings on a recognized stock exchange.
2. The exchange has a separate listing department to grant approval for listing of securities of companies in accordance with the provisions of the Securities Contracts (Regulations) Act, 1956.
3. Rules governing book building is covered in the Chapter XI of the Securities and Exchange Board of India (Disclosure and Investor Protection) Guidelines 2000.
4. The main function of the new issue market is to facilitate the transfer of resources from savers to the users.
5. Underwriting is an agreement whereby the underwriter promises to subscribe to a specified number of shares or debentures or a specified amount of stock in the event of public not subscribing to the issue.

2.10 RECENT TRENDS

The Registrar appointed by the company would be given power/authority to transfer the shares not exceed 0.5% of the company's capital per folio, to maintain a register of members and to keep in custody the certificates of the company to be exchanged with CRs when the investor requests. In case where the price exceeds 0.5% of the capital per folio, the Registrars refers such transfer to the company, which in turn has to transfer within a specified time.

The benefits which OTC exchange will offer are:

For companies: It will provide a method of raising funds through capital market instruments which are priced fairly. In OTC company will be able to negotiate the issue price with issue price with the sponsors who will market the issue.

It will help save unnecessary issue expenses on raising funds from capital markets. The method of sponsor placing the scrips with members of OTC who will in turn off-load the scrips to the public will obviate the need public issue. Therefore, almost all associated costs will be eliminated. It will help achieve a greater degree of management stability. The OTC Exchange will list scrips over 20% of the capital made available for public trading. It will provide greater accessibility to large pool of captive investor base, enhancing fund resign substantially. ITC Exchange will create a nationwide network, where investors will be serviced who will for captive investor base for companies.

For Investor: Investment in stocks will become easier. OTC Exchange's wide network will bring the stock exchanges street corner. It will provide greater confidence and fidelity of trade. The investor can look up the prices displayed OTC counter. He knows he is trading scripts at the right market price as there is a transparency of price. It will enable transactions to be completed quickly. Investors can settle the deals across the counter a money or scrip proceeds from the deal will be settled in a matter of days if not earlier. It will provide definite liquidity to investors. The market making system in OTC will have two way prices will be quoted regularly to provide sufficient opportunity for investors to exist. Investors may get a greater sense of security because all scripts have been researched and members been willing to invest themselves in these scripts. In the case of public issue/offer for sale, the allotment will be done in 26 days and trading in 30 days. The immensely benefit the investors.

For Financial Environment: OTC Exchange will help spread the stock exchange operation geographically and integrate capital .. investment into national forum. It will encourage closely-held companies to go public and venture capital across to boost entrepreneurship.

2.11 LET US SUM UP

In this Lesson, we have discussed two segments of Indian securities market namely primary market on issues market and secondary market or stock market. We have highlighted recent trends in the primary discussed various types of securities traded, market players and trading arrangements which exists in the can stock market. Different aspects of the Indian stock market viz. origin and growth, role and functions. Membership, organization and management, trading systems, stock market information system, principal weakness of directions of reform have been explained so that you as a student of this course are able to clearly visualize environment in which investment and portfolio management decisions are made. A major development of 1992 the scene of Indian stock exchanges namely, the promotion of Over The Counter Exchanges of India (OTCEI), its true features, trading mechanism and expected benefits to companies,

investors and general environment of finance is also discussed. In the following Unit we shall focus on the legal frame of Indian securities market.

2.12 LESSON END ACTIVITY

Write the new regulation on Capital Market and Money Market.

2.13 KEYWORDS

Financial Markets: The financial assets are also called financial claims or financial securities or paper assets. These finance securities are issued by deficit-generating units in exchange for their savings.

Capital Market: It is a place where people buy and sell financial instruments be it equity or debt.

Scarcity of floating stocks: Financial institutions, banks and insurance companies own 80 percent of the equity capital in the private sector.

Price rigging: Evident in relatively unknown and low quality scrips. Causes short time fluctuations in the prices.

Raising Equity: Equity shares are issued to the public for a consideration, which would be at least the par value of the share and sometimes include the share premium.

Primary or new issue market: It is the segment in which new issues are made whereas secondary market is the segment which outstanding issues are traded.

Trading System: Trading on stock exchanges is done through brokers and dealers.

Commission Broker: The commission broker executes buying and selling on the floor of the Stock Exchange.

Tataniwala: He/she is a jobber or specialist in selected shares He/she 'makes the market'.

Dealer in Non-cleared securities: He/she deals in securities which are not on the active list.

Odd-lot Dealer: He/she specialize in buying and selling in amounts which are less than present trading units.

Budiwalas: He/she specializes in buying and selling simultaneously in different markets.

Security Dealer: This dealer specializes in trading in government securities. He/she mainly acts jobber and takes the risks inherent in ready purchase and sale of securities.

Origination: Origination refers to the work of investigation, analysis and processing of new project proposals.

2.14 QUESTIONS FOR DISCUSSION

1. Write a brief note on Indian Stock Market and its functions.
2. What is the difference between Primary market and secondary market?
3. What is Price rigging?
4. Stock Market facilitate a money cycle. Do you agree with this?
5. What is new issue?
6. What are the minus points of Indian Stock Market Functions?

7. Write new trends in secondary market.
8. Write a brief note on new issue market.
9. Write a History of Indian Stock Market.
10. What is OTCEI?
11. What are the objectives and functions of OTCEI?
12. What is book building process?
13. What is the difference between fixed issue and book building process?
14. What is listing? What are the guidance given by the SEBI?

Check Your Progress: Model Answers

CYP 1

1. The financial assets are also called financial claims or financial securities or paper assets. These finance securities are issued by deficit-generating units in exchange for their savings. It is the reason that surplus-generating units are called investors while deficit-generating units are called issuers.
2. It is a place where people buy and sell financial instruments be it equity or debt.

CYP 2

Underwriting is an agreement whereby the underwriter promises to subscribe to a specified number of shares or debentures or a specified amount of stock in the event of public not subscribing to the issue. If the issue is fully subscribed then there is no liability for the underwriter. If a part of share issues remain unsold, the underwriter will buy the shares. Thus underwriting is a guarantee for the marketability of shares.

CYP 3

Trading on stock exchanges is done through brokers and dealers. All members can act as brokers and for this purpose they have to maintain security deposits. Brokers act as agents buying and selling on others for which they receive brokerage commission at stipulated rates. Dealers act as principals. And selling securities on their own accounts.

CYP 4

The objectives of listing are mainly to:

- provide liquidity to securities;
- mobilize savings for economic development;
- protect interest of investors by ensuring full disclosures.

CYP 5

1. T, 2. T, 3. T, 4. T, 5. T.

2.15 SUGGESTED READINGS

Sudhindra Bhat, *Security Analysis and Portfolio Management*, Excel Books, Delhi.

Preeti Singh, *Security Analysis and Portfolio Management*.

V.A. Avadhani, *Investment Management*.

M.Y. Khan, *Financial Services*.

V.K. Bhalla, *Financial Services*.

G.S. Batra, *Financial Services and Markets*.

Mahana Rao, *Financial Services, Cases and Strategies*.

L. M. Bhole, *Financial Markets and Services*.

UNIT II

LESSON

3

FUNDAMENTAL ANALYSIS

CONTENTS

- 3.0 Aims and Objectives
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- 3.2 Fundamental Analysis
 - 3.2.1 Fundamental Analysis and Efficient Market
 - 3.2.2 Fundamental Analysis and Chemistry of Earnings
- 3.3 Economy Analysis
 - 3.3.1 Investment Making Process
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 - 3.3.3 Anticipatory Surveys
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Contd...

- 3.10 Let us Sum up
- 3.11 Lesson End Activity
- 3.12 Keywords
- 3.13 Questions for Discussion
- 3.14 Suggested Readings

3.0 AIMS AND OBJECTIVES

After studying this lesson, you should be able to:

- Understand the concept of fundamental analysis
- Know about economic and industrial analysis

3.1 INTRODUCTION

Investment decision is a part of our economic life. Everybody takes such decision in different context at different times. Some are able to reap more profits through them; while other simply lose their money. Attempted should, therefore, be made to understand and know the way the sound investment decision can be taken in order to improve the change of making profit through them. Thus, investment decision making is an important area probing further.

Unfortunately, for long, investment decision making was regarded only as an act as art is personal subjective, it was difficult to provide a general frame work with in one could operate. Only, recently it has considered as science with he result that a body of literature has been considered as science with the that a body of body has been developed which help us to understand know the way investment decision can be attempted. Recognizing its art contest, this body of literature works on the thinking that a system general framework can be suggested for those involved in investment decision who can then modify according to there requirements. It has, therefore, been recognized that investment decision-making is both an art as with science. This is indeed an on-going process in which decision maker attempts to update himself regarding the return characteristic of securities. These characteristic keep-on changing and investor go on attempting to under their impact on his decisions. The conceivable investment opportunities were discussed and explained in .. Block I. The investment decision maker takes them into account in order to decide which securities show bought or held or sold by him. A very simple decision rule is here applicable : Buy a security that has highest brought or held or sold by him. A very simple decision rule is here applicable. Buy a security that the above required per unit of risk or lowest risk per unit or return. And, sell the security, which does not satisfy the above required.

The above decision rule to buy/sell securities is highly simple but it is very difficult to apply both risk and return fashion in actual practice. This is because they are a large number of factors which affects both risk and return the real world situation. Thus, security, which had highest, return per unit of risk at one point of time and considered to be a good buy. Might turn into a less attractive proposition and could be considered later on possible candidate for disinvestment. Such a situation might arise due to change in the management concerned company or changes in Government policy at economy level

making it less attractive. The open might also be possible. For example, before 1992-93, the shares of sugar industry in India were not catching attention of investing public. But due to changes in the government policy towards this industry around 199.. its share became quite attractive. Policy changes made by the government related to hike in the sugar per sold both in open market as well as through public distribution system, increase in the quantity of sugar for sale in the free market etc. Such factors played a very important role in making the shares of the companies attractive. In addition to the above, there may be other factors too, that are more specific to a part company.

Investment decision making being continuous in nature should be attempted systematically. Broadly approaches are suggested in the literature. These are: fundamental analysis and Technical Analysis. In the approach, the investor attempts to look at fundamental factors that affect risk return characteristic of the say. While, in the second approach, the investor tries to identify the price trends which reflect these characteristics technical analysis concentrates on demand and supply of securities and prevalent trend in share prices mean by various market indices in the stock market.

3.2 FUNDAMENTAL ANALYSIS

As has been mentioned earlier, in the fundamental approach, attempt is made to analyze various fundamental or basic factors that affect the risk-return of the securities. Effort, here, is to identify those securities which perceive to be mispriced in the stock market. The assumption in this case is that the 'market price' of security and the price as justified by its fundamental factors called 'intrinsic value' are different and the ... place provides an opportunity for a discerning investor to detect such discrepancy. The moment such a description is identified, the decision to invest or disinvest is taken. The decision rule under this approach is like this,

If the price of a security at the market place is higher than the one, which is justified by the security fundamentals, sell that security. This is because, it is expected that the market will sooner or later realize mistake and price the security properly, a deal to sell this security should be based on its fundamentals, it should be both before the market correct its mistake by increasing the price of security in question. The price prevailing in market is called 'market price' (MP) and the one justified by its fundamentals is called 'intrinsic value' (IV) session rules/Recommendations.

1. If $IV > MP$, buy the security
2. If $IV < MP$, sell the security
3. If $IV = MP$, No Action.

The fundamental factors mentioned above may relate to the economy or industry or company or all some of this. Thus, economy fundamentals, industry fundamentals and company fundamentals are considered while prizing the securities for taking investment decision. In fact the economy-industry-company framework forms integral part of this approach. This framework can be properly utilized by making suitable adjustments in a regular context. A world of caution? Please remember, the use of an analytical framework does not guarantee a act decision. However, it does guarantee an informed and considered investment decision which would hopefully latter as it based on relevant and crucial information.

3.2.1 Fundamental Analysis and Efficient Market

Before elaborating in detail on the economy-industry-company framework, it is pertinent to mention that .. are expressed about the utility of this approach in the contest of efficient stock market set up. Briefly the market efficiency relates to the speed with which stock market incorporates the information about the economy industry and company in the share prices rather instantaneously. The result of this assumption is that are prevailing at the market place can be taken to represent the price of the share justified by its fundamental extrinsic value (IV). This equality of MP and IV makes the fundamental analysis or any other analysis useless fondant.

The above given view about share market efficiency implies that no one would be able to make abnormal to given such a set up. Some research studies in the literature also support the above view. Practitioners, However, do not agree to such conclusions of empirical nature.

Once again let us be clear at this stage that the truth lies in between these two extreme positions-denouncing, the analyses as total redundant to the one that would bring us profits. In fact, stick market is not efficient to extent the researchers proclaim, many operational inefficiencies and structural deficiencies prevalent in stock .. have been noted in Block 2. Secondly, analysis still has an important role to play it is paradoxical but fact to say the one to assume that stock market is inefficient to make efficient. It is only then the processing information in the prices quickly if not instantaneously. Thirdly, it is fact of life that earning abnormal profits is the only and final goal for most of the investors. Rather, it has been observed that earning the normal returns. The return commensurate with risk prevalent in the market is a worthwhile objective to pursue which most investors are not even able to achieve. In nutshell, security analysis has an important role to play for investment can made in an efficient set up, too.

3.2.2 Fundamental Analysis and Chemistry of Earnings

The logic for fundamental analysis becomes crystal clear once we understand the chemistry of earnings' and macro and macro factors which influence the future of earnings. Exhibits 3.1 indicates some of the major form which affect earnings distributable among equity shareholders.

You would notice from Exhibit 3.1 that while distributable earning is the difference between sales revenue the costs of sales, interest, depreciations taxes and preference dividend, these items of revenue and expense in ... by company specific, industry level and macroeconomic factors. This would mean that the intrinsic ... a stream of distributable earnings per share, is in effect influenced by diverse company specific. Industry and macroeconomic factors. There is, therefore, a strong case for analysis of company specific, industry of and economy level factors, which in one word is called fundamental analysis.

Exhibit 3.1: Factors Affecting Distributable Earnings

Board Source/form of Earnings	Company Specific Factors		Industry Factors	Macro-Economic
Sales	Competitive strength	M	Industry Demand/ Supply	National income, sp.. savings, Monetary.. Credit, Export-Import. Policies, Population Price level.
Less Costs of sales	Operating Efficiency	A	Industry wage Levels: Industrial Infrastructure	National Wage policy Price levels, Economic Infrastructure, Raw ... Production. Import-Export Policy
Earnings Before Interest Depreciation & Taxes (EBIDT)		N		
Less Interest	Capital Structure/financial Leverage Policy	A		
Less Deprecation	Operational leverage Policy	G	Industry Cost of capital	Interest Rates in the Economy, Capital Conditions
Less Tax	Tax Planning and Management		Industry practices	Capital Goods Import
Net Earnings After Tax (NEAT)			Industry Lobby	Fiscal Policy
Less (Preference Dividend)	Capital Structure Policy	E		
Distributable Earnings		M	Industry Practices	Interest Rate Structure, Capital... Conditions
Less Equity Dividend	Dividend Policy	E		
Retained Earnings		N	Industry Practices	Fiscal Policy., Credit Capital Market cond...
		T		

Check Your Progress 1

Describe in brief, the role of fundamental analysis in efficient market.

.....
.....

3.3 ECONOMY ANALYSIS

The analysis of economy, industry and company fundamentals as mentioned above is the main ingredient of fundamental approach. The analyst should take into account all the three constituents which form different but special steps in making investment decision. These can be looked at as different stages in the investment decision-making operationally. To base the investment decision on various fundamentals, all the three stages must be taken into account. In this Unit, we will concentrate on economy and industry analyses while in the next Unit focus on company level analysis.

In actual practice, you must have noticed that investment decision of individuals and the institute made in the economic set up of a particular country. It becomes essential,

therefore, to understand the state economy of that country at macro level. The analysis of the state of the economy at macro level incorporate the economy has performed in the past, how it is performing in the present and how it is expected to perform future. Also relevant in this context is to know how various sectors of the economy are going to grow in the economic analysis.

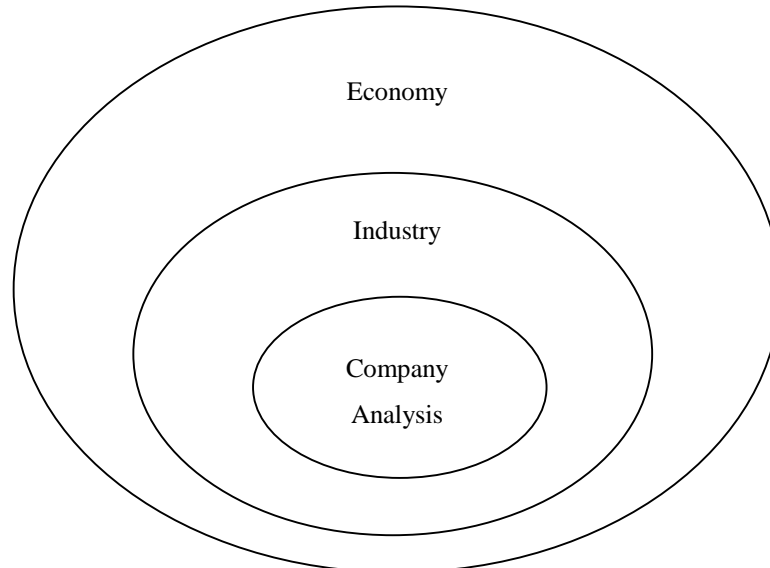


Figure 3.1

3.3.1 Investment Making Process

Each of the sectors are showing signs of stagnation and degradation in the economy. This, we can bring by bring historical performance of various sectors of the economy in the past, their performances and then forming the expectation about its performances in the future. It is through this systematic process, one would be able to identify various relevant investment opportunities whenever these arise. Sectoral analysis, therefore, is .. along with overall economy analysis as the rate of growth in overall economy often differs from the rate with in various segments/sectors.

Rational of the above type of analysis depends on economic considerations too. The way people in general that income and the way they spend these earnings would in ultimate analysis decide which industry or many would grow in the future. Their spending affect corporate profits, dividends and prices of the shares at the many would grow in the future. Their spending affect corporate profits, dividends and prices of the shares at the at place. Research study conducted by King (1966) reinforces the need of economic and industry analysis of context. According to him on an average, over half the variation in stock returns are attributed to market price that affect all the market indices. Over and above this, industry specific factors account for approximately percent of the variation of stock returns. Thus taken together two-third of the variation of stock prices/returns reported to market and industry related factors. Kin's study, despite the limitations of its period of ... and use of U.S. data etc., highlight the importance of economic and industry analyses in making investment come. To neglected this analysis while deciding where to invest would be at one's peril.

It must be clear by this now that analysis of historical performance of the economy is a starting point ; albeit, an important step. But, for the analyst to decide where to invest or not, expected future performance of the overall only along with its various segments is

most relevant. Thus, all efforts should be made to forecast the economy so that the decision to invest or to disinvest the securities can be made in the most had manner. Interestingly this calls for using same of the indicators that describe how the economy has gone up in the past and how it is likely to take shape in the future from the current state of affairs. A healthy outlook about the economy goes a long way to boost the investment climate in general and investment in securities in particular.

3.3.2 Economic Forecasting

Still it will properly understood at this stage that economic forecasting is a must for making investment decision has been mentioned earlier too, the fortunes of specific industry and the firm depends upon how the economic book looks like in the future-short term and long term. Accordingly, forecasting techniques can also be divided and categories: Short term forecasting techniques in details, these terms should be clearly understood. Context. Short term refers to a period up to three years. Sometimes, it can also refer to much shorter period .. as a quarter or a few quarters. Intermediate period refers to a period of three to five years period. Long term cast refers to the forecast made for more than five years. This may mean a period of ten years or more. In this .. and the next one, these terms would be used as described above.

We shall discuss some short-term forecasting techniques in the following:

All the very outset, let it be mentioned that the central theme of economic forecasting is to forecast national some with its various components. This is because it summarizes the receipts and expenditures of all segments of the economy, be the government, business or household. These macro economic accounts describe of economic activities over a period of time. Not surprisingly, therefore, all the techniques focus on forecast national income and its various components; particularly, those components that have bearing on a industry and the particular industry and the company to be analysed.

GNP is a measure to quantity national income and is the total value of the total value of the final output of goods and produced in the economy. It is an important indicator of the level and the rate of growth in economic, act is of central concern to analysis for forecasting overall as well as various component during a certain. Following are some of the techniques of short-term economic forecasting.

3.3.3 Anticipatory Surveys

This is very simple method through which investors can form their opinion/expectations with respect future state of the economy. As is generally understood, this is the survey of expert opinions of those prominent in the government, business, trade and industry. Generally, it incorporates expert opinion with construction activities, plant and machinery expenditure, level of inventory etc. which have important to the economic activities. Anticipatory survey can also incorporate the opinion or future plan of consumer regard to their spending. As long as people plan and budget their expenditure and implement their plans act such surveys should provide valuable input as a starting point.

Despite the valuable inputs provided by this method, care must be exercised in using the information .. trough this method. Precautions are needed because:

1. Survey results cannot be regarded as forecasts per se. A consensus of opinion may be used investor in forming his own forecasts.
2. There is no guarantee that the intentions surveyed would certainly materialize. To this extent, they cannot rely solely on these.

Despite the above limitations, surveys are very popular in practice and used for short term forecast of course, requires continuous monitoring.

3.3.4 Barometric or Indian Approach

In this approach, various types of indicators are studied to find out how the economy is likely to period future. For meaningful interpretations, these indicators are calcified into: leading, roughly coincidental indicators.

Leading Indicators: As the name suggests, these are indicators that lead the economic activity in their outcome. That is, these are those time series data of the variables that reach their high points as well low points in advance of the economic activity.

Lagging indicator: These are time series data of variables that leg behind in their consequences visit .. economy. That is, these reach their turning points after economy has already reached its own.

In developed countries, data relating to various indicators are published at short intervals. For examples Department of Commerce publishes data regarding various indicators in each of the following categories:

Leading Indicators

- Average weekly hours of manufacturing production workers
- Average weekly in initial unemployment claims
- Contacts and orders for plant and machinery
- Index of S&P 500 stock prices
- Money supply (M2)
- Change in sensitive material prices
- Change in manufacture's unfilled orders (durable goods industries)
- Index of consumer expectations.

Coincidental Indicators

- Index of industrial production
- Manufacturing and trade sales
- Employee on non-agricultural payrolls
- Personal income less transfer payment

Lagging Indicators

- Average duration of unemployment
- Ratio of manufacturing and trade inventories to sales
- Average prime rate
- Commercial and industrial loans outstanding.

The above list is not exhaustive. It is only illustrative of various indicators used by investors. A word of caution not be out of place here as forecasting based solely on leading indicators is a hazardous business. One can be quite careful in using them. There is always a delay in it with result that interpretation even if it is not done well in advance. There is always a delay in it with the result that interpretation even if performed cannot be fruitfully utilized. Further, problems with regard to their interpretations as well exits. Indicators

under broad category of leading indicators, its various measures may give conflicting signals in future direction of the economy, the use of diffusion index or composite index has been suggested. This takes the problem by combining several indicators into one index in order to measure the strength or weaknesses the problem by combining several indicators into one index in order to measure the strength or weaknesses government of a particular kind of indicator. Care has to be exercised even in this case as diffusion indices without problems either. Apart from the fact that its computations are difficult, it does not eliminate the governments in the series. Despite these limitations, indicator approach/diffusion index can be useful tool goods of a skilful forecaster.

Money and Stock Prices: It recognized that money supply in the economy plays a crucial part in the investment decision. Per rate of change in the money supply in the economy affect the GNP, corporate profits, interest rates prices. Accordingly, monetarists argue that total money supply in the economy and its rate of change is important part in influencing the stock prices as a hedge against inflation, stock prices increases during some times.

3.3.5 Geometric Model Building Approach

Another approach in determining the precise relationship between with dependent and the independent of fact, econometrics' is a discipline where in application of mathematics and statistical techniques is economic theory. It presupposes the precise and clear relationship between the dependent and independent the onus of such well defined relationship with its attendant assumptions rest with the analyst. Thus by geometrics, the analysis is able to forecast a variable more precisely than by any other approach. But this derived would be as good as the data inputs used and assumptions made.

Static Model Building or GNP Model Building or Sectoral Analysis is frequently used in particle and is that methods discussed earlier. It uses national accounting framework in leave short term forecasts, various steps while using this approach are:

1. Hypothesize the total demand in the economy as measured by its total income (GNP) based on likely on the country like war, peace, political instability, economic changes level and rate of inflation etc.
2. Forecast the GNP figure by estimating the levels of its various components like
 - ❖ Consumption expenditure
 - ❖ Private cosmetic investment
 - ❖ Government purchases of goods and services
 - ❖ Net Exports
3. Forecasting the individual components of GNP, the analysis then adds them up get a figure of the GNP.
4. The analyst compares total of GNP so arrives with an independently arrived at priori, forecast of GNP test overall forecast for internal consistency. This is done to ensure that both his total forecast and permanent forecast make sense and fit together in a reasonable manner.
5. Thus Opportunistic model building involves all the details described above with a vast mount of judgment.
6. What was accounted fro this suddenly revived economy? One of the answer is definitely to cut in customs and a corresponding reduction in excise, which has helped to reduce the cost structure of a number of products. This has made a

number of products cheaper in the domestic market and expanded the demand for them in the process.

Future Scenario: What of the future? The scenario could emerge strongly bullish if the cut in implement in the finished product is accompanied by a cut in the import tariff for the raw materials as well. Besides excise component would have to be lowered as well, resulting in an expansion of demand with in the ... Once this transpires, more goods will be sold, the recession will history and if installed capacities fall to meeting the demands we could even have a temporary shortage in certain areas on our hands

Given this scenario, only the stubborn would continue to be bearish. It is the times perhaps to current shorts on the sensex and place and place all our big chips on the shares of polyesters companies. Stock polyester, Sanghi Polyester and Haryana petro look cheap when viewed against projected 1993-94 earnings the festive season round the bend, the buoyancy in yarn prices is expected to continue giving investors turn around for the first half of the current financial year.

Check Your Progress 2

Define the following:

1. Leading indicator

.....
.....

2. Lagging indicator

.....
.....

3.4 INDUSTRY ANALYSIS

After conducting analysis of the economy and identifying the direction it is likely to take in the sort. Inter and long term, the analyst must look into various sectors of the economy in terms of various industry. Industry is a homogenous group of companies. That is, companies with the similar characteristic can be divided in to one industrial group. There are many-a-basis on which grouping of companies can be done. For example traditional classification is generally done product wise like pharmaceutical, cotton textile. Synthetics fiber etc. Such a classification through useful does not help much in investment decision-making. Some of the useful basis for classifying industries from the investment decision point of view are as follows:

Growth Industry: This is the industry which is expected to grow persistently and its growth is exceed the average growth of the economy.

Cyclical Industry: In this category of the industry, the firms included are those that move closely rate of industrial growth of the economy and fluctuated cyclically as the economy fluctuates.

Defensive industry: It is a grouping that includes firms, which move steadily with the economy and less than the average decline of the economy in a cyclical downturn.

Another useful criterion to classify to classify industries is the various stages of there development. In with different stages of their life cycle development exhibit different characteristic. In fact, each development is quite unique. Grouping firms with similar

characteristic of development help investors to properly different investment opportunities in the companies. Based on the stage in the life cycle, industries classified as follows:

1. **Pioneering Stage:** This is the first stage in industrial life cycle of a new industry. Being the first .. technology and its products are relatively new and have not reached a stage of perfection. Experimental order both in product and technology. However, there is a demand for its products in the market, the profits opportunities are in plenty. This is a stage where the venture capitalists take a lot of interest and end industry and sometimes organize the business. At this stage the risk of man firms begin out the industry also more, hence, mortality rate is very high in the industry, with the result that if an industry withstand them being out of the market, the investors would reap the rewards substantially or else substantial risk of investment exists. A very pertinent example of this stage of industry in India was leasing industry, which trying to come-up during mid eighties. There was a mushroom growth of companies in this period. Hundred companies came into existence. Initially, lease rental charged by them were very high. But as the complete grew among firms, lease rentals reduced and came down to a level where it became difficult for a number companies to survive. This period saw many companies that could not survive the onslaught of competition of those, which could tolerate this onslaught of price war, could remain in the industry. Leasing industry today. In much pruned compared to mid-eighties.
2. **Fast Growing Stage:** This is the second stage when the chaotic competition and growth that we hallmark of the first stage is more or less over. Firms that could not survive this onslaught have already died. The surviving large firms now dominate the industry. The demand of its product still grow faster in the leading to increasing amount of profits companies could reap. This is stage where companies grow order rapidly. These companies provide a good investment opportunity to the investors. In fact, as the firms during stage of development grow faster, they sometimes break the records in various areas like payment of dividend becoming more and more attractive for investment.
3. **Security and Stabilization Stage:** The third stage where industries grow roughly at the rate of the economy developed reach a stage of stabilization. Looked at differently, this is a stage where the ability of the appears to have more or less lost. As compared to the competitive industries. Rate it is at this industry is facing the problem of what Grodinsky called "latent obsolescence" a term used to ... where earliest signs of decline have emerged investors have to be very cautions to examine those sings before it is too late.
4. **Relative Decline Stage:** The fourth stage of industrial life cycle development is the relative decline stage. This stage has grown old. New products, new technologies have come in the market. Customers have ..bits, styles, liking etc. Its products are not much in demand as was in the earliest stage. Still, an continue to exit for some more time. Consequently, the industry would grow less than the of the economy during the best of the times of the economy. But as is expected, the industry such faster than the decline of the economy in the worst of times.

Characteristic of different stages of life cycle development of industries has a number of implications and decision. Investment at this stage is quite rewarding. However, for an investor looking for steady correlated, investment at this stage is quite rewarding. However, for an investor looking for steady forms with risk aversion, it is suggested that he should in general avoid investing at this stage. The risk aversion, it is suggested that he should in general avoid investing at this stage. These nature capitalists. But if he is still keen to

invest, he should try to diversify or disperse his investment price the risk. It would be quite prudent on this part to look for companies that are in the second date i.e., fast growth. This probably explains the prevalent higher stock prices of the companies of this. ...

Investment point of view, selection of the industries at the third stage of development is quite crucial more growth of the industry that is relevant and not its past performance. There are a number of share the share prices of accompany in declining industry have been artificially hiked up in the market. On the basis of good record of its performance. But the fact of the matter is that a company in industry would sooner or later feel the pinch of its features and an investor investing in companies at the experience reduction in the value of his investment in due course.

Discussed various investment implications, it may be pointed out that one should be careful while signification. This is because the above discussion assumes that the investor would be able to identify from the industrial life cycle. In practice, it is a very difficult proposition to detect which stage of the industry is at Needless to say, it is only a general framework that is presented above and he can spangle analysis with suitable modifications. In order to strengthen the analysis further, it is essential figure features of the industry in detail. Due to its unique characteristic, unless the specific industry properly and in depth with regard to these, it will be very difficult to form an opinion for profitable opportunities

1. The competition among domestic and foreign firms both in the domestic and the foreign markets? How Firms perform there?
2. ... types of products are manufactured in this industry? Are these homogenous in nature or highly?
3. Is the nature and prospect of demand for the industry? Are these homogenous in nature or highly/....?
4. Is the nature and prospect of demand for the industry? This may also incorporate the analysis of ... markets of its products: Customer-wise and geographical area – wise, identifying various determinants this type of industry is it :growth, cyclical, defensive or relative decline industry?

3.4.1 Importance of Industry Analysis

Why should a security analyst do industry analysts?

To answer this question, logically, two arguments are presented:

- (i) Firms in each different industry do typically experience similar levels of risk and similar rates of return. As such industry analysis, can also be useful in knowing investment worthiness of a firm.
- (ii) Mediocre stocks in a growth industry usually outperform the best stocks in a stagnant industry. This points out the need for knowing not only company prospects but also industry prospects.

Risk – Return Patterns

Economic theory points out that competitive firms in an industry try to maximize their profits by adopting fairly similar policies with respect to the following:

1. The labour – capital ratio utilized by each firm
2. Mark ups, profit margins and selling prices

3. Advertising and promotional programmes
4. Research and development expenditures
5. Protective measures of Government.

As such, they have the same risk level as well as rates of return, on an average. Empirical evidence shown by research done by Fabozzi and Francis supports this argument.

Growth Factor

All industries do not have an equally good or equally bad experiences and expectations, their fortunes keep on changing. It implies that the past is not a good indicator of the future – if one looks very far into the future.

This view is well supported by research. Researchers have ranked the performance of different industries over one period of year then ranked the performance of the same industries over subsequent periods of years. They compared the ranking and obtained near zero correlations. It implies that an industry that was good during one period of time, cannot continue to be good in all periods.

Another observation is every industry passes through four distinct phases of the life cycle. The stages may be termed as pioneering, expansion, stagnation and decline. Different industries may be in different stages. Consequently their prospects vary. As such separate industry analysis is essential.

3.4.2 Classification of Industries

There are different ways of classifying industrial enterprises.

1. ***Classification by Reporting Agencies:*** In India, Reserve bank of India has classified industries into 32 groups. Stock exchange has made a broad classification of industry into 10 groups.

Business media have their own classification. The Economic Times classifies into 10 groups and the Financial Express into 19 groups. The groups are further sub-divided.
2. ***Classification by Business Cycle:*** The general classification in this framework is growth, cyclical, defensive and cyclical-growth. Growth industries are characterized by high rates of earnings expansion, often independent of business cycle. These industries are pioneers of a major change in the state of the art i.e., innovation diffusing concerns. In the ongoing revolution in electronics industry, communications equipments is an example of this kind.

Cyclical industries are closely related to business cycle. Prosperity provides consumer purchasing power and boom to industry whereas depression adversely affects them. Consumer durables are subject to this kind of changes.

Defensive industries are those the products of which have relatively inelastic demand. Food processing industry is an example.

Cyclical growth industries are those which are influenced greatly by technological and economic changes. Airline industry can be cited as an example.

3.4.3 Key Indicators in Analysis

The analyst is free to choose his or her own indicators for analyzing the prospects of an industry. However, the following indicators are commonly adopted by many.

A. *Performance factors like*

- ❖ Past sales
- ❖ Past earnings

B. *Environment factors like*

- ❖ Attitude of government
- ❖ Labour conditions
- ❖ Competitive conditions
- ❖ Technological progress

C. *Outcome factors like*

- ❖ Industry share prices
- ❖ Price earnings multiples
- ❖ With reference to these key factors, evaluations shall be done to identify
- ❖ Strengths and weaknesses
- ❖ Opportunities and threats

Some relevant questions which may be asked in this connection are given here. They are only illustrative and not exhaustive.

1. Are the sales of industry growing in relation to the growth in Gross National Product (GNP)?
2. What is overall return on investment (ROI)?
3. What is the cost structure of the industry?
4. Is the industry in a stable position? Does the success or failure of the industry depend upon any single critical factor?
5. What is the impact of taxation non the industry?
6. Are there any statutory controls in matters of raw materials allotment, prices, distribution etc.? Are they protective or crippling?
7. What is the industrial relations scenario of the industry?
8. Is the industry highly competitive? Is it dominated by one or two major companies? Are they Indian or foreign? Is there sufficient export potential? Are international prices comparable to domestic prices?
9. Is the industry highly technology – based? At what pace technological advancements are taking place?
10. How does the stock market evaluated the industry?

How are the leading scrips in the industry evaluated by the stock market?

Analytical Frameworks: We have identified various factors and questions relating to industry analysis. Now, we shall consider the frameworks within which the analysis may be carried out.

3.4.4 Industry Life-cycle Stages (Product Life Cycle Theory)

Every industry passes through different stages in its life time. The stages can be identified as follows:

- Pioneering Stage (Introduction)
- Expansion Stage (Growth)
- Stagnation Stage (Maturity)
- Decay Stage (Decline)
- **Pioneering Stage:** This stage is characterized by introduction of a new product, and an uptrend in business cycle which encourages new product introductions. Demand keeps on growing, at an increasing rate Competition is generated by the entry of new firms to grab the market opportunities. Weaker firms face premature death while stronger one survive to grow and expand.



Figure 3.2

Table 3.1: Characteristics

Sales	Low Sales	Rapidly rising	Peak sales	Declining sales
Costs	High cost per Customer	Average cost	Low cost per Customer	Low cost per Customer
Profits	Negative	Rising Profits	High Profits	Declining profits
Customers	Innovators	Early adopters	Middle majority	Laggards
Customers	Innovators	Early adopters	Middle majority	Laggards
Competitors	Few	Growing Number	Stable number Beginning to Decline	Declining number

Sources: This table was assembled by Philip Kotler from several sources. Chester R Wasson, 'Dynamic competitive Strategy and Product Life Cycle' (Austin, Tex : Austin Press, 1978); John A Weber, 'Planning Corporate Growth with Inverted Product Ltd of the Product Life Cycle', Quarterly Review of Marketing, Summer 1976, pp. 1-6.

- **Expansion Stage:** This is characterized by the hectic activity of firm surviving from the pioneering stage. After overcoming the teething problems, the firms continue to improve financially and competitively. The market continues to grow but slowly offering steady and slow growth to sales of industry. It is a phase of consolidation wherein companies establish durable policies relating to dividends and investments.
- **Stabilization Stage:** This stage shows signs of slow progress and also prospects of decay. The stagnation in economy and pedestrian nature of the product call for innovative strategies to begin a new life cycle. This transition from rising to crawling age is explained by Grodinsky with reference to latent obsolescence.

"Latent obsolescence – while an industry is still expanding economic and financial infection may develop. Though its future is promising, seeds of decay may have already been planted. These seeds may not germinate, the latent decay becomes

real. These seeds may be described as “Latent obsolescence”, because they may not become active, and they are the earliest signs of decline. Such factors must be examined and interpreted by the investor”.

Symptoms of latent obsolescence include changing social habits. High labour costs, changes in technology, stationary demand.

- **Decay Stage:** Industry reaches this stage when it fails to detect the death signal and implement proactively or reactively appropriate strategies. Obsolescence manifests effecting a decline in sales, profit, dividends, and share prices.

Implications to the Investor

This approach is useful to analyst as it gives insights not apparent merits and demerits of investments in a given industry at a given time. What the investor has to do is:

- Collect relevant data to identify the industry life cycle stage
- Forecast the probable life period of the stage
- Decide whether to buy, hold or sell.

Figure 3.2 shows the diagrammatic presentation along with the indicators of each stage. Although, industry life cycle theory appears to be very simple. It is not so in practice. Proper identification of the life cycle stage is difficult. Temporary set backs or upheavals may confuse the analyst. Further, how long the stage continues is difficult to predict.

The internal analysis can be done periodically to evaluate strengths and weaknesses either by inside company executives or outside consultants. This can be done by using a form such as the one shown in Table 3.2. Each factor, minor weakness or major weakness. Of course not all factors are equally important for succeeding in business. Therefore, it is necessary to rate the importance of each factor – high, medium or low. When combining performance and importance levels. Four possibilities emerge. These are illustrated in Figure 3.3.

		Performance	
		Low	High
Importance	High	A. Concentrate Here	B. Keeping the good work
	Low	C. Take enough Care	D. If overkill divert

Figure 3.3: Importance – Performance Matrix

This analysis provides norms for management attention. For example, An industry is performing poorly in a high priority area. It should hence concentrate here. If the industry strategy is not addresses to this it becomes unattractive to the investor.

Table 3.2: Strengths Weaknesses Analysis

S.No.	Factor	Performance				Importance		
		Major	Minor	Neutral	Minor	Major	High	Medium
Marketing								
1.	Popularity and regard							
2.	Relative market share							
3.	Quality image							
4.	Service reputation							
5.	Distribution costs							

Contd...

6. Sales force
7. Market locations

Finance

1. Cost of Capital
2. Funds availability
3. Financial stability
4. Profitability

Manufacturing

1. Facilities
2. Economics of scale
3. Capacity utilization
4. Labour productivity
5. Manufacturing costs
6. Raw material availability
7. Technology of process

Human Resources

1. Leadership
2. Management capabilities
3. Worker attitudes
4. Entrepreneurial competence
5. Skill development
6. Structural flexibility
7. Adaptation
8. Industrial Relations

3.4.5 Forecasting Methods

The techniques for analyzing information about industry within a time framework are briefly explained in this section.

The market profile: A market profile consists of those endogenous characteristics which have a significant bearing on demand or the way in which it can be developed.

The basic elements of it are:

- Number of establishments
- Geographical location of establishment
- Number of employees
- Value of sales
- Value added by manufacturing
- Capital expenditures
- Degree to which establishments are specialized

- Importance of their output in the national total

The trend of these elements when analysed reveal vital information about the position and progress of the industry. Illustratively some lead points are given here.

- A decrease in number of establishments and employment accompanied by an increase in the other elements of the profile means increased automation.
- An increase in value of sales, unaccompanied by an increase in value added and capital expenditure signifies rising prices.
- An increase in value added without an increase in capital expenditure signifies increase in labour productivity.
- A fall in the share of industry in national total implies decline of industry.

Cumulative Methods

These are based either on market surveys or statistical measurements,

- (a) **Surveys:** Surveys are carried out by Research agencies, consultants, industry association and research bureau of media. The surveys generally study the current facilities and demand, future demand and proposed investment, and thereby the expansion prospects vis-à-vis demand gap. Other factors like, strengths & weaknesses of organization, environmental forces are also brought focus to evaluate the future of industry.

Survey adopt the methodology of inquiry, through questionnaires and interviews. The subjects will be either manufacturer or dealers/end users.

- (b) **Correlation and Regression Analysis:** Statistical methods like correlation and regression analysis can be of much help in demand measurement. The following steps have general application:

- (i) Determine the total requirement for the type of product in question by present customers in each industry classification.

This can be done by asking the customer or getting the estimate form the salesmen. Or by comparing with other customers of same size and class.

- (ii) Correlation product requirement of customer establishments with a variable to output for which accurate published data are available. Generally, employment is the most useful variable.

The correlation can be observed by preparing a scatter diagram or calculating mathematically using the formula given below.

$$\text{Degree of relationship (r)} = \frac{n \sum (xy) - (\sum x)(\sum y)}{[n \sum x^2 - (\sum x)^2][n \sum y^2 - (\sum y)^2]}$$

Where X = Number of employees

Y = Number product items

... observation

The nearer the correlate n coefficient is to +1 or -1, the closer the relationship of the two variables under study.

The significance of the relationship can be determined using hypothesis testing procedure.

- (iii) apply the relationship to estimate demand. If the degree of correlation between purchases of a given product by present customers and their employment size is considered significant the demand estimation can be done as follows:

- ◆ Computing the average number of items purchased per employee and applying this ratio to total employment.
- ◆ Formulating an estimating equation through regression methods.

$$\Sigma y = na + b \Sigma x$$

$$\Sigma xy = a \Sigma x + b \Sigma x^2$$

Where,

(a) equals the number of products purchased when employment is zero.

(b) equals the amount of change in the number of products purchased with every change in total employment

The latter method is more accurate because it is more sensitive to the influence of independent variable on dependent variable.

Multiple regression analysis facilitates the study of impact of more than one independent variable on the dependent variable.

$$Y = a + b x_1 + c x_2 + d x_3 + e x_4 + f x_5$$

Where,

Y = Yearly sales in lakhs of rupees;

x_1 = yearly sales (lagged one year) in lakhs of rupees

x_2 = yearly advertising expenditure in lakhs of rupees

x_3 = a dummy variable

x_4 = year

x_5 = disposable personal income in lakhs of current rupees

- (c) **Time Series Analysis:** Time series analysis consists of decomposing the original sales series over a period of time. The elements derived are:

Trend (T): It is the result of basic developments in population, capital formation, and technology. It is found by fitting a straight or curved line through past sales.

Cycle (C): It captures the wave-like movement of sales. Many sales are affected by swings in general economic activity, which tends to be somewhat periodic. The cyclical component can be useful in intermediate range forecasting.

Season (S): It refers to a consistent pattern of sales movements within the year. The term season describes any recurrent sales pattern. The seasonal component may be related to weather factors, holidays, and trade customs. The seasonal pattern provides a norm for forecasting short range sales.

Erratic Events (E): It refers to the unpredictable sales caused by unforeseen events like strikes, riots, war scares, floods, and other disturbances.

Another time series technique is exponential smoothing. For industrial with several items in product line, this technique is useful to product efficient and economical short-run forecasts. It requires only three pieces of information.

- This period's actual sales (Q_t)

- This period's smoothed sales (Q_t)
- A smoothing parameter (a), where

$$\text{Sales forecast for next period } (Q_{t+1}) = Q_t + (1-a)Q_t$$

The initial level of smoothed sales can simply be the average sales for the last few periods. The smoothing constant is derived by trial and error testing of different smoothing constants between zero and one, to find the constant that produces the best fit of past sales.

Check Your Progress 3

What are the different stages of industry life cycle?

.....
.....

3.5 COMPANY LEVEL ANALYSIS

3.5.1 Need for Company Analysis

We have discussed the relevance of economy and industry analysis and how conducted. In this unit, we will discuss in the company level analyses. In order to provide a proper person this analysis, let us begin by discussing the way investor takes the investment decision given his goal maximization. For earning profits, investors apply a simple and common sense decision rule. That is maximization. For earning profits, investors apply a simple and common sense decision rule. That is,

- Buy the share at a low price
- Sell the share at a high price

The above decision rule is very simple to understand but difficult to apply in actual practice. Did efforts are generally made to operationalise it by using proper formal and analytical framework? To begin problems faced by the investor are: how to find out whether the price of a company's share is high or low benchmark to use to compare the price of the share? The first question becomes easier of some benefits agreed upon with which the prevailing market price can be compared. Fundamental analysis in fact investor in this respect by providing a benchmark in terms of intrinsic value. This value is dependent upon industry and company fundamentals. Out of these three. Company level analysis provides a direct link investor's action and his investment goal in operational terms. This is because an investor buys the equal of company and not that of industry and economy framework indeed provides him with proper background which he buys the shares of a particular company. This setting. A careful examination of the company quantitative and qualitative fundamentals is, therefore, very essential. As Fischer and Jordan have apply in which he might invest. If the economic outlook suggests purchase at the time, the economic analysis of the industry analysis will aid the investor selecting their proper industry in which to invest. Nonetheless when to invest and in which industry is not enough. It is also necessary to know which companies industries should be selected".

The real test of an analyst's competence lies in his ability to see not only the forest but also the trees. Superior judgment is an outcome intelligence, synthesis and inference drawing. It is why, besides economic analysis and industry analysis, individual company analysis is important.

3.5.2 Framework of Company Analysis

The two major components of company analysis are:

(i) Financial and (ii) Non-financial. A good analyst gives proper weight age to both these aspects and tries to make an appropriate judgment. In the process of evaluating the investment worthiness of a company securities, the analyst will be concerned with two broad categories information: (i) internal and (ii) external. Internal information consists the data and events relating to the enterprise as publicized by it. External information comprises the reports and analyses made by sources outside the company viz., media and research agencies.

3.5.3 Financial Analysis

Financial analysts interested in making investments in equality shares of a company will be concerned with the prospects of rise in value of the firm.

Asset Value vs Earnings Value

The asset value of a security is determined by estimating the liquidating value of the firm, deducting the claims of firm's creditors and allocating the remaining net asset value of the firm over the outstanding shares of stock. The asset value is usually estimated by consultation with.

A Specialist who appraises asset values and /or

An accountant who gives book value of the firm

This method is suitable only for companies heading towards bankruptcy. For them, the firm's income and dividends will be declining and discontinuous. Hence, they will have negligible value. On the other hand, for going concerns, the intrinsic value far exceeds the value of the firm's physical assets. There is a definite lack of relationship between book value and real value, in the case of prosperous firms.

Therefore, investment analysis focus their attention on the trends of earnings and the related factors like dividends, bonus issues, rights shares, and appreciation of the market value of the share. It is believed that the appropriate indices for a company's performance are market price per share (MPS) and earnings per share (EPS).

3.6 FUNDAMENTAL ANALYST'S MODEL

The true economic value or intrinsic value of a share of common stock. Like the value of bond or other asset equal the present value of all cash flows from the asset.

$$\begin{aligned}
 P_{i0} &= \sum_{t=1}^{\infty} \frac{d_{it}}{(1+k_t)^t} \\
 &= \sum_{t=1}^{\infty} \frac{d_0(1+g_t)^t}{(1+k_t)^t} \\
 &= \frac{d_{i1}}{k-g}
 \end{aligned}$$

Where P_{i0} = Value of share i

D_{it} = dividends of share I in the t period

K_1 = equity capitalization rate

G_{it} = Growth rate of dividends of share I (a constant)

This value is obtained by stock analysts multiplying the 'i' the stock's normalized earnings per share (e) with price-earnings ratio or earnings multiplier (m)

$$P_{io} = e_{io} \cdot m_{io}$$

Where P_{io} = Value of share 'I'

e_{io} = Earning of share 'c'

m_{io} = Earnings multiplier of share 'i'

The ratio of d_{io}/e_{io} is known as dividend payout ratio. From the above model it is obvious that, to determine the appropriate earnings multiplier an analysis must consider the following:

- The earnings of the security
- The risk of the security
- The growth rate of the dividend stream
- The duration of the expected growth and
- The dividend payout ratio

Earnings Analysis

As seen earlier, to value common stocks or other risky assets the present value model is employed.

Present value =

Where t = time period

This model gives rise to two questions.

1. How does the investor measure the income from the common stocks?
2. What discount or capitalization rate should be used?

The income question is discussed here

Income Concepts: Accountants and economists have provided two different concepts of income. Accountant's income is the revenue over the above all the costs incurred. Economists define the income of a firm as the maximum amount which can be consumed by the owners of the firm in any period without decreasing their future consumption opportunities.

Adjusting for Economic Income: Since Income, which is very important is determining the value of a security, is vaguely reported by accountants, it is necessary to adjust or normalize it in a consistent manner.

The economic can be stated as under:

"The economic income from an equity share during a given period equals the maximum amount of real, physical consumption opportunities which can be withdrawn from the share during that period without diminishing the consumption opportunities which can be obtained from it in future periods".

Illustratively, the key aspects of this definition are presented below:

- (1) Real, physical consumption opportunities

It refers to inflation adjusted rupees rather than to inflated rupees

- (2) Can be withdrawn

It implies there should be a genuine opportunity to withdraw for consumption. For example, if a firm must retain some of its earnings to survive, then the earnings do not represent economic income. The reason is such a withdrawal would diminish consumption opportunities in future period. “Likewise depreciation cannot be part of economic income, since it is to be re-invested to maintain asset’s future productivity.”

Ambiguities in Measurement: Table 3.3 shows a model of income statement. Despite the model’s seeming simplicity, in practice there are many variations and ambiguities. In most cases, acceptable accounting procedures are determined by the general acceptance of the practicing accountants. To his dismay one may find on reference to an accounting text book a multiplicity of generally accepted accounting procedures, which may be used to many situations. Megin, Johnson and Keller give an excellent description of this pathetic situation.

“Arriving at an estimate of the periodic income of a business enterprise is perhaps the foremost objective of the accounting process.” The word estimate is unfortunately, proper because income is the most elusive concept in the business and economic world. The art of accounting has not progressed (and never will) to the point where periodic business income can be measured with certainty?

Fundamental analysts find it necessary to alter significantly the income statements, to obtain estimates for two reasons:

- (i) The accountant has used an accounting procedure which is inappropriate for the relevant economic transaction, and/or
- (ii) The accountant perhaps under the pressure of top management, has adopted a procedure to minimise the firm’s income taxes or window dress the firm’s financial statements.

We will now discuss four differences in accounting procedures

These are only illustrative of the controversy in reporting incomes.

Sales – Revenue Recognition Principle: Sales can be either cash sales or credit sales. Sales can be recognized as early as the date the sale order is signed. However, in the case of long-term construction contracts the sale may not be recognized until as late as the day the cash is fully paid. Between these two extremes, accountant may choose a suitable time point to recognize the sales revenue in the financial statements. He may do it either in an attempt to improve current income or because he has grown confident about its collectability. In the case of credit sales. Companies may factor their accounts receivable and realize cash proceeds. One firm may recognize this immediately whereas another firm may wait until the customer’s final cash payment is actually received.

Table 3.3: Model of Accounting Income Statement

Sales	Sales
Less: Cost of goods sold	-COGS
Gross operating margin	GM
Less: Selling and administrative expenses and Depreciation	-Op.Exp
Earnings before interest and taxes	EBIT
Less Interest	I
Earnings before taxes	EBT

Contd...

Taxes	T
Earnings after taxes	EAT
Less Dividends on preferred stock	DP
Net Income for common equity	DP
Less: Dividends for common equity	DE
Retained Earnings	Ret.E

Inventory: Inventory valuation is done based on two methods

FIFO – First in, first out method

LIFO – Last in, first out method

During periods of inflation, the FIFO method tends to result in higher reported profits. Table 3.4 demonstrated this.

Table 3.4: LIFO and FIFO Methods of Valuation

Item	Value (Rs.)	
	LIFO	FIFO
Beginning inventory (1tonne of steel at Rs. 5000)	5000	5000
Plus purchase (2 tonnes of steel at Rs. 8000 per tonne)	16000	16000
Cost of goods available per sale	21000	21000
Less: Ending inventory (1 tonne of steel)	5000	5000
Cost of goods sold	16000	13000

Depreciation: Several depreciation methods may be used in financial statements that a firm to the public

1. Straight line method
2. Sum-of-digit method
3. Double declining balance method
4. Units of production method

The second and third methods are accelerated methods of depreciation. The second method may be used to accelerate depreciation during a period of rapid production. To understand the variations between the straight line method and sun-of-digits method a numerical example is given here. IT shows that the amount of depreciation is same, only the timing is altered. Imagine as asset that costs Rs. 1000 with an expected life $n = 4$ years

By use of straight line method

$$\text{Depreciation/year} = 1000/4 = \text{Rs. } 250$$

By use of sum-of-digit method.

$$\text{Sum of digit} = 1 + 2 + 3 + 4 = 10$$

$$\text{Depreciation at the end of 1}^{\text{st}} \text{ year} = 1000 \times 4/10 = \text{Rs. } 400$$

$$\text{Depreciation at the end of 2}^{\text{nd}} \text{ year} = 1000 \times 3/10 = \text{Rs. } 300$$

$$\text{Depreciation at the end of 3}^{\text{rd}} \text{ year} = 1000 \times 2/10 = \text{Rs. } 200$$

$$\text{Depreciation at the end of 4}^{\text{th}} \text{ year} = 1000 \times 1/10 = \text{Rs. } 100$$

It is clear that, the sum-of-digits method, provides, large amounts depreciation in the early years of new asset's life, it thereby decreased profit, income tax, and net accounting income.

Expending vs Capitalising: Another are of controversy is in realize to some items which may be viewed either as costs or investments.

Example

Welfare expenditure on employees

Advertising expenditure

R&D outlays

Some financial executives and accountants take advantage of the discretionary leeway in accounting procedures. They use them at their discretion to manipulate their firm's income to suit their current purposes.

Accounting Income Effect on Balance Sheet: A balance sheet is a summary of account balance carried after the appropriate closing of the books. Income statements deal with flows, whereas balance sheet deals with stocks. Since stocks are accumulations of flows, vagaries which undermine the estimates of accounting income are cumulated in certain sheet items.

For instance, the impact of inflation should be considered to make the balance sheet items realistic. Measures suggested are:

(a) **Assets side:**

1. Report marketable securities at current value
2. Inventory should be valued at replacement cost
3. Land and natural resources to be shown at net realizable value (current market price-future development, selling or interest costs)
4. Plant & machinery at replacement cost
5. Good will
6. R & D expenses

(b) **Liabilities side:**

1. Debt. In future, at the time of maturity it is repaid in cheaper money units (rupees), it is a gain to shareholders.
2. Deferred taxes.
3. Retained earnings.

3.7 FORECASTING EARNINGS

It is necessary to estimate a stock's future income because the value of the share is the present value of its future income. This can be done by focusing on.

- (a) identification of variables which will have impact on income, and
- (b) determining the extent of change in income due to change in the identified variables, by employing appropriate method of forecasting.

3.7.1 Identification of Variables

Basically changes in income result from changes in (i) operations of business and for (ii) in the financing of the business.

- (i) **Operations and Earnings:** The operating cycle of a firm starts with cash converted into inventory. Inventory turns into sale and accounts receivables which become cash finally.

Return on investment (ROI) is the measure of the firm's operating result.

$$ROI = \frac{EBIT}{INVESTMENT} = \frac{EBIT}{SALES} \times \frac{SALES}{INVESTMENT}$$

This is a product of (i) profit margins on sale and (ii) turnover of assets.

- (ii) **Financing and Earnings:** The two main sources of financing an enterprise are (i) Borrowings (ii) Issue of new shares.

Debt financing provides leverage to common shareholders. It raised the earnings per share but also risk. Equity financing is advisable where new shares can be sold at a price in excess of asset value per share. As it improves EPS. This is possible only when company management can maintain a reasonably higher ROI.

From the above, it is clear that EPS and changes in earnings are function of

- (i) turnover of investment
- (ii) margin on sales
- (iii) effective interest rate (cost of borrowed funds)
- (iv) debt equity ratio
- (v) equity base
- (vi) effective tax rate.

3.7.2 Selecting a Forecasting Method

Different methods of forecasting earnings are available. The two categories into which the methods fall are given below with a brief list of some of methods.

1. Earlier methods
 - Earnings methods
 - Market share/profit margin Approach (Break even analysis)
2. Modern techniques
 - Regression and correlation analysis
 - Trend analysis (Time series analysis)
 - Decision trees
 - Simulation

The methods are briefly explained in the following sections:

- (i) **Earnings method:** The ROI method which has been earlier introduced as a device for analyzing the effects of and interaction between the earnings and assets can be used as a forecasting tool. If predicted data relating to assets, operating income, interest, depreciation and forces are available the new values can be substituted in the model and EAT can be forecasted.

(ii) **Market share/profit margin approach:** This is derivative of industry forecast of market. Once the total market is known, the market share of the individual company can be determined either using historical tract second or subjective probabilities. The next step is estimating net income after taxes and dividends. This can be done by cost analysis and estimates in relation to quantity of sales or operating capacity. Break even analysis is the appropriate tool to carry out such an analysis.

(iii) **Projected financial statement:** This method makes an item-wise analysis of revenues and expenses and predicts them over a number years, based on the variations in the key determining variables. It possible only when the forecaster has through information about the inner working of the company.

A simplified approach involves consideration of branch/divisional total in place of item-wise amounts.

The above three approaches are not mutually exclusive. They are not without shortcomings. They are based on subjective evaluations made at various stages of the analysis.

(iv) **Regression and correlation analysis:** These methods as applicable to industry analysis can be sued at company level. The methods permit analyzing the relationships between several variables of company, industry and economy to develop more accurate forecasts.

Because of the facility of considering many variables and analysis them, this method is more advantageous.

- (a) analysis are forced to think through various problems of company and the various interrelationship internal and external variables and company revenues and expenses.
- (b) Analysts can clearly explain the causal variables of changes and improve the confidence in forecasts.

(v) **Trend analysis:** Trend analysis is a time series analysis that permits identification of seasonal, cyclical and erratic fluctuations of the variables under consideration over a time period. Analysis employ trend analyzed by plotting the data on a special kind of graph paper, semi logarithmic or semi log paper, in order to reveal starkly different growth rates.

(vi) **Decision trees:** This can be used to forecast earnings and security values. Decision tree is an advanced technique because it considers possible outcomes with their probabilities and analyses them.

A decision tree contains branches, each one representing a possible outcome. Probabilities of the end points of the branches add up to 1.

The decision tree of security analysis starts with sale. If sales are expected at two levels high and low, there will be two branches ; on the other hand if medium level sales are included, there will be three branches. Each one indicates sales expected and their probabilities. For each sale branch, different levels of earnings expected can be given with their probabilities. Finally for each of the earnings branch, different expected P/E ratios can be presented. Based on the data MPS can be calculated for each alternative course of events and outcomes.

The advantages of this method are:

- (a) Stage-wise analysis of probable events and outcomes help improve accuracy in forecasting, and

- (b) Final recommendations can be made with more understanding and confidence.
- (vii) **Simulation:** This method can be applied to forecast earnings and also security values. Simulation is a technique that systematically repeats the application of a rule or formula to know outcomes indifferent situations. It answers the question – what happens to the outcome, if one or more variables influencing it change?

All that is to be done is to set up formulae

For example,

$$\text{EPS} = \frac{\text{Sales} \times \text{Margin} (\%)}{\text{No. of shares outstanding}}$$

$$\text{MPS} = \text{EPS} \times \text{P/E}$$

Now data relating to variables viz., Sales, profit margin, No. of shares outstanding and P/E ratio are generated along with their probability distributions as in the case of decision tree.

The formula is applied to compute MPS under varying conditions. Computer programming will help analyse security values rapidly and accurately.

3.8 DETERMINING EARNINGS– MULTIPLIER (P/E) RATIO

So far focus is on determining Earnings Per Shares (EPS). This is to be translated into Market Price per share (MPS). As such, most of the fundamental security analysis work centres on determining the appropriate multiplier.

Research Findings: Bing (4) carried out a survey of practitioners' stocks evaluation methods and found that several approaches were in vogue. He found that analysts (1) used time horizon from 1 to 3 years and (2) preferred to use several techniques in combinations. Seventy-five percent of the analysts followed rules of thumb to normalize P/E ratios.

1. They compared current actual P/E with what they considered normal for the stock in question.
2. They compared price times estimated future earnings (1 to 3 years out) with what they considered normal for the stock in questions.
3. They compared the multiplier and growth or earnings of individual stocks with industry group multiple and earnings growth.

With and Kisor based on their study of a number of stocks opined that differences in P/Es between stocks were due to projected earnings growth, expected dividend pay out, and variation in rate of earnings growth or growth risk. Bower and Bower came up with similar conclusion.

They divided risk into marketability of stock, price variability, and conformity with market behaviour. Malkiel and Cragg found positive effect of earnings growth on P/E. They further found that dividend payout effect was not clear.

3.9 DIVIDEND DISCOUNT MODEL OF VALUATION

In determination of the P/E ratio, the factors to be considered are:

- Capitalization rate (K)

- Growth rate of dividend stream (g) and
- Dividend pay-out ratio (d/e)

Capitalization rate (k): Capitalization rates vary with the firm's risk-class and the prevailing market conditions. Three risk classes may be considered for analysis-High, medium and negligible.

Based on market level and directions of change, markets can be classified as:

- Normal Market:** In which most securities prices are experiencing slow steady growth and the average price-earnings ratio is the low mid teens (13-18 times).
- Bear Market:** When average earnings multipliers drop below 13 times, many market prices are deflated.
- Bull Market:** When average earnings multipliers rise above approximately 18, many stocks are over-priced.

Since future expectations are influenced by past experience, a good way to estimate a firm's risk-class is to examine historical data. Capital Asset Pricing Model (CAPM) or Security Market Line (SML) depicts the risk return relationships based on historical data. It illustrates the positive relationship between an asset's undiversifiable (as measured ROR) for the asset. The fundamental analyst can measure the risk of the company in recent periods, adjust it for anticipated changes and then use these forecasted risk statistics to obtain capitalization rates. Also adjustment upward or downward are to be made in earnings multipliers in line with prevailing conditions, i.e., depressed or inflated.

Growth rate (g): Next step is determination of growth rates of earnings. If payout ratio is constant, the multiplier is influenced by growth rate (g) conditions viz., zero growth, perpetual growth and temporary growth.

Pay-out ratio (d/e): The effects of changes in dividend payout ratio (d/e) are direct and proportional, direct as can be observed from the P/E model. The EPS and DPS are not equal, for the reason some companies prefer a stable dividend policy and some others retain earnings and maintain low dividend pay out ratios. It implies, analysts have to study the history of dividends announcements by the firm to make proper prediction of future pay out ratios.

Empirical studies have produced the following relevant findings

- (1) Companies appear to have a predetermined pay out ratio that they appear to adhere to over the long run;
- (2) Dividends are raised only if corporate management feels that a new higher level of earnings can be supported in the future; and
- (3) Managements are extremely reluctant to cut the absolute monetary amount of cash dividends.

Illustration: A firm's earnings per share are Rs. 8. Dividend pay out ratio is 0.5 systematic risk coefficient is 0.1. What will be the firm's share value when

- (i) Growth rate is zero
- (ii) Growth rate is 6% perpetual
- (iii) Growth rate is expected to grow 6 percent for 5 years

Solution:

The firm's normalized EPS (e) = Rs. 8
Average payout ratio d/e = 50%
Beta Coefficient (B) = 0.1
Capitalisation rate (k) = 10%

(i) When growth rate (g) is zero

$$\text{earning multiplier} = \frac{d/e}{k-g}$$

$$\text{When } g = 0 \text{ earning multiplier} = \frac{d/e}{k} = \frac{0.5}{0.10} = 5$$

$$\text{Firm share value} = 7 \times 5 = \text{Rs. } 40$$

(ii) When growth rate (g) is 6% perpetual:

Capitalization rate of 10% and growth rate of 6% earnings multiplier is 26.5 (d/3)

$$\text{Earnings multiplier} = 26.5 \times 0.5 = 13.25$$

$$\text{Firms Share value} = 8 \times 13.25 = \text{Rs. } 106.$$

(iii) When growth rate (g) is 6% for 5 years

$$\text{Earnings multiplier} = 123.8 (d/e)$$

$$\text{Firm's share value} = 8 \times 12.8 \times 0.5 = 51.2$$

Comparative P/E Approach

Comparative or relative valuation, makes use of the average P/E of market or industry to determine the P/E for an individual stock. The procedure is as follows:

- Determine the market P/E using dividend discount model.
- Determine the market pay back period based on earnings growth rate of market. (How many years it takes to obtain market P/E at the given growth factor?)
- Assign P/E to the stock based on its growth rate and market pay back period.
- Make adjustments for dividend pay out ratio and earnings volatility.
- Find volume of stock by multiplying normal earnings with the determined P/E.

Ratio Analysis

Based on the financial data available in Income statement and Balance sheets relents ratios may be calculated and analyzed to apiaries the financial soundness of a company Table 3.5 presents the ratios in common use

Table 3.5: Financial Ratios for Company Analysis

S. No.	Indicator	Ratios
A.	Technical Solvency	Current ratio Liquidity ratio Net Income to Debt service ratio
B.	Actual Solvency	Debt-equity ratio Return on investment Profit margin Fixed Assets to total assets

Contd....

C.	Profitability	Gross profit margin Net profit margin Return on investment Earnings per share Dividend yield ratio P/E ratio
D.	Efficiency	Operating ratio Expense ratio Current assets turnover Inventory turnover Credit collection period

Non-financial Aspects

A general impressionistic view is also important in evaluating the worthiness of a company for investing in securities. This could be obtained by gathering and analyzing information about companies publicized in the media. Stock Exchange Directory, annual reports, and prospectus.

1. History and business of the company
2. Top management team
3. Collaboration agreements
4. Product range
5. Future plans of expansion/diversification
6. R & D
7. Market standing – competition and market share
8. Corporate social responsibility
9. Industrial relations Scenario
10. Corporate Image etc.

Besides these internal factors the external environment related to company survival and image:

1. Statutory controls
2. Government policy
3. Industry life cycle stage
4. Business cycle stage
5. Environmentalism
6. Consumerism, etc.

Growth Stocks

Investors are interested I not only current dividends but also in future earnings through dividends and capital gains. Those who look for future growth stocks.

Characteristics of growth stocks: The following features help identify growth stocks:

- (i) Substantial and steady growth in EPS

- (ii) Low current DPS, because retained earnings are high and reinvested
- (iii) High returns on book value
- (iv) Emphasis on R & D
- (v) Diversification plans for strategic competitive advantage
- (vi) Marketing competence and edge.

Benefits: Investment in growth stocks would benefit investors in many ways:

1. The market value goes up at a rate much faster than the rate of inflation.
2. Higher capital gains.
3. Long range tension free holding without any need for sell & buy operations and associated problems.

Valuation: The investor interested in growth shares can either employ (1) comparative P/E ratios approach or (2) Dividend Discount model for valuation of the stocks:

Guidelines for Investment

The following guidelines will be helpful to investors interested in growth stocks:

1. Timing is not very important but with appropriate timing one may be able to pick up shares at the threshold of high growth rate.
2. Choice of stock should not be based on simple factor. Multiple criteria using different appraisal techniques may be employed.
3. It is better to diversify investment in growth stocks industry – wise. Because different industries grow at different by evening out differences.
4. One should hold the stock for more than 5 years to gain advantage.

Estimation of Future Price

Before attempting to discuss the approach that can be adopted for company level analysis, let us about the objective of investor and how it can be quantified. It is to reiterate the proposition that an investor looks for increasing his returns from the investment returns are composed of capital gains and a stream of income in the form of dividends. Assuming he has equity shares for a period of one year (known as holding period), i.e., he sells it at the end of the total return received by him would be equal to capital gains plus dividends received at the end of the year.

Where $R_t = (P_t - P_{t-1}) + D_t$

P_t = Price of the share at the end of the year

P_{t-1} = Price of the share at the beginning of the year

D_t = Dividend received at the end of the year

R_t = Return for the holding period,

In order to calculate the return received by him on his original investment (i.e. purchase price), total should be divided by P_{t-1} . These are expressed in percentage terms and known as holding period yield, Thus,

$$\text{HRY (\%)} = \frac{(P_t - P_{t-1}) + D_t}{P_{t-1}}$$

The above computation is quite simple so long as the value of the variables is available. In actual however, investor would know the beginning price of the share (called purchase price) as this is the price paid to buy the shares but the price at the end of the year (i.e. Selling price) as well as dividend income received would have to be estimated. This is where the problem lies. How to estimate the future price of the ... as well as dividends? Becomes the main challenge. The series data relating to dividends paid by ... provide us useful clues in estimating the dividends likely to be declared by companies. There is, it seems dividends policy followed by most firms in general. Thus, an investor would be able to estimate dividend ...

The year with reasonable degree of accuracy under normal circumstances. It has been found the management is very conservative in increasing the amount of dividend paid to shareholders. Management increase the dividend unless this increase is sustainable in the long run. This is to avoid further cuts if need count of dividend, in actual practice, does not form large part of the total returns of the investor ...it an important constituents, as indicated above.

Estimation of future price of the share that contributes a major portion in the total returns of the investor is the problematic and is discussed in detail in the following section. In order to estimate future price of share, you may adopt two approaches, namely Quantitative analysis and attractive analysis. Let us elaborate each of the two approaches.

Quantitative Analysis

This approach helps us to provide a measure of future value of equity share based on quantitative factors. The method is commonly used under this approach are:

- Dividend discounted method, and
- Price-earnings ratio method

Dividend discounted method: Dividend discounted method is based on the premise that the value of an investment is the present value, its future returns. The present value (PV) is calculated by discounting the future returns, which are divided the Formula, thus, is

$$PV = \frac{D_1}{(1+K)} + \frac{D_1}{(1+K)^2} + \frac{D_1}{(1+K)^3}$$

Under the constant growth assumption, this boils down to

$$PV = \frac{D_1}{(K-g)}$$

K = Discount rate

g = Growth rate

$$DPS = EPS \times (1-b)$$

DPS = Dividend Per Share

b = Proportion of earnings retained such that (1-b) is the dividend payout

Substituting the above in the formula, it becomes

$$\frac{EPS (1-b)}{K-g}$$

On the basis of the above model, the following inferences can be drawn:

- (a) Higher the EPS, other things like b,k,g remaining the same, higher would be value of the share
- (b) Higher the b, retention rate, or lower the 1-b i.e., g remaining the same, higher would be value of the share
- (c) Higher the k, i.e. Discount rate, other things like b,g remaining the same, higher would be value of a equity
- (d) Higher the growth rate, other things like EPS, b,k. remaining constant, higher would be value of the share.

These inferences clearly highlight the effect of carious variables on the future price of equity share.

The applying this approach, one has to be careful about using discount rate k. A higher value of discount could unnecessary reduce the value of and equity while a lower value unreasonably increase it, that will have complication to invest/disinvest the shares. A discount rate is based on the risk rate and risk premium. That is,

Discount risk free rate + risk premium

$$K = r_1 + r_2$$

Where r_1 = risk free rate of return

r_2 = risk premium

Thus, higher the risk free interest rate with rp remaining the same would increase the discount rate which in turn would decrease the value of the equity. In the same way, higher risk premium with ff remaining the same increase the overall discount rate and decrease the value of the equity. Like discount rate, growth equally critical variable in this method of share valuation. It may be pointed out that growth from internal of depends on the amount of earnings retained and return on equity. Thus, higher is the retention rate, highly be the value of the firm, other things remaining constant.

Price Earnings Approach: According to this method the future price of an equity is calculated by multiplying the P/E ratio by the Thus,

$$P = EPS \times P/E \text{ ratio}$$

The P/E ratio or multiple is an important ratio frequently used by analyst in determining the value of a... It is frequently reported in the financial press and widely quoted in the investment community. In India it could verify its popularity by looking at various financial magazines/newspapers

This approach seems quite straight and simple. There are, however, important problems with respect calculation of both P/E ratio and EPS. Pertinent questions often asked are:

- How to calculate the P/E ratio?
- What is the normal P/E ratio?
- What determines P/E ratio?
- How to relate company P/E ratio to market P/E ratio?

The problems often confronted in calculating this ratio are: which of the earnings – past, present or future to be taken into account in the denominator of this ratio? Like wise, which price should be put in the numerator ratio? These questions need to be answered while using this method.

Indeed, both these methods are inter-related. In fact, if we divide the equation of dividend discounted made under constant growth assumption by E_0 (Earnings per shares), we get

$$\frac{P_0/E_0 (1+g)}{K-g}$$

Here $D_0 (1+g) = D_1$

Based on the above model, decision rules become:

Table 3.6: Decision Rules

- Higher the P/E ratio, other things remaining the same, higher would be the value of an equity.
- Lower the P/E ratio, other things remaining the same, lower would be the value of an equity.

Looking at the above decision rules, it is not uncommon to find that investor prefer shares of companies higher P/E multiple.

You will appreciate that the usefulness of the above model lies in understanding the various factors determine P/E ratio is broadly determined by:

- Dividend payout
- Growth
- Risk free rate
- Business risk
- Financial risk

Thus, other things remaining the same

1. Higher would be the P/E ratio, if higher is the growth rate or dividend or both
2. Lower would be P/E ratio, if higher is
 - (a) Risk free rate,
 - (b) Business risk
 - (c) Financial risk

The foregoing presentation helps us provide a quantities measure of the value of equity share. However, remains the problem of estimating earning per share, which has been used in both the methods, discussed this is a key number, which is being quoted. Reported and used most often by company management analysts, financial press etc. It is this number every body is attempting to forecast. The starting point to earnings per share, however, is to understand the chemistry of earnings as described in the previous unit describe various approach to forecast earnings per share in the following sections.

3.9.1 Forecasting Earnings per Share

Things are the most important number in the arsenal of the investor. The most important and the principal is getting information about the earnings of the company is its financial statements. Analyst must be the fact that there is more to the financial statements than what meets his eyes. Out of the two statements, Balance Sheet and Income Statement, it is the income statement that is more often used in order to the future state of the firm. Research studies have indicated the significance of this number in influencing prices and dividends. The research study conducted by Niederhoffer and Regan for example found

that the prices are strongly dependent on the changes in the earnings, both absolute and relative to the analysis.

The above study and some others indicate the importance of the forecast of earnings as the most variable to work on in the investment decision-making process. The critical aspects of the earnings its level, trend and stability.

There are various methods employed to assess the future outlook of the revenue, expensed and the earnings from given the economic and industry outlook. These methods can be broadly classified into two categories. Traditional and Modern. Under the traditional approach, the forecaster obtains the estimate the single value variable. While in the case of modern approach, he gets the range of values with the probability of each since. Let us discuss these two approaches in details.

Check Your Progress 4

State whether the following statements are true or false:

1. The end goal of performing fundamental analysis is to produce a value that an investor can compare with the security's current price.
2. Fundamental analysis is performed on historical and present data, but with the goal of making financial forecasts.
3. The objective of fundamental analysis is to conduct a company stock valuation and predict its probable price evolution.
4. The objective of fundamental analysis is to make a projection on its business performance.
5. The use of fundamental analysis for a finance manager is to evaluate and take its managerial and internal business decisions.

3.9.2 Traditional Methods of Forecasting EPS

Under the traditional approach the following methods of forecasting are adopted:

1. ROI approach
2. Market share approach
3. Independent estimates approach

Starting the discussion on the forecasting techniques, it will not be out of place to briefly mention the things per share is measured from the financial statement. This will provide us an understanding of its changes, Broadly, changes in earnings are affected by operating and financing decisions. Both these decisions are, however, interdependent, This is done by various companies by presenting the information in the income statement reflecting both types of decisions. Given below are the format, which analysis

Income Statement for the year ended

1. Sales Revenue
2. Less Interest expenses
3. Earnings before Interest and Tax (EBIT)
4. Less interest expenses
5. Earnings before Tax (EBT)

6. Number of shares outstanding
7. Earning after tax (EAT)
8. Number of shares outstanding
9. $EPS = EAT / \text{number of shares outstanding}$

Let us now explain the ROI approach to forecast earnings per share

ROI Approach: Under this approach, attempts are made to relate the productivity of assets with the earnings. That is, returns on the total investment (assets) are calculated and estimates regarding per share are made stated.

$\text{Return on Assets} = EBIT / \text{Assets}$

Return on assets is a function of the two important variables viz., turnover of assets, and margin of profit

$\text{Return on Assets} = \text{Assets Turnover} \times \text{Profit Margin}$.

3.10 LET US SUM UP

To sum up, the concept of fundamental analysis is the cornerstone of investing. In fact, some would say that you aren't really investing if you aren't performing fundamental analysis. Because the subject is so broad, however, it's tough to know where to start. There are an endless number of investment strategies that are very different from each other, yet almost all use the fundamentals.

A method of evaluating a security by attempting to measure its intrinsic value by examining related economic, financial and other qualitative and quantitative factors. Fundamental analysts attempt to study everything that can affect the security's value, including macroeconomic factors (like the overall economy and industry conditions) and individually specific factors (like the financial condition and management of companies).

The end goal of performing fundamental analysis is to produce a value that an investor can compare with the security's current price in hopes of figuring out what sort of position to take with that security (under priced = buy, overpriced = sell or short). This method of security analysis is considered to be the opposite of technical analysis. Fundamental analysis is about using real data to evaluate a security's value. Although most analysts use fundamental analysis to value stocks, this method of valuation can be used for just about any type of security.

For example, an investor can perform fundamental analysis on a bond's value by looking at economic factors, such as interest rates and the overall state of the economy, and information about the bond issuer, such as potential changes in credit ratings. For assessing stocks, this method uses revenues, earnings, future growth, return on equity, profit margins and other data to determine a company's underlying value and potential for future growth. In terms of stocks, fundamental analysis focuses on the financial statements of a the company being evaluated.

3.11 LESSON END ACTIVITY

Write a study note on the concept of fundamental analysis.

3.12 KEYWORDS

Growth Industry: This is the industry which is expected to grow persistently and its growth is exceed the average growth of the economy.

Cyclical Industry: In this category of the industry, the firms included are those that move closely rate of industrial growth of the economy and fluctuated cyclically as the economy fluctuates.

Defensive industry: It is a grouping that includes firms, which move steadily with the economy and less than the average decline of the economy in a cyclical downturn.

Pioneering Stage: This is the first stage in industrial life cycle of a new industry.

Fast growing stage: This is the second stage when the chaotic competition and growth that we hallmark of the first stage is more or less over.

Security and Stabilization stage: The third stage where industries grow roughly at the rate of the economy developed reach a stage of stabilization.

Relative decline stage: The fourth stage of industrial life cycle development is the relative decline stage.

Industry life-cycle stages (product life cycle theory): Every industry passes through different stages in its life time.

Pioneering Stage: This stage is characterized by introduction of a new product, and an uptrend in business cycle which encourages new product introductions.

The market – profile: A market profile consists of those endogenous characteristics which have a significant bearing on demand or the way in which it can be developed.

Time series Analysis: Time series analysis consists of decomposing the original sales series over a period of time.

Trend (T): It is the result of basic developments in population, capital formation, and technology. It is found by fitting a straight or curved line through past sales.

Cycle (C): It captures the wave-like movement of sales. Many sales are affected by swings in general economic activity, which tends to be somewhat periodic.

Season (S): It refers to a consistent pattern of sales movements within the year.

Erratic Events (E): It refers to the unpredictable sales caused by unforeseen events like strikes, riots, war scares, floods, and other disturbances.

Simulation: This method can be applied to forecast earnings and also security values.

Normal market: In which most securities prices are experiencing slow steady growth and the average price-earnings ratio is the low mid teens (13-18 times).

Bear Market: When average earnings multipliers drop below 13 times, many market prices are deflated.

Bull Market: When average earnings multipliers rise above approximately 18, many stocks are over-priced.

Pay-out ratio (d/e): The effects of changes in dividend payout ratio (d/e) are direct and proportional, direct as can be observed from the P/E model.

Price Earnings Approach: According to this method the future price of an equity is calculated by multiplying the P/E ratio.

3.13 QUESTIONS FOR DISCUSSION

1. Write a brief note on fundamental analysis.
2. What is Company analysis? Why does investor should consider?
3. Write the difference between fundamental analysis and technical analysis.
4. What do you understand by industrial analysis and economic analysis?
5. Based on the implications of random walk model. What guidelines do you recommend? Can a series of historical stock prices or rates of return be an aid in predicting future stock prices or rates of return?
6. What sequences of events might bring about on “efficient market”?
7. Do you think that security prices fluctuate randomly because of part-time amateur investors? Are there any other factors?
8. Explain the weakly, semi-strongly and strongly efficient market hypotheses.
9. What do you understand by the concept of security analysis and investment decision?

Check Your Progress: Model Answers

CYP 1

Briefly the market efficiency relates to the speed with which stock market incorporates the information about the economy industry and company in the share prices rather instantaneously. The result of this assumption is that are prevailing at the market place can be taken to represent the price of the share justified by its fundamental extrinsic value (IV). This equality of MP and IV makes the fundamental analysis or any other analysis useless fondant.

CYP 2

1. As the name suggests, these are indicators that lead the economic activity in their outcome. That is, these are those time series data of the variables that reach their high points as well low points in advance of the economic activity.
2. These are time series data of variables that lag behind in their consequences visit .. economy. That is, these reach their turning points after economy has already reached its own.

CYP 3

Every industry passes through different stages in its life time. The stages can be identified as follows:

- Pioneering Stage (Introduction)
- Expansion Stage (Growth)
- Stagnation Stage (Maturity)
- Decay Stage (Decline)

CYP 4

1. T, 2. T, 3. T, 4. T, 5. T.

3.14 SUGGESTED READINGS

Sudhindra Bhat, *Security Analysis and Portfolio Management*, Excel Books, Delhi.

Preeti Singh, *Security Analysis and Portfolio Management*.

V.A. Avadhani, *Investment Management*.

M.Y. Khan, *Financial Services*.

V.K. Bhalla, *Financial Services*.

G.S. Batra, *Financial Services and Markets*.

Mahana Rao, *Financial Services, Cases and Strategies*.

L. M. Bhole, *Financial Markets and Services*.

LESSON

4

TECHNICAL ANALYSIS

CONTENTS

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-

4.0 AIMS AND OBJECTIVES

After studying this lesson, you should be able to:

- Understand the concept of technical analysis
- Learn about technical analysis and its relation with fundamental analysis

4.1 INTRODUCTION

Technical analysis is probably the most controversial aspect of investment management. That technical analysis is a delusion, that it can never be any more useful in predicting stock performance than examining the insides of a dead sheep, in the ancient traditions.

“The technician has elected to study, not the mass of fundamentals, but certain abstraction, namely the market data alone. He is fully aware that it is not all..... also he is aware that what he is looking it is indeed a fairly high order of abstraction and that on the back of it lies the whole complicated world of things and events. But this technical view provides a simplified and more comprehensible picture of what is happening to the price of a stock. It is like a shadow or reflection in which can be seen the broad outline of the whole situation. Furthermore, it works”.

The technical analysts believe that the price of a stock depends on supply and demand in the market place and has little relationship to value, if any such concept even exists. Price is governed by basic economic and psychological inputs so numerous and complex that no individual can hope to understand and measure them correctly. The technician thinks that the only important information to work from is the picture given by price and volume statistics.

The technician sees the market, disregarding minor changes, moving in discernible trends which continue for significant periods. A trend is believed to continue until there is definite information of a change. The past performance of a stock can then be harnessed to predict the future. The direction of price change is as important as the relative size of the change. With his various tools, the technician attempts to correctly catch changes in trend and take advantage of them.

4.2 BASIC TECHNICAL ASSUMPTIONS

Before we embark on the actual methods themselves, let us review the basic and necessary assumptions regarding the technical analysis:

1. The market and/or an individual stock acts like a barometer rather than a thermometer. Events are usually discounted in advance with movements as the likely result of informed buyers and sellers at work. We should never forget, as we explore the technical implications of market analysis that the price formations or patterns (as they are called by some) that evolve due to supply demand behaviour are, for the most part, the result of fundamentalists or speculators putting their money to work based upon their established convictions.
2. Before stock experiences a mark-up phase, whether it be minor or major, a period of accumulation usually will take place. Conversely, before a stock enters into a major/a minor downtrend, a period of distribution usually will be the preliminary occurrence. Accumulation or distribution activity can occur within natural trading trends. Obviously an uptrend in prices denotes a balance buying, while a down trend is indicative of extreme supply. The ability to analyze accumulation or distribution within net neutral price patterns will be, therefore, a most essential

pre-requisite. Such analysis is the technician's main challenge. He should anticipate, not react.

3. The third assumption is actively tied into the first two. It is an observation that deals with the scope and extend of market movements in relation to each other. As an example, in most cases, a small phase of stock price consolidation – which is really phase of backing and filling – will be followed by a relative short-term movement, up or down, in the stock's price. On the other hand a larger consolidation phase can lead to a greater potential stock price move.

How can a stock give a buy signal when perhaps the news is bad, its earnings are down and it is otherwise unattractive? To ensure this, two broad approaches to investment, namely, the fundamental analysis and the technical analysis can be applied. Both have strong champions in the stock market. Both can earn money for investors who do their homework, get the facts, watch developments carefully and act quickly, decisively and with commonsense. The orthodox synthesis between the two basic approaches is that once fundamental analysis has found the stocks, their purchases or sale can be at best times through technical analysis. However, a broad comparison between these two approaches is a must to appreciate the role of technical analysis in the stock market.

4.3 TECHNICAL VS FUNDAMENTAL ANALYSIS

With a view to making a broad comparison between technical analysis and fundamental analysis, let us assume that the fundamentalist is a conservative who invests for the long term and the technician is a trader who buys and sells for short-term profits. Actually, of course, the value of technical analysis lies between these extremes.

Fundamentalists study the cause, not the “should”. They make their decisions on quality, value and depending on their specific investment goals, the yield or growth potential of the security. They are concerned with the basis, the corporation's financial strength, record of growth in sales and earnings, profitability, the investment acceptance and so on. They also take into account the general business and market conditions. Finally they interpret these data inductively to determine the current value of the stock and then to project its future price. Fundamentalists are patient and seldom expect meaningful profits in less than one year.

In the long run, the fundamentalist who selects quality stocks when they are undervalued and sells them when they become fully priced will make substantial profits. But as John Maynard Keynes often noted, *“In the long run, we'll all be dead”*.

Compared with long-term investors, technicians seek to keep their money working as profitably as possible at all times. When trading, they want to score profits quickly, and if the stock to market does not perform as anticipated, they are willing to take a small, fast loss.

Technically oriented investors start by checking the market action of the stock. If it is favorable, they examine the fundamentals to be sure the company is sound and profitable. At all times their focus is on the market, generally, on the performance of all listed stocks; specifically, on the price/volume movements of the stock they are considering buying. They make their decision on technical, not fundamental, data.

Technicians believe that (1) the stock market is rooted 15 percent in economics and 85 percent in psychology; (2) the record of past and present performance of a stock, not necessarily of the corporation, is the key factor; and (3) stock market dominated by institutional investors, operates on the Wolf pack theory of following the leaders. When major money managers start to buy, regardless of the reason, the price of the stock will

go up. When they start to sell, it will go down. All such moves are shown by technical indicators.

In more detailed terms, here are several ways the technician and acts:

1. ***Technicians believe that behind the fundamentals are important factors:*** At any given time, some investors have gains in the stock, and usually some have losses. Those with gains want to safeguard them and if possible, build them higher, they will hold the stocks.

Those with losses will adopt different tactics; some will cut their losses short by selling out early when the stock price begins to decline others will sell when a minor rally has moved the stock up to their cost price; and still others will hold on doggedly until there is a turnaround.

Each of these decision points can be spotted on charts: Current configuration to show the action of the past week or so; intermediate-and long-term patterns to find the previous important price levels at which selling is likely ; and interim and long-term high points from which the stock started to move down in the past.

In this method of analysis, a vital factor is volume. Volume is favourable on the upside when the number of shares traded is greater than before, and on the down side when the number of shares traded dwindles. Volume is unfavourable when volume dips as prices rise or increases when there is a decline. None of these indicators are concerned with the fundamentals of the corporation.

2. ***Technicians act on the what not the why:*** They recognize that formations and patterns signify changes in real value as the result of investor expectations, hopes, fears, industry developments and so on. They are not as impressed with fundamental value of any security as they are with current and prospective values reflected by market action.
3. ***Technicians are not committed to a buy-and-hold policy:*** As long as the trend is up, they will hold a stock. This may be for months or even years. But if there is a reversal, they will sell within hours of purchase. They recognize that, to achieve the greatest gains, they must never let sentiment of emotion override facts (as shown by technical indicators) and should always get out of situation which, on available evidence, is no longer profitable.
4. ***Technicians do not separate income from capital gains:*** They look for total returns, that is, the realized price less the price paid plus dividends received. This is a sharp contrast to most long-term investors who buy a high-dividend paying stock and hold it for years, through up-and-down fluctuations. To the technicians, such strategy is foolish. A stock may continue to pay liberally but lose 50% of its value. If a stock is to be judged solely on its income, a non – dividend payer would have no value at all.
5. ***Technicians act more quickly to make commitments and to take profits and losses:*** They are not concerned with maintaining a position in any market, any industry or any stock. As a result they are willing to take smaller gains in an up market and accept quick losses in a down market. Traders/technicians want to keep their money working as maximum efficiency.

Technicians know that there is no real value to any stock and that price reflects supply and demand which are governed by hundreds of factors, rational and irrational. No one can grasp and weigh them all, but to a surprising degree, the market does so automatically.

6. ***Technicians recognize that the more experience one has with the technical indicators, the more alert one becomes to pitfalls and failure of investing:*** To be rewarding, technical analysis requires attention and discipline, with quality stocks held for the long terms, time can make up for timing mistakes. With technical approaches, the errors become clear quickly.
7. ***Technicians insist that the market always repeats:*** What has happened before will probably be repeated again, therefore, current movements can be used for future projections.

With all markets and almost all securities, there are cycles and trends which will occur again and again. Technical analysis, especially charts, provide the best and most convenient method of comparison.
8. ***Technicians believe that breakouts from previous trends are important signals:*** They indicate a shift in that all-important supply and demand. When confirmed, breakouts are almost always accurate signals to buy or sell.
9. ***Technicians recognize that the securities of a strong company are often weak and those of a weak company may be strong:*** Technical analysis can quickly show when such situations occur. These indicator always delineate between the company and the stock.
10. ***Technicians use charts to confirm fundamentals:*** When both agree, the odds are favourable for profitable movement if the trend of the overall stock market is also favourable.

In view of the above comparison between technical and fundamental analysis, let us consider some of the tools used by technical analysts to measure supply and demand and forecast security prices.

4.4 OLD PUZZLES AND NEW DEVELOPMENTS

Fibonacci Numbers

Fibonacci numbers have intrigued mathematicians and scientists for hundred of years. Leonardo Fibonacci (1170-1240) was a medieval mathematician who discovered the series of numbers while studying the reproductive behaviour of rabbits. The beginning of the Fibonacci series is shown below:

1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233,.....

After the initial pair of ones, each succeeding number is simply the sum of the previous two.

The remarkable thing about these numbers is the frequency with which they appear in the environment. Sunflowers have seed spiraling around the center of the plant. Some spirals contain seeds leaning counterclockwise, with other spirals going the other way. On most sunflowers, the number of clockwise spirals and the number of counterclockwise spirals are adjacent Fibonacci numbers. A blossom might have 34 counterclockwise spirals and 55 clockwise spirals. The structure of pine cones, the number of chambers in a nautilus seashell, the topology of spiraling galaxies, and the ancestry of bees all reveal Fibonacci numbers. Even a professional journal, the *Fibonacci Quarterly*, is devoted to the study of this series.

Technical analysts who follow Fibonacci numbers usually make use of the number 1.613. This number is called the golden mean and appears in ancient writings and architecture. (The golden mean features prominently in the dimensions of the Parthenon). After the

first ten or so numbers in the series, each Fibonacci number divided by its immediate predecessor equals 1.618. For example, $89/55 = 1.618$, $134/89 = 1.6189$, and so on. This magic number is used to calculate Fibonacci ratios as shown in Table 4.1.

Table 4.1: Fibonacci Ratios

0/618	1	0.618	1.000	1.618	2.618
-	-	X	X	X	X
1.618	1.618	1.618	1.618	1.618	1.618
0.382	0.618	1.000	1.618	2.618	4.236

Many Fibonacci advocates in the investment business use the first two ratios, 0.382 and 0.618, to “compute retracement levels of a previous move”. For instance, a stock that falls from Rs. 50 to Rs. 35 (a 30 percent drop) will encounter resistance to further advances after it recoups 38.2 percent of its loss (that is, after it rises to Rs. 40.73).

Some technical analysis keep close-tabs on resistance and support levels as predicted by the Fibonacci ratios. Even people who do not subscribe to this business know that many other people do, and that when stock prices approach important Fibonacci levels, unusual things can occur.

A male bee (a drone) has only a mother; it comes from an unfertilized egg. A female bee (a queen) comes from a fertilized egg and has both a mother and a father. This means one drone has one parent, two grandparents, three great-grandparents, five great-great grandparents, and so on. The number of ancestors at each generation is the Fibonacci series.

Check Your Progress 1

What do you understand by Fibonacci numbers?

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4.5 DOW THEORY

The Dow Theory (not to be confused with the Dow Jones Averages), proposed by Charles Dow shortly after the turn of the century and extended in a book by Samuel Nelson after Dow’s untimely death, is one of the oldest technical method still widely followed. There are many versions of this theory, but essentially it consists of three types of market movements : the major market trend, which can often last a year or more; a secondary intermediate trend, which can move against the primary trend for one to several months; and minor movements lasting only for hours to a few days. The determination of the major market trend is the most important decision to the Dow believer.

Although Charles Dow believed in fundamental analysis, the Dow theory has evolved into a primarily technical approach to the stock market. It asserts that stock prices demonstrate patterns over four to five years and these patterns are mirrored by indices of stock prices. The Dow Theory employs two of the Dow Jones averages, the Industrial average and the transportation average. The utility average is generally ignored.

The Dow theory is built upon the assertion that measures of stock prices tend to move together. If the Dow Jones industrial average is rising, then, the transportation average

and the transportation average. The utility average is rising, then, the transportation average should also be rising. Such simultaneously price movements suggest a strong bull market. Conversely, a decline in both the industrial and transportation averages are moving in opposite directions, the market is uncertain as to the direction of future stock prices.

If one of the averages starts to decline after a period of rising stock prices, then the two are at odds. For example, the industrial average may be rising while the transportation average is falling. This suggests that the industrials may not continue to rise but may soon start to fall. Hence, the market investor will use this signal to sell securities and convert to cash.

The converse occurs when after a period of falling security prices one of the averages starts to rise while the other continue to fall. According to the Dow Theory, this divergence suggests that this phase is over and that security prices in general will soon start to rise. The astute investor will then purchase securities in anticipation of the price increase.

These signals are illustrated in Figure 4.1. Part A illustrates a buy signal. Both the industrial and transportation average have been declining when the industrial starts to rise. Although the transportation index is still declining, the increase in industrial average suggests that the declining market is over. This change is then confirmed when the transportation average also starts to rise.

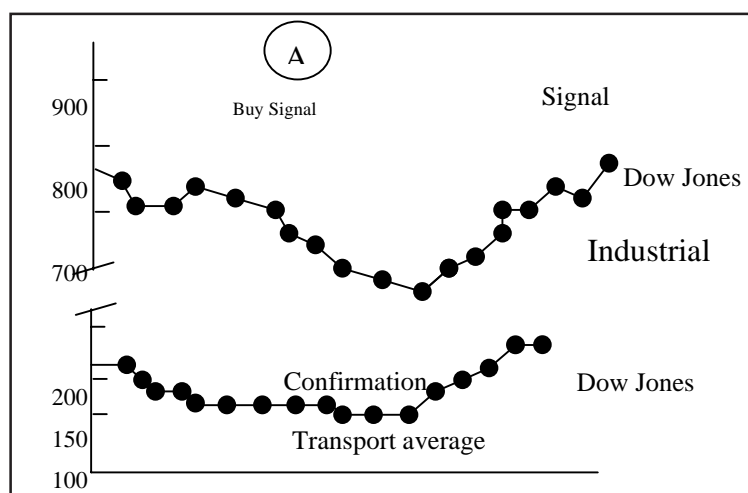


Figure 4.1

Part B illustrates the opposite case in which both the industrial and transportation averages have been rising. Then the industrial average starts to decline while the transportation average continues to rise. This suggests that the market is going through an unsettled period and until they start moving together again there is uncertainty as to the future direction of stock prices. However, in the case illustrated in Fig. 4.2, Part B, the transportation average also starts to fall, which confirms the direction of the industrial average and indicates that a bear market is underway. Of course, this implies that investors should try to liquidate security holdings.

If investors believe this theory, they will try to liquidate when a sell signal becomes apparent, which in turn will drive down prices. Buy signals have the opposite effect. Investors will try to purchase securities, which will drive up their prices. This points out an interesting phenomenon concerning technical analysis in general. If investors believe the signals and act accordingly, the signals will become self-fulfilling properties. Unfortunately, by the time many investors perceive the signal and act, the price change will have already occurred, and much of the potential profit from the alteration in the portfolio will have evaporated.

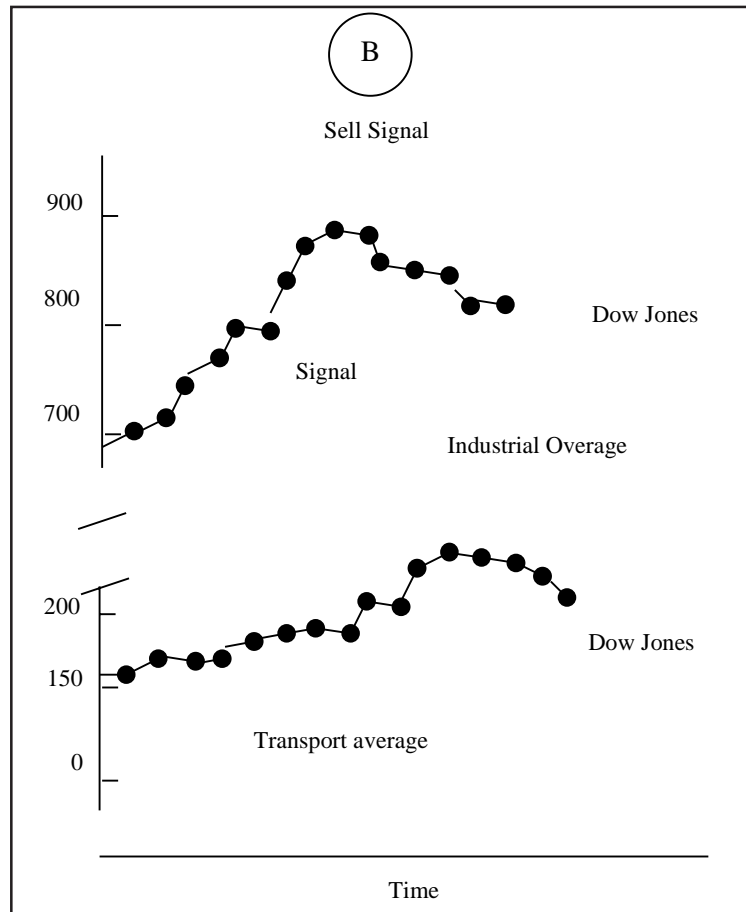


Figure 4.2: The Dow Jones Averages

There are several problems with the Dow Theory. The first is that it is not a theory but an interpretation of known data. It does not explain why the two averages should be able to forecast future stock prices. In addition, there may be a considerable lag between actual turning points and those indicated by the forecast. It may be months before the two averages confirm each other, during which time individual stocks may show substantial price changes.

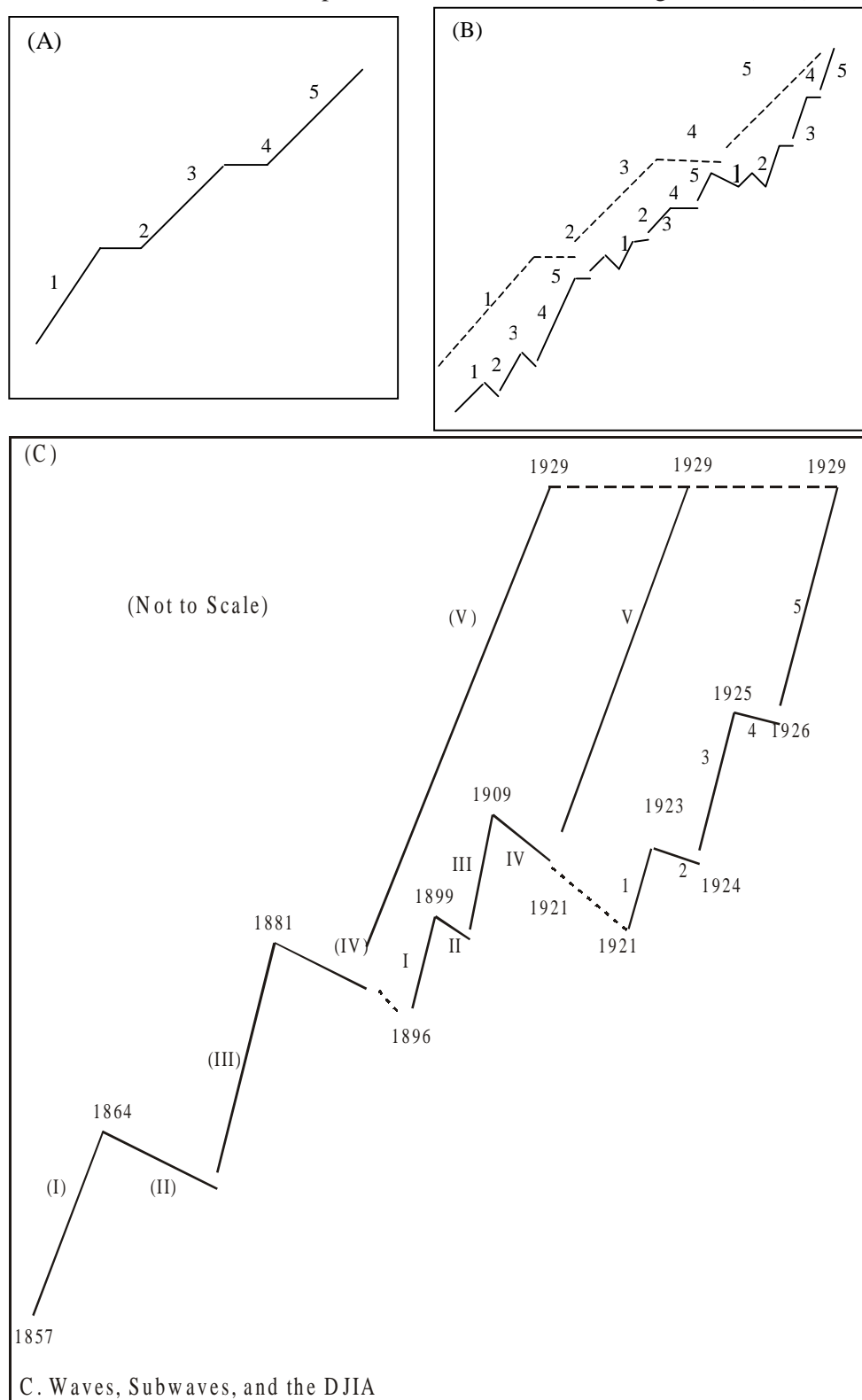
The accuracy of the Dow theory and its predictive power have been the subject of much criticism. Greiner and Whitcomb assert that “the Dow Theory provides a time tested method of reading the stock market barometer”. However, between 1929 and 1960 the Dow theory made only 9 correct predictions out of 24 buy or sell signals. Such results are less accurate than the investor may obtain by flipping a coin and have considered diminished support for the technique.

The Dow Theory might work only when a long, wide, upward or downward movement is registered in the market. It is mostly unsuitable as a market predictor when the market trend frequently reverses itself in the short or the intermediate term. Another major drawback is that the theory does not attempt to explain a consistent pattern of the stock price movements.

4.6 ELLIOTT WAVE PRINCIPLE

One theory that attempts to develop a rationale for a long-term pattern in the stock price movements is the Elliott Wave Principle (EWP), established in the 1930s by R.N. Elliott and later popularized by Hamilton Bolton. The EWP states that major moves take place

in five successive steps resembling tidal waves. In a major bull market, the first move is upward, the second downward, the third upward, the fourth downward and the fifth and final phase upward. The waves have a reverse flow in a bear market. The EWP, claimed to be a valuable tool for market prediction, is demonstrated in Figure 4.3 (A, B).



Note: Each of waves (I) (III) (V) breaks down into five sub waves, as do waves I, III, V, and waves 1, 3, 5. Corrective waves (II) (IV), II, IV, and 2, 4 break down into three sub waves

Figure 4.3

Figure 4.3-A is a simple demonstration of the EWP when the stock market advance goes through five clearly marked stages. In Figure 4.3-B, we see that a major five-stage advance, indicated by broken lines, may run concurrently with several mini five-stage advances (indicated by a solid line). The EWP is applied to an actual situation in Figure 4.3-C, where it is demonstrated that past movements in the DJIA have followed the five-stage advance principle. For example, the major advance in the DJIA between 1896 and 1929 can be viewed as two minor five-staged advances, one covering the period 1896 to 1909 and the other covering the years 1921 through 1929.

Proponents of the EWP claim that it offers investors a basis for developing important market strategies. However, even they do not deny the fact that the EWP has two major limitations. First, it is difficult to identify the turning point of each stage. Second, investors frequently cannot distinguish between a major and a minor five-stage movement.

4.7 KONDRATEV WAVE THEORY

Nikolay Kondratyev was a Russian economist and statistician born in 1892. He helped develop the first Soviet five-year plan. From 1920 to 1928 he was Director of the Study of Business Activity at the Timiriazev Agricultural Academy. While there he devoted his attention to the study of Western capitalists economies. In the economies of Great Britain and the United States, he identified long-term business cycles with a period of 50-60 years. He became well known after the U.S. market crash of 1929, which Kondratyev predicted would follow the U.S. crash of 1870. His hypothesis of a long-term business cycle is called the *Kondratyev Wave Theory*.

Note that the market crash for 1987 occurred 58 years after the crash of 1929, a period consistent with Kondratyev's theory. Some modern economists believe Kondratyev's theory has merit. Many others believe that significant macroeconomic changes, such as floating exchange rates, the elimination of the gold standard, and the reduction of barriers to free trade, make the decision cycle less predictable. Still, many market analysts consider Kondratyev's work in their assessment of the stock market and its risks.

Chaos Theory: At recent finance conferences, a few researchers have presented papers on chaos theory and its application to the stock market. In physics, chaos theory is a growing field of study examining instances in which apparently random behaviour is, in fact, quite systematic or even deterministic. Scientists apply this theory to weather prediction, population growth estimates, and fisheries biology.

As an example of the latter application, a given volume of ocean water, left free from human interference, will not necessarily reach an equilibrium population of the various species that inhabit it. As fish grow, they consume the smaller fry (of their own or a different species) in increasing numbers. Fewer younger fishes are left to mature; this, coupled with the natural death of the older fish, eventually results in a sudden drastic reduction in fish population, causing dismay to fishermen and excitement in the local media. At the same time, it results in reduced predation and food competition by the surviving fry, so the population begins to grow dramatically, and the cycle continues. Interactions between species add complexity to the process.

Investment analysts have sought a pattern in stock market behavior since the origin of the exchanges. Much remains unknown about how security prices are determined, and chaos theory may eventually provide some potential answers. If the apparent randomness of security price changes, can be shown to be nonrandom, much of the theory of finance would need revision.

4.8 NEUTRAL NETWORKS

A *neutral network* is a trading system in which a forecasting model is trained to find desired output from past trading data. By repeatedly cycling through the data, the neutral network eventually learns the pattern that produces the desired output. If the desired output remains elusive, more data is included until a pattern is found. Neutral networks may also include a feedback mechanism whereby experience is gained from past errors.

This topic is a hot one in the investment community. National conferences have been organized dealing exclusively with this topic, and the trade literature publishes many articles on the topic. A problem with concept of a neutral network is that the stock market is seldom deterministic. Situations constantly change, and what may have been true a few years ago will not necessarily prevail tomorrow. Financial academics are especially leery of backtests, or research that tests a hypothesis using past data. Mining the data will almost always result in some apparent cause and effect between past events and stock market performance. Research that tests a hypothesis using subsequent data is much more useful. An article in the popular press describes Wall Street's response to this criticism:

One way to get around this hazard is to build something called a genetic algorithm into your neutral network. A sexy term that currently causes Wall Street rocket scientists to swoon, genetic algorithms enable neutral nets to adapt to the future by spawning schools of baby nets, each of which is sent to swim against the changing flow of data, where only the fittest survive to take over the role of the mother.

No matter what someone's field of study, they are interested in the search for a better mousetrap. Essentially, what all security analysts seek to do is identify improvements in their methodology for security selection.

Check Your Progress 2

What do you understand by neutral networks?

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4.9 CHARTING AS A TECHNICAL TOOL

Most technicians rely heavily on charts of prices and trading volume for their analysis of the market and individual stocks. The purpose of "chart reading" or "chart analysis" is to determine the probable strength of demand versus pressure of supply at various price levels, and thus to predict the probable direction in which a stock will move, and where it will probably stop. The clues are provided by the history of a stock's price movements, as recorded on a chart. In the market, history does repeat itself – often. On the charts, price fluctuations tend, with remarkable consistency, to fall into a number of patterns, each of which signifies a relationship between buying and selling pressures. Some patterns or "formations", indicate that demand is greater than supply, others suggest that supply is greater than demand, and still others imply that they are likely to remain in balance for some time. Technical analysts claim that stock price fluctuations generally form characteristic patterns which have important predictive value. No one of experience doubts that prices move in trends and trends tend to continue until something happens to change the supply – demand balance. Such changes are usually detectable in the action of the market itself. Certain patterns of formation, levels or areas, appear on the chart

which have a meaning that can be interpreted in terms of probable future trend development. They are not infallible, it must be noted, but the odds are definitely in their favor. There are countless chart systems, but most of them attempt to correlate a relationship between market price action and the volume of trading. The idea is that is a sign strength when a stock advances on a large volume of shares traded. Conversely, when volume in the market or on one stock enlarges as a stock declines, it shows that the pessimism is mounting and that the trend is for lower prices. In essence the chartists contend that a study of a stock's behavior not only tells where a stock has been but also where is going.

4.9.1 Types of Charts

The three basic types of charts are line, bar and point-and-figure. In each case, the type of chart chosen to record price activity is determined by the amount of information available.

Line Chart: On a line chart, the closing prices of successive time periods are connected by straight lines, with no notice taken of the highs and lows of stock prices for each period. Figure 4.4 presents a line chart of ABC Corporation.

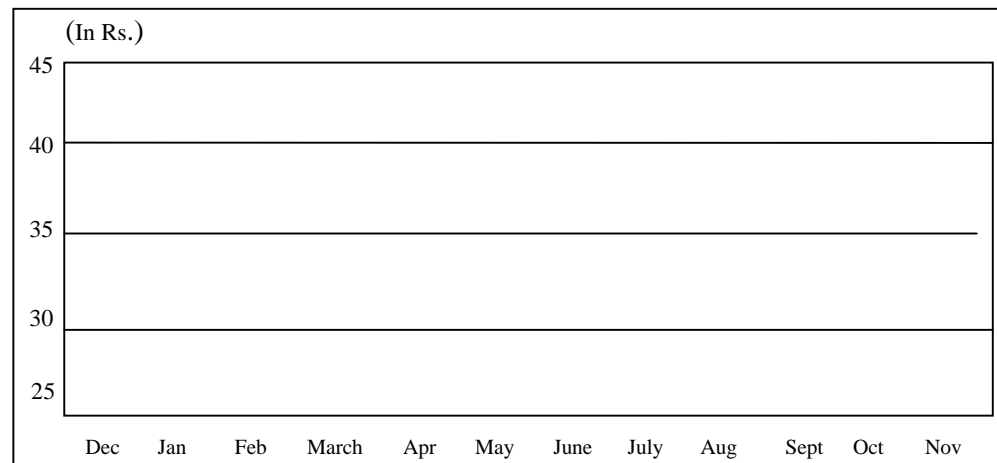


Figure 4.4

Bar Chart: Most investors interested in charting use bar charts – primarily because they have meanings familiar to a technical analyst, but also because these charts are easy to draw. The procedure for preparing a vertical line or bar chart is simple. Suppose an investor is to draw on graph on logarithmic paper a series of vertical lines, each line representing the price movements for a time period – a day, a week, or even a year. The vertical dimensions of the line represent price; the horizontal dimension indicates the time involved by the chart as a whole. In a daily chart, for example, each vertical line represents the range of each day's price activity, and the chart as a whole may extend for a month. For this, extend the line on the graph paper from the highest transaction of each day drawn to the lowest and make a cross mark to indicate the closing price. (Figure 4.5)

Point – and – Figure Chart: Bar chartists count on discovering certain buying and selling forces in the market, on the basis of which they predict future price trends. These forces consist of three factors – time, volume and price. Members of another school, known as the point-and-figure chartists, question the usefulness of the first two factors. They argue that the way to predict future price fluctuations is to analyze price changes only. Consequently, they assert, no volume action need be recorded, and the time dimension (day, week, or month) should also be ignored. If only significant price changes

are important, then one need only capture the significant (say, one point or more, ignoring all fractions) price changes in a stock, no matter how long it takes for the stock to register this change.

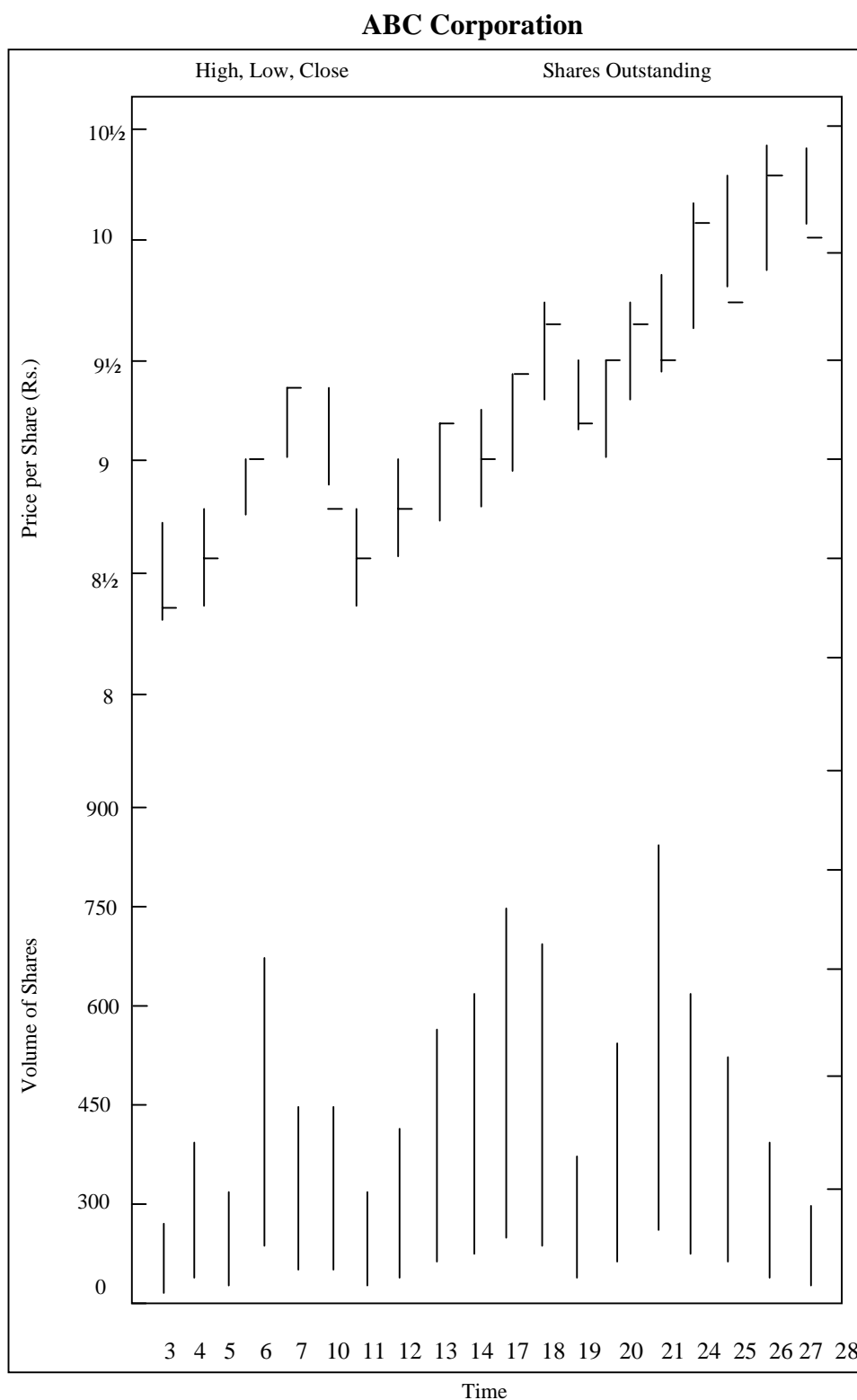


Figure 4.5

The first step in drawing a point-and-figure chart is to put an X in the appropriate price column of a graph. Then enter successive price increase (of one point or more, ignoring

fractions) in an upward column as long as the uptrend continues. If the price drops by one point or more, the figures move to another column and the O's are entered in a downward progression until the downtrend is reversed. Use of such a chart over a reasonable period of time gives a "king-size-tic-tac-toe game" which can be used for prediction. Note, however, a fairly long period should be covered so that definite shapes can be observed on the graph paper. Figure 4.5 is a sample point-and-figure chart for ABC Company.

Candlestick Chart: A candlestick chart is an enhanced version of a bar chart. These charts began to appear in the United States in the mid-1980s. Such a chart shows a stock's open, close, high, and low in a modified three-dimensional format. The vertical axis shows stock price, while the Horizontal axis reflects the passage of time. The principal difference between a daily candlestick chart and a bar chart are the white and black candles augmenting the daily trading range lines. If the opening price exceeds the closing price (the stock is down for the day), the body of the candle is black. When the stock is up (the close exceeds the open), the candle is clear. White candles represent stock advances, with black candles representing declines. The thick portion of an entry is called the real body, with the vertical line representing the wick. Various clusters of candles have exotic names, such as *dark cloud cover*, *dog star*, *hanging man*, *harami cross*, and *two-day tweezer tops*.

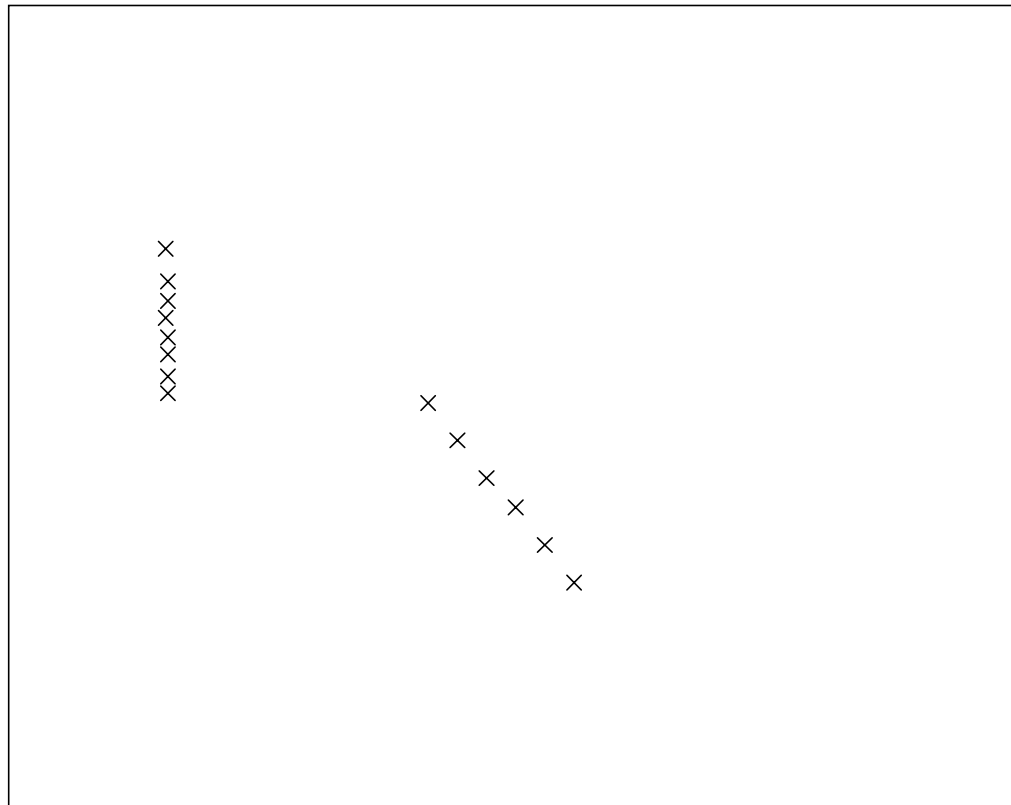


Figure 4.6

4.9.2 Important Chart Patterns

Charts are a means to an end. They help a technical analyst not only to identify stocks which are technically strong or weak but to decide when to buy or sell a stock. Figure 4.6 shows illustrative bar charts of stock prices. Analysts, of course, use several techniques to examine various chart patterns.

Support and Resistance Levels: One of the most important aspects of chart analysis is the identification of support and resistance levels, as shown in Figure 4.7. A support

level is a barrier to price decline; a resistance level is a barrier to price advancement. Although the barrier is an obstruction, it is by no means impassable; stock prices do break support and resistance barriers.

Assume ABC stock is currently trading at 35. In the recent past, it has been as low as 30 and as high as 43. When the stock approaches 30, it becomes an attractive investment. A flurry of buying activity follows, and the stock begins to advance in price. Should the stock cross its previous high of 40, however, investors will probably view it as overpriced and begin to liquidate their investment in the stock. Based on these observations, the ABC stock has a support level at 30, with a potential resistance level at 40. The predictive value of these levels should be noted: A stock breaking its support level is technically weak; conversely, a stock breaking resistance level is technically strong.

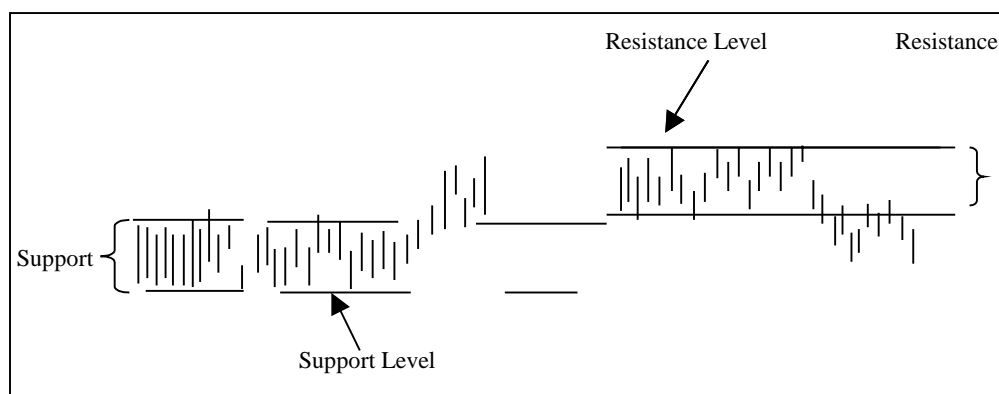
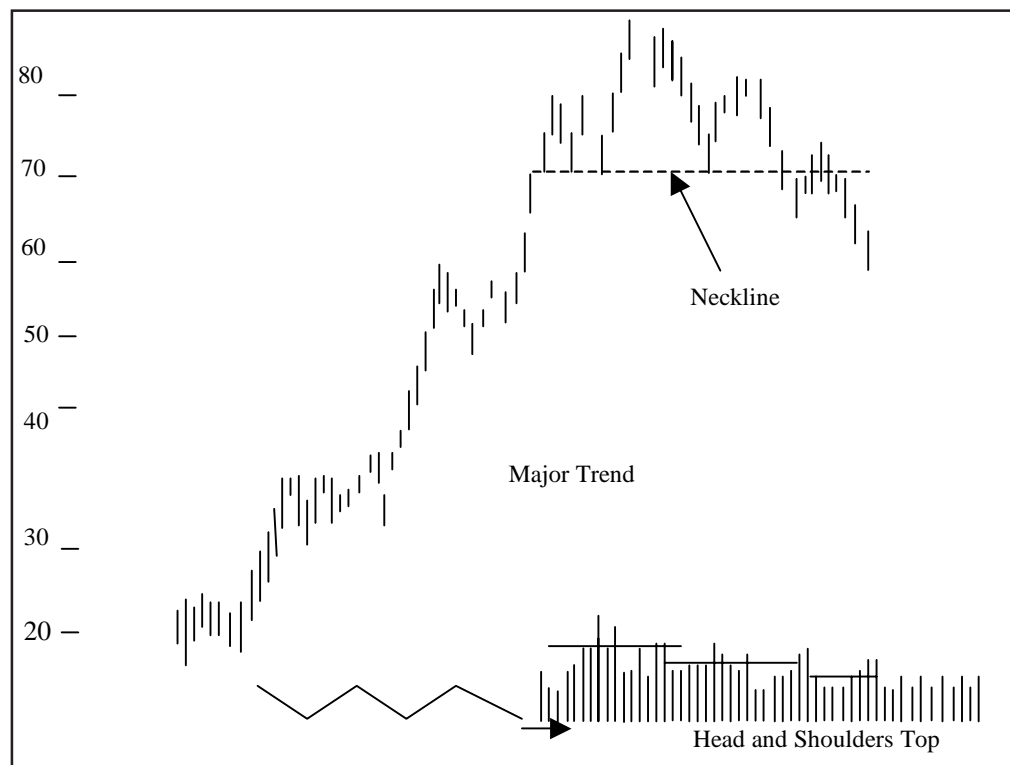


Figure 4.7

Head and Shoulders Configurations: Basic reversal patterns help analysts identify the turning points so that they can decide when to buy or sell stock. The key reversal pattern is popularly known as the head and shoulders configurations. This configurations, shown in Figure 4.8, is merely another name.



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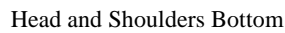


Figure 4.8

For an uptrend or a downtrend in a stock; the “neckline” is the familiar resistance or support level.

Head and shoulders formation should be analyzed against the background of volume trend. As the head and shoulders top is formed, resistance to further price increases dampens investor enthusiasm; therefore the volume decreases on each of the rally phases within the top formation. The reverse is true when the head and shoulders bottom is under formation. It should be emphasized that the completion of a head and shoulders top or bottom is not considered final until the penetration of the neckline is apparent.

There are many variations of such reversal formations. Of these, the so-called double and triple tops and bottoms, shown in Figure 4.9 are particularly interesting.

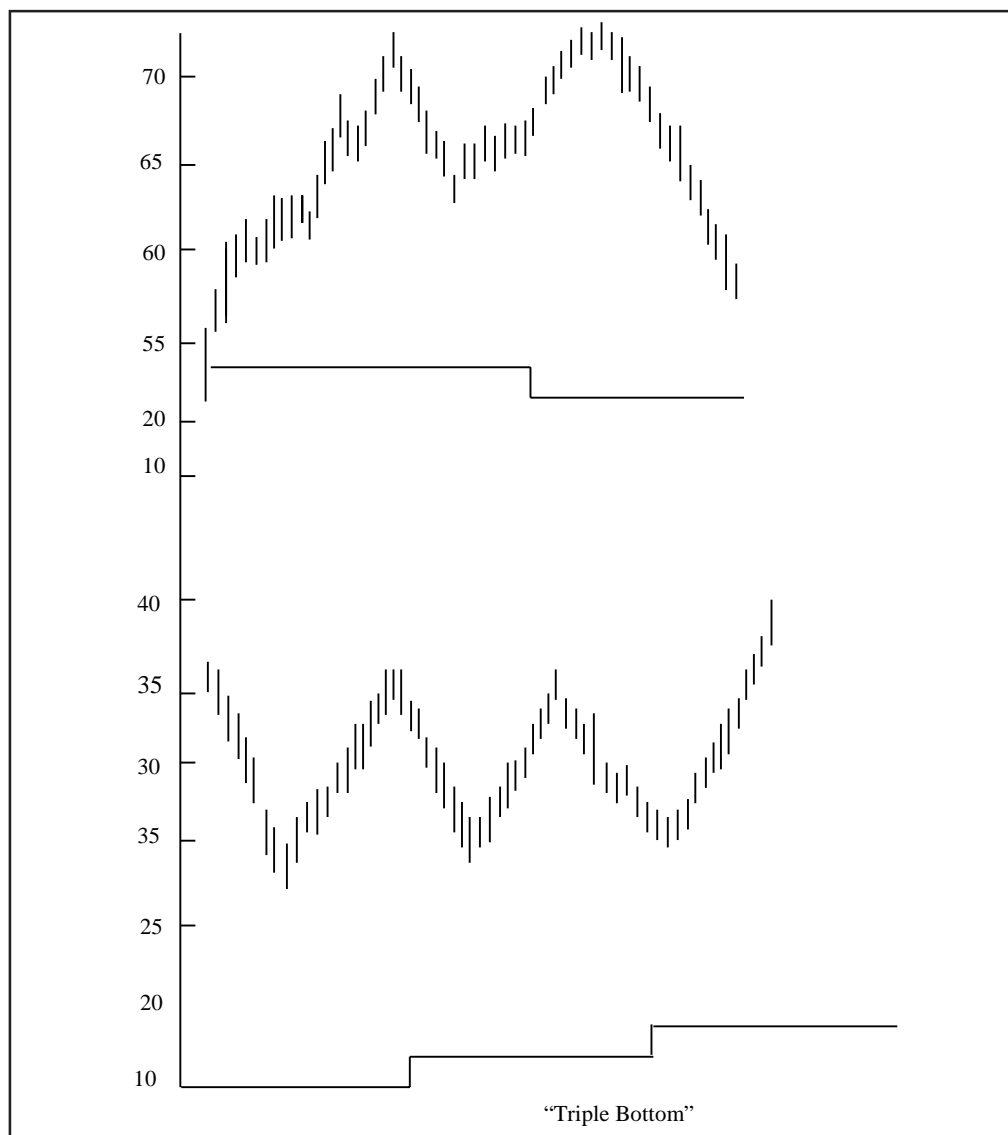


Figure 4.9

Trend Analysis: Establishing a major trend is one of the most vexing problems encountered by a technical analyst. Following seven questions may be helpful in analyzing the major trend of a stock.

Question 1: Does the stock have a move of substance to reverse? The major reversal formation certainly would not be looked for in a stock that has only moved from 20 to 26, but if a move from 20 to 45 had been experienced, any reversal in trend could be major.

Question 2: Has the stock fulfilled readable price objectives ? A major trend is usually preceded by notable advancement in price.

Question 3: Has the stock violated its trends ? If a trend violation does occur, it could be the forerunner or an early warning of a reversal in the major direction of the stock's price movement.

Question 4: Are signs of distribution or accumulation evident? A major uptrend is preceded by accumulation, whereas distribution is generally followed by a downturn.

Question 5: If distribution or accumulation is evident, is it significant enough to imply that more than a minor movement in price could be in the offing?

Question 6: Has the stock violated a readable support or resistance level?

Question 7: Has the stock initiated downward or an upward trend?

A “floater” question can be inserted between any of the above seven questions: Is there any evidence of unusual price and / or volume action?

Figure 4.10 demonstrates the relevance of these questions to the analysis of a major uptrend and a downtrend in the price of the stock. Note, for example, the reversal of a major uptrend at point A; this suggests that the stock has violated its trend (Question 3). Further more, point B is the beginning of a significant distribution which, according to question 5, signals a significant decline in the stock’s price. Similarly, at point C the stock penetrates its support level (question 6) and therefore becomes technically weak.

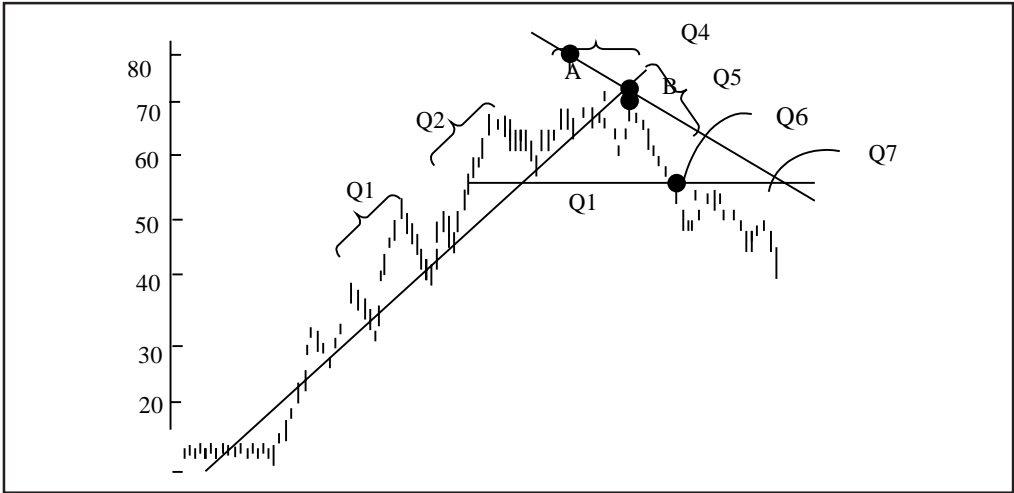


Figure 4.10: The Questions (with a “Floater”)

Triangles, Pennants, Wedges and Flags: Certain price configurations are more easily identified than head and shoulders configurations. These configurations, known as triangles, are shown in Figure 4.11. In addition, a number of other technical configurations qualify as consolidation patterns. These patterns, known as wedge, flat, and pennant, are shown in Figure 4.11. For example, a falling wedge of the type shown here usually occurs in a major uptrend pattern for the following reason. Sellers in this case are aggressive, as is evident from the steel decline of the line A. In contrast,

Buyers are not quite as discouraged as sellers, as revealed by the relative flatness of the declining line B. Incidentally, all three types of formations shown here are short-term in nature.

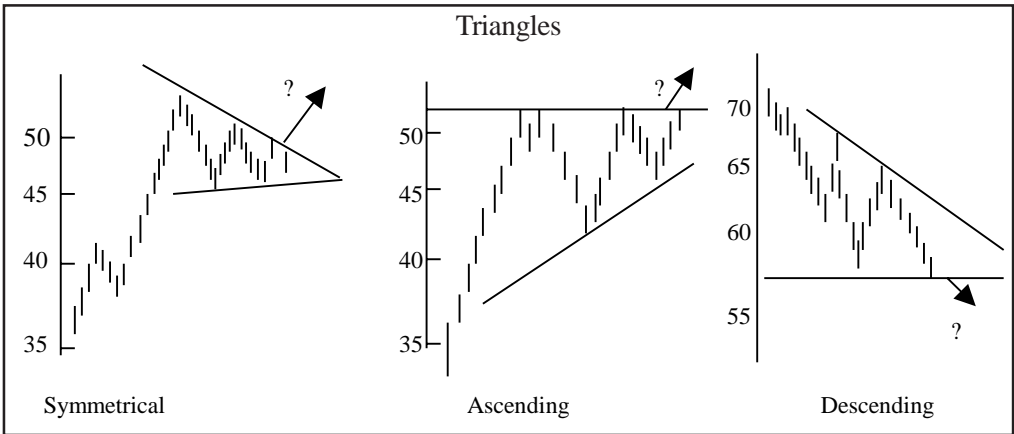
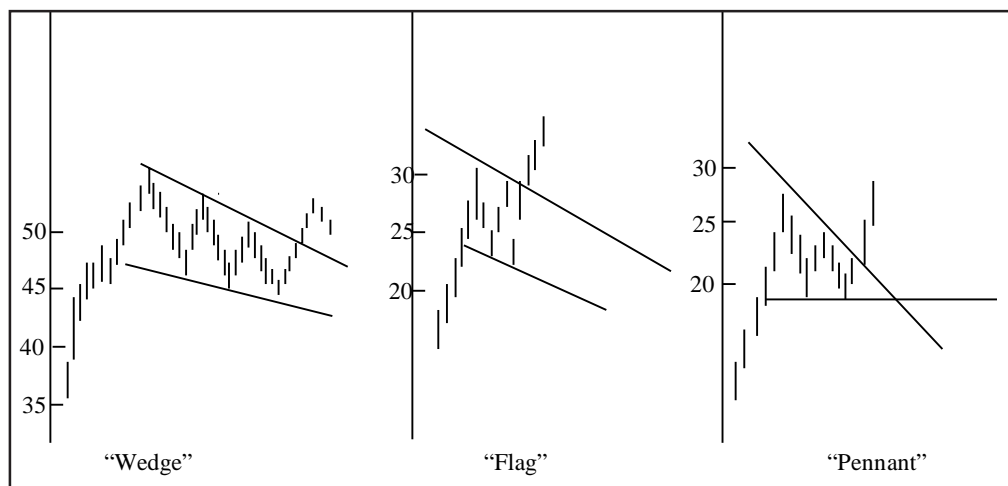


Figure 4.11: Triangles



Source: Alan R. Shaw, "Technical Analysis," in *Financial Analyst's Handbook*. Ed. Sumner N. Levine (Homewood, III.: Dow Jones – Irwin, 1975). P. 967.

Figure 4.12

Limitations of Charts: The technical analyst may have charts of all the principal shares in the market. But all that is necessary is a proper interpretation of charts. Interpretation of charts is very much like a personal offer. In a way, it is like abstract art. Take an abstract painting and shown it to ten people and you will get at least eight different interpretations of what is seen. Take one set for chart figures and show it to ten chartists and you are liable to get almost as many interpretations of which way the stock is going.

The trouble with most chart patterns is that they cause their followers to change their opinion so frequently. Most chart service change like the wind. One day they put out a strong buy signal, two weeks later, they see a change in the pattern and tell their clients to sell, then two weeks later, they tell them to buy again. The result is that these patterns force their followers in and out of the market time and time again. Though this is great for brokers' commission, but not so great for the investor.

Another disadvantage – and a great one – which exists in charting is that decisions are almost always made on the basis of the chart alone. Most buyers under this method have no idea why they are buying a company's stock. They rely alone on a stock's action, assuming that the people who have caused or are currently causing the action really know something about the company. This is generally negative thinking – simply because, as more and more chartists are attracted to a stock, there are simply more and more owners who know little or nothing about the company.

Check Your Progress 3

1. What do you understand by line chart?

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2. How would you draw bar chart?

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4.10 TECHNICAL INDICATORS

Most of the technical indicators make sense when examined individually but when once examines many technical indicators simultaneously, the interpretation of their collective meaning is often contradictory and confusing. Once technical analyst issued the following report:

The breadth of the market remains pretty bearish, but the odd-lot index is still in balance and is more bullish than bearish. While the short interest is not bearish, brokers loans are at a dangerously high level. Business indices are beginning to turn sharply upward and most psychological indicators are generally uptrend. The index of 20 low priced stocks remains in a general uptrend, but the confidence index still is in a long-term downtrend. The Canadian gold price index is still in a downtrend which normally implies a higher stock market ahead. Professional and public opinion remains cautiously optimistic, which is also an indication of a higher stock market, butt on a decline below 800 the Dow Jones Industrial averages would give a definite sell signal.

The author of this technical report presented numerous technical indicators that collectively add up to organized confusion. Some of the major technical indicators are described in the following sections. Each indicators makes sense by itself, but interpreting all of them at the same time may yield the same type of confusion found in the passage quoted above.

The Short Interest Ratio Theory: The short interest ratio is derived by dividing the reported short interest or the number of shares sold short, by the average volume for about 30 days. When short sales increase relative to total volume, the indicator rises. A ratio above 150 per cent is considered bullish, and a ratio below 100 per cent is considered bearish.

The logic behind this ratio is that speculators and other investor sell stocks at high price in anticipation of buying them back at lower prices. Thus, increasing short selling is viewed as a sing of general market weakness, and short-covering (as evidenced by decreasing short positions) as a sign of strength. An existing large short interest is considered a sign of strength, since the cover (buying) are yet to come; whereas an established slight short interest is considered a sign of weakness (more short sales are to come).

Confidence Index: It is the ratio of a group of lower-grade bonds to a group of higher-grade bonds. According to the theory underlying this index, when the ratio is high, investors' confidence is likewise high, as reflected by their purchase of relatively more of the lower-grade securities. When they buy relatively more of the higher grade securities, this is taken as an indication that confidence is low, and is reflected in a low ratio.

Spreads: Large spreads between yields indicate low confidence and are bearish the market appears to require a large compensation for business, financial and inflation risks. Small spreads indicate high confidence and are bullish. In short, the larger the spreads, the lower the ratio and the less the confidence . The smaller the spreads, the grater the ratio, indicating greater confidence.

Advance – Decline ratio: The index relating advance to declines is called the advance decline ratio. When advances persistently outnumber decline the ratio increases. A bullish condition is said to exist, and vice versa. Thus, advance decline ratio tries to capture the market's underlying strength by taking into account the number of advancing and declining issues.

Market Breadth Index: The market breadth index is a variant of the advance decline ratio. To compute it, we take the net difference between the number of stocks rising and

the number of stocks falling, added (or subtracted) to the previous. For example, if in a given week 600 shares advanced, 200 shares declined, and 200 were unchanged, the breadth would be $2[(600-200)/200]$. The figure of each week is added to previous week's. These data are then plotted to establish the pattern of movement of advance and declines.

The purpose of the market breadth index is to indicate whether a confirmation of some index has occurred. If both the stock index and the market breadth index increase, the market is bullish; when the stock index increase but the breadth index does not, the market is bearish.

The Odd-Lot Ratio: Odd-lot transactions are measured by odd-lot changes in index. Odd-lots are stock transactions of less than, say, 100 shares. The odd-lot ratio is sometimes referred to as a yardstick of uniformed sentiment or an index of contrary opinion because the odd-lot theory assumes that small buyers or sellers are not very bright especially at tops and bottoms when they need to be brightest. The odd-lot short ratio theory assumes that the odd – lot short sellers are even more likely to be wrong than odd-lot buyers in general. This indicator relates odd-lot sales to purchases.

Insider Transactions: The hypothesis that insider activity may be indicative of future stock prices has received some support in the academic literature. Since insiders may have the best picture of how the firm is faring, some believers of technical analysis feel that these inside transactions offer a clue, to future earnings, dividend and stock price performance. If the insiders are selling heavily, it is considered a bearish indicator and vice versa. Stock holders do not like to hear that the president of a company is selling large blocks of stock of the company. Although the president's reason for selling the stock may not be related to the future growth of the company, it is still considered bearish as investors figure the president, as an insider, must know something bad about the company that they, as outsiders, do not know.

Moving Average: A **moving average** is a smoothed presentation of underlying historical data. Each data point is the arithmetic average of a portion of the previous data. A ten – day moving average measures the average over the previous ten trading days; a twenty-day moving average measures average values over the previous twenty days, and so on. Regardless of the time period used, each day a new observation is included in the calculation and the oldest is dropped, so a constant number of points are always being averaged.

Advocates of moving averages in stock selection believe that changes in the slope of the line are important. A stock whose twenty-day moving average line has been trending up might become a candidate for sale if the line turn downward.

Fundamental analysts and technical analysts both use market indicators. Indicators can help present data in a more intuitive way and may suggest areas for further investigation. Tools such as the advance-decline line and relative strength figures may even help some people make decisions, but they should not be more than that. Managers make decisions, not black boxes or technical indicators. It is dangerous, though, to believe that a collection of market indicators of any kind will function as an oracle predicting future movements of a stock or of the overall market.

Indicators of the Witchcraft Variety

Even in this era of political correctness, some indicators are less worthy than others. If there is no logical connection between what an indicator measures and what it purports to show, the indicator probably should not receive much study time. A few such indicators are well established in market folklore, and while they may have no logical place in the investment decision-making process, an awareness of them is helpful.

The Super Bowl Indicator: This well-known market statistic will bring a smile to the face of many American investment professional when asked about it. The super brown indicator states that the stock market will advance the following year if the super bowl football game is won by a team from the original National Football League. This indicator was correct 27 out of 30 time over the period 1967 through 1996. Such a percentage might seem unlikely to have occurred by chance.

There is a statistical problem with this indicator, however. For one thing, there are more original NFL teams that there are teams in the other conference, the American Football Conference (AFC). The Indianapolis Colts, Pittsburgh Steelers, and Cleveland Browns (all market rises more often than if falls and the odd favor the indicator).

Few people admit to being persuaded by the super brown indicator; most will agree it is unlikely that any try cause-and-effect relationship exists between the game and the market. Still many professional investment mangers and individual investors alike subconsciously root for the NFL team, just in case.

Sunspots: The public began to associate sunspots with the stock market through five works of William Stanley Jevons published between 1862 and 1897. While the notion of using the eleven-year solar cycle as a forecasting device has few advocates today, it was the focus of much discussion 100 years ago.

Jevons found that rainfall and temperature appeared to be related to solar activity:

The Success of the harvest in any year certainly depends upon the whether, especially that of the summer and autumn months. Now if this weather depends upon the solar period, it follows that the harvest and the price of grain will depend more or less upon the solar period, and will go through periodic fluctuations in periods of time equal to those of the sun spots.

The essence of his theory is that increased sunspot activity leads to warmer temperature and more rain, leading to an improved harvest and a stronger economy, and finally to higher stock price. He tested this theory on English grain prices between 1259 and 1400 Jevons concludes:

I do not venture to assert positively that the average fluctuations are solely due to variations of solar power. They seem to show that the subject deserves further investigation.

Jevons observed a ten to eleven- year cycle in the money market and believed this might be, at least in part, because of the solar influence on crops and the economy.

Hemline Indicator: Like the super bowl indicator, the hemline indicator is market folklore that few people take seriously, but many like to talk about it. The essence of the hemline indicator is this: as shorter dresses for women because the fashion, the market advances, and vice versa. Simultaneously plotting skirt lengths and market levels reveals a remarkable correlation. In the 1920s the market rose and so did hemlines. During the Great Depression, dresses touched the rest of the forties and the fifties peaked in the go-go days of the 1960s with miniskirts. The 1970s saw peasant dresses and maxi skirts and an economic recession. During the prosperity of the 1980s things moved back up. During one stretch in the early 1990s the market was nearly fell for over a year. What was the dress fashion? Slits on the side of skirts. Presumably the market did not know what to make of them.

All these “indicators”, of course, are likely to be purely spurious correlations. What economic cause and effect could possibly be at work? The lack of an economic underpinning is the reason technical indicators of this type are called witchcraft.

Check Your Progress 4

Describe, in brief, the role of spreads as a technical indicator?

.....

.....

4.11 TECHNICAL ANALYSIS – AN EVALUATION

Studies have been made to determine the statistical validity of technicians theories and technical indicators, but the result of the studies gives no definite answer as to whether these are effective predictors of stock market prices. On the basis of thee technical theories, any have endeavored to forecast the future of the stock market. Some have been moderately successful but the records are full of people who have lost money trying to forecast the future of the stock market. It is believed that the averages are useful and interesting in showing the course of the market and for measuring changes but not for forecasting the future.

Cohen, Zinbarg, and Zeikel stated that:

“We can understand the characterization of technical analysis as ‘crystal ball gazing’. But we consider this characterization to be rather unfortunate, for it casts aside the goods with bad. The more scholarly and sophisticated technical analyst uses his tools with a proper sense of proportion If a stock looks attractive to him on technical grounds he probes into its fundamentals. He is certainly not unmindful of earnings growth, of values , or of the impact of business cycles.”

Thus the technical analysis is not by itself , the road to riches. It is a tool which should be used with fundamental analysis and most important, with commonsense. Despite assertions of some technician, technical analysis is still an art. Successful user requires talent intuition and experience. Add a little luck and it can be the difference between modest and good profits.

Some technical theories are more plausible than profitable. They many work under some conditions but can cause substantial losses under others. In many cases, there is a little margin for safety. The signals are either right or wrong.

Some other disadvantages of technical analysis include the following:

1. All data used in technical analysis is past. Therefore, these indices cannot take into account unexpected events such as natural disasters and economic crisis. Charts can, however, show, activity by insiders well before privileged information becomes public knowledge.
2. With actively traded stocks, the prices may be the result of a battle of wits. For the most part, trading profits are realized at the expense of other who are trying to achieve gains on their own terms. In such cases. The technicians must be cleverer and luckier than his or her rivals.
3. False signals can occur. A chart may show a sudden, deep decline which by strict interpretation, is a signal to sell. But this may be the result of one large trade of a lower-than-market price. The value of the stock may bounce back quickly. It the technicians failed to wait for confirmation, commissions would have to be paid for the sale and probably, for repurchase.

The Future of Technical Analysis

Although there is much in finance that we do not completely understand, technical analysis has persisted for more than 100 years, and it is not likely to disappear from the investment

scene anytime soon. Improved quantitative methods coupled with improved behavioural research will continue to generate ideas for analysts to test. The well-known financial behaviorist Warner De Bont, for instance, recently reported substantial evidence that the public expects the continuation of past price trends. That is, they are bullish in bull markets and pessimistic in bear markets.

Perhaps within a decade or more, the fragmentation of technical analysis into such a wide-ranging array of increasingly complex, widely differing formulae will cause a gradual movement away from the entire quasi-science back to some form of more fundamental evaluation.

4.12 EFFICIENT MARKET THEORY

Market efficiency implies that all known information is immediately discounted by all investors and reflected in share prices in the stock market. As such, no one has an information edge. In the ideal efficient market, every one knows all possible-to-know information simultaneously, interprets it similarly, and behaves rationally. But, human beings what they are, this of course rarely happens.

In such a world, the only price change that would occur are those which result from new information. Since there is no reason to expect that information would be non-random in its appearance, the period-to-period price changes of a stock should be random movements, statistically independent of one another. The level of stock prices will, under these conditions, describe what statisticians call a 'random walk' and physicists call Brownian motion. In the normal course of events, the level of prices, i.e., the summation of these random movements, will show movements that look like cycle but in fact are not.

The explanation of the apparent randomness of stock prices lies in understanding the market-making mechanisms. In an efficient market, liquid capital will channel quickly and accurately where it will do the community the most good. Efficient markets will provide ready financing for worth while business ventures and drain capital away from corporations which are poorly managed or producing obsolete products. It is essential that a country have efficient capital markets if that country is to enjoy highest possible level of wealth, welfare and education for population. One of the main reasons that some undeveloped countries do not advance is that they have insufficient capital markets. In inefficient capital markets prices may be fixed or manipulated rather than determined by supply and demand. Capital may be controlled by a few wealthy people and not be fluid and flow where it is needed. Graft, corruption, and public distrust can cause money to be hoarded rather than invested in the capital market; or investors may be ignorant and unable to distinguish between worth while business ventures and bad investment.

In an efficient market, all the relevant information is reflected in the current stock price. Information cannot be used to obtain excess return: the information has already been taken into account and absorbed in the prices. In other words, all prices are correctly sated and there are no "bargains" in the stock market. James H. Lorie explained what is meant by efficient security market in these words:

"Efficiency in this context means the ability of the capital markets to function so that prices of securities react rapidly to new information. Such efficiency will produce prices that are 'appropriate' in terms of current knowledge, and investors will be less likely to make unwise investments. A corollary is that investors will also be less likely to discover grate bargains and thereby earn extraordinary high rates of return."

The requirements for a securities market to be efficient market are: (1) price must be efficient so that new inventions and better products will cause a firm's securities price to rise and motivate investors to supply capital to the firm (i.e., buy its stock); (2) Information must be discussed freely and quickly across the nations so all investors can react to new information; (3) Transactions costs such as sales commissions on securities are ignored; (4) Taxes are assumed to have no noticeable effect on investment policy; (5) Every investor is allowed to borrow or lend at the same rate; and, finally, (6) Investors must be rational and able to recognize efficient assets and that they will want to invest money where it is needed most (i.e., in the assets with relatively high returns).

4.12.1 Forms of the Efficient Market Hypothesis

Tests of the market efficiency are essentially tests of whether the three general types of information—past prices, other public information, and inside information—can be used to make above-average returns on investments. In an efficient market, it is impossible to make above-average return regardless of the information available, unless abnormal risk is taken. Moreover, no investor or group of investors can consistently outperform other investors in such a market. These tests of market efficiency have also been termed as weak-form such a market. These tests of market efficiency have also been termed as weak-form (price – information), semi strong form (other public information) and strong –form (inside information) tests.

Weak –Form and the Random Walk: This is the oldest statement of the hypothesis. It holds that present stock market prices reflect all known information with respect to past stock prices, trends, and volumes. Thus it is asserted, such past data cannot be used to predict future stock prices. Thus, if a sequence of closing prices or successive days for XYZ stock has been 43, 44, 45, 46, 47, it may seem that tomorrow's closing price is more likely to be 48 than 46, but this is not so. The price of 47 fully reflects whatever information is implied by or contained in the price sequence preceding it. In other words, the stock prices approximate a random walk. (That is why sometimes the terms Random Walk Hypothesis and Efficient Market Hypothesis are used interchangeably). As time passes, prices wander or walk more or less randomly across the charts. Since the walk is random, a knowledge of past price changes does nothing to inform the analyst about whether the price tomorrow, next week, or next year will be higher or lower than today's price.

The weak form of the EMH is summed up in the words of the pseudonymous “Adam Smith”, author of *The Money Game*; “prices have no memory, and yesterday has nothing to do with tomorrow”. It is an important property of such a market, so that one might do as well flipping a coin as spending time analyzing past price movements or patterns of past price levels.

Thus, if the random walk hypothesis is empirically confirmed, we may assert that the stock market is weak-form efficient. In this case any work done by chartists based on past price patterns is worthless.

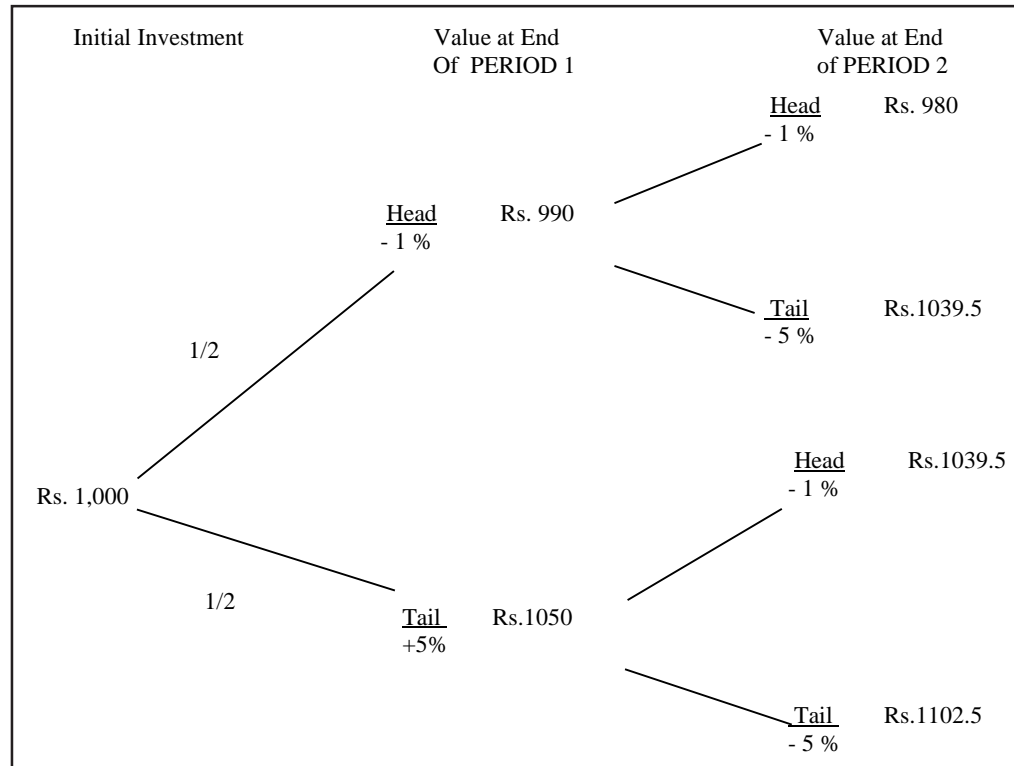


Figure 4.13: Random Walk with Positive Drift (Two – Period –Case)

Random walk theorists usually take as their starting point the model of a perfect securities market in which a relatively large number of investors, traders, and speculators compete in an attempt to predict the course of future prices. Moreover, it is further assumed that current information relevant to decision- making process is readily available to all at little or no cost. If we “idealize” these conditions and assume that the market is perfectly competitive then equity prices at any given point of time would reflect the market’s evaluation of all currently available information becomes known. And unless the new information is distributed over time in a non-random fashion, and we have no reason to presume this, price movements in a perfect market will be statistically independent of one another.

If stock price changes behave like a series of results obtained by flipping a coin, does this mean that on average stock price change have zero mean? Not necessarily. Since stocks are risky, we actually expect to find a positive mean change in stock prices. To see this, suppose an investor invests Rs.1,000 in a share. Flip a coin; if head comes up he losses 1%, and if tail shows up he makes 5 per cent. The value of investment will be as shown in Figure 4.13.

Suppose that an investor flips the coin (looks up the prices once a week and it is his decision when to stop gambling (when to sell). If he gambles only once, his average return is $\frac{1}{2} \times \text{Rs.}990 + \frac{1}{2} \times \text{Rs.}1050 = \text{Rs.}1020$ since the probabilities of “head” or “tail” are each equal to $\frac{1}{2}$. The investor may decide to gamble for another week. Then the expected terminal value of his investment will be:

$$\frac{1}{2} \times 980.1 + \frac{1}{4} \times 1039.5 + \frac{1}{4} \times 1039.5 + \frac{1}{4} \times 1102.5 = \text{Rs.}1040.4$$

Now assume that these means are equal to the value of the given shares at the end of the first week and at the end of the second week. The fact that the shares went up in the first period, to Rs.1050 say, does not affect the probability of the price going up 5% or going changes in each period are independent of the share price changes in the previous

period. In each period, we would obtain the results which one could obtain by flipping a coin, and it is well known that the next outcome of flipping a coin is independent of the past series of “heads” and “tails”.

Note: However, that on an average we earn 2 per cent if we invest for one week and 4.04 per cent if we invest for two weeks. Thus, the random walk hypothesis does not contradict the theory which asserts that risky assets must yield a positive mean return. We say in such a case that share price changes can be characterized by a random walk process with a “positive drift”. In our specific example, the drift is equal to:

$$\frac{1}{2} \times 5\% + \frac{1}{2} \times (-1\%) = 2\%$$

Which implies that on average the investment terminal value increases every period by 2%.

Thus, reflecting the historical development, the weak form implies that the knowledge of the past patterns of stock prices does not aid investors to attain improved performance. Random walk therapists view stock prices as moving randomly about a trend line which is based on anticipated earnings power. Hence they contend that (1) analyzing past data does not permit the technician to forecast the movement of prices about the trend line and (2) new information affecting stock prices enters the market in random fashion, i.e. tomorrow’s news cannot be predicted nor can future stock price movements be attributable to that news.

In its present context, the weak form of the efficient market hypothesis is a direct challenge to the chartist or technician. It was the earliest focus of interest and has received by far the greatest attention in the literature. The main statistical investigations to provide support for the weak form of the efficient market hypothesis are discussed herein under.

Filter Rules: The use of charts is essentially a technique for filtering out the important information from the unimportant. Alexander and Fama and Blume took the idea that price and volume data are supposed to tell the entire story we need to know to identify the important “action” in stock prices. They applied filter rules to see how well price changes pick up both trends and reverses- which chartists claim their charts do. The filters work something like this:

“If a stock moves up X per cent, buy it and hold it long; if it then reverses itself by the same percentage, sell it and take a short position in it. When the stock reverse itself again by X per cent cover the short position and buy the stock long”.

The size of the filter varied from 0.5 to 50 per cent. The results showed that the larger filter did not work well. The smaller ones worked better, since they were more sensitive to market swings. However, when trading costs (commissions) are included in the analysis, no filter worked well. In fact, substantial losses would have been incurred using these filter rules.

In essence the result of using the filter technique turn out to be that stock prices do not have momentum form which one can make returns in excess of those warranted by the level of risk assumed. In fact, because of trading costs, we would have been substantially better off buying a random set of stocks and holding them during the same trading period.

Serial Correlations: Security price changes do not appear to have any momentum or inertia which causes changes of a given sign to be followed by changes of that same sign: the filter rules should have detected this pattern if it existed. However, security prices may follow some sort of a reversal pattern in which price changes of one sign

tend to be followed by changes of the opposite sign. Filter rules might not detect a pattern of reversals. Serial correlation (or autocorrelation) measures the correlation coefficient between a series of number with lagging numbers in the same time series. Trends or reversal tendencies in security price changes can be detected with serial correlation. We can measure the correlation between security price changes in period 5 (denoted P) and price change in the same security which occur k periods later and are denoted P_{t+k} ; k is the number of periods of lag.

Run test: Filter rules and serial correlation may not pick up the sensitive price changes that technicians say they use for making decisions. That is, price changes may be random most of the time but occasionally become serially correlated for varying periods of time. To examine this possibility, run tests may be used to determine if there are “runs” in the price changes.

A run is a set of consecutive prices of the same sign. A time series, such as prices of stocks, can be tested to see whether there are dependencies among the data merely by looking at the number of runs in the series.

If a price increase of any size is designated by “+” and decrease in price by “-” any pattern might be observed over time.

Hypothetical Shares	Number of Runs
A	+++++ ----- 2
B	+ - - - - + - - -10
C	- - - - + + + - - + 6

The pattern for share A reflects continuing trends: if the price of the share has been increasing (decreasing) it will probably continue to move up (or down). Share B shows the opposite behaviour, a tendency of price reversal from the preceding period. Share A has very few runs but Share B has many. Share C represents an unpredictable sequence, evidenced by a number of runs equal to the number expected by chance in a totally random series. Since each observation is counted equally regardless of size, run analysis removes potential problems of non-normality in identifying independence. To illustrate, and have stronger economic implication assume the price of a stock is as follows : 60, 60-1/8, 60-1/4, 60-3/8, 60-3/8, 60-3/8, 60-3/8, 60-1/2, 60-3/8, 60-1/8. To determine the number of runs for the entire series, we place a plus sign under each price that is higher than the previous one, a zero under a price that is the same as the previous one, and a minus sign under a price decline. In this case, we have a total of four runs, the first three pluses constituting a run, the next two zeros constituting a second run, the next plus another run, and three minus a fourth run. A test statistics is used to determine whether the resulting number of runs approximates those that might have been generated by random selection. It may be pointed out that run analysis approximates those that might have been generated by random selection. It may be pointed out however, that run analysis is not a powerful test and, similar to serial correlation, results have stronger statistical than economic implications.

In testing the weekly efficient markets hypothesis, along with the filter rules, serial correlations and runs tests, other tests have also been employed. However, their findings are the same. There are scientific studies which tell us one very important thing: there are no price dependencies.

Yesterday’s prices do not tell us much about tomorrow’s or at least not enough to consistently make unusual returns based merely on price data.

This conclusion is what statisticians call a random walk. The walk is the time series of prices. Its random aspect is the nature by which the numbers are generated. Yesterday’s

prices by themselves apparently do not tell us any thing of value for forecasting tomorrow's prices.

Semi-Strong Form: The semi strong form of the efficient market hypothesis centers on how rapidly and efficiently market prices adjust to new publicly available information, including:

- (1) Expectation regarding contents of future financial reports from individual corporations, for example, future changes in earnings, dividends, capital structure, sales, etc. Current prices, according to the theory, should reflect rational expectation regarding these future realizations.
- (2) Incompatibilities between many competing published data series and revision of data series previously published, for example, by governmental departments and agencies, particularly corporate profits and related data series. Efficiency, implies, among other things, that the markets correctly expect and act now upon planned or possible future revisions of either published data or accounting method.
- (3) Increasing politicization of economic data, particularly price inflation rate or cost of living data and unemployment rates.

The shift from the weak, i.e. random walk form, to the semi strong form of the efficient market hypothesis represents a quantum jump. In other words, semi-strong form suggests the fruitlessness of efforts to earn superior rates of return. This very stronger assertion of the semi strong form represents a direct challenge to traditional financial analysis based on the evaluation of publicly available data.

Research effort on market efficiency has mainly turned to an examination of the effect of the release of public information on share prices. The studies of the semi-strong form of market efficiency have involved different methods that used to test weak form of efficiency. The tests have typically been based on the use of the capital assets pricing model or variation of it. The residuals of the market model, the empirical analogue of the capital asset pricing model, have been used to determine whether or not a piece of information has had a specific effect on share price independently of other general economic or market wide effects.

Overall, the evidence to date support market efficiency with respect to publicly available information. This is not to say that there has not been or will not be a breakdown in this form of market efficiency. However, what it does suggest is that it is not common. Moreover, if there has been some degree of inefficiency, it is likely that by the stage there are sufficient data for a thorough examination, it has been recognized by share traders and its effect has been eliminated.

Similarly, any future development of inefficiency with respect to public information is not likely to last long once its presence is recognized. There are usually sufficient rewards to encourage investors to trade on the inefficiency and thus remove it from the market.

Strong Form: The strong form is concerned with whether or not certain individuals or groups of individuals possess inside information which can be used to make above average profits. If the strong form of the efficient capital market hypothesis holds, then any day is as good as any other day to buy any stock.

The rationale for the strong tests lies in a combination of the semi-strong tests (information assimilated in a rapid and unbiased fashion) and the fact that a great many supposedly knowledgeable and trained people are engaged in the securities business. It is argued that with so many people and so much information there should be few if any true "sleepers". Studies have indicated that corporation insiders and specialists on the floor of the exchanges (because their "book" contains unfilled orders) may have superior

information and thus higher expected returns. Other investors, however, have not been shown to produce consistently higher returns. In particular, numerous studies have shown that the investor could do better by picking securities at random than with the institutional investor. It is extremely unlikely, in principle, that the efficient market hypothesis is strictly true, particularly in its strongest form. For example, as long as information is not wholly free, one might expect investors to require some offsetting gain before they are willing to purchase it. Nor does the empirical evidence justify unqualified acceptance of the efficient market hypothesis even in its weakest form. The important question, therefore, is not whether the theory is universally true, but whether it is sufficiently correct to provide useful insights into market behavior. There is now overwhelming evidence to reality that technical analysis cannot provide any guidance to the investment manager. When one turns to the stronger forms of the hypothesis the evidence becomes less voluminous and the correspondence between theory and reality less exact. Nevertheless, the overriding impression is that of a highly competitive and efficient market place in which the opportunities for superior performance are rare.

4.12.2 Testing Market Efficiency

There are several ways to test the EMH. Analysts have devised direct and indirect tests of market efficiency. Direct tests assess the success of specific investment strategies or trading rules. An example of a direct test would be a test of the accuracy of predictions by some specific technical indicator. Indirect tests are statistical tests of prices or returns. For example, if prices follow a random walk, the serial correlation of returns should be close to zero.

One can also test the efficient markets hypothesis by some scientific methodology or simply by looking for anecdotal evidence. A scientific experiment develops a research design based on a proven methodology. For example, we could scientifically examine market reactions to unexpected earnings announcements using a large sample over time. Results from the study would determine how rapidly the market responds to new public information. Anecdotal evidence involves looking for examples consistent, or inconsistent, with the EMH.

The conundrum, of course, is that all types of tests can be criticized. Critics can argue that the test was applied improperly, was inadequate to measure its target, or both. For example, direct tests of technical trading rules can always be criticized because testing these trading rules requires applying them mechanically. These tests cannot help to capture the subjective portion of technical analysis that, technicians argue, helps investors exploit historical price patterns. Even if a test provides evidence consistent with the EMH, critics can always argue that the results were due to the test used, not necessarily the truth of the EMH.

Establishing a Benchmark: Test of the EMH must usually establish some sort of benchmark. For example, to say that some trading rule works, giving evidence inconsistent with the EMH a test must find that a portfolio using the trading rule outperformed a similar portfolio that did not use the trading rule, generating abnormal profits. Like the type of test used, critics can always question whether the benchmark chosen was appropriate. The most common benchmark is the so-called buy – and hold portfolio. As an example, a test may want to evaluate a trading rule that indicates when to switch between a stock index fund and a money market fund. How well does the trading rule perform? It would have to earn higher profits (or returns) than the profits from simply buying and holding the stock index fund over the same period of time. Of course, the test would have account for differences in risk and transaction costs between the two investment strategies as well. Active trading strategies usually involve higher transaction costs, and they often expose a portfolio to more risk as well.

The Time Factor: The time period(s) selected can, of course, always be criticized. A trading rule partisan may respond to a conclusion that the rule did not work by saying, “of course my trading rule didn’t work over that period; Everyone knows that period was an aberration in the market. The rule works fine during normal markets. “There is no way to prove or disprove that assertion without testing it over every single possible time period, a rather daunting task.

Kiss and Tell: Suppose that someone discovered an investment strategy that really worked and made a lot of money. Why would this person want to tell anyone. He or she could try to make money writing a book or an investment newsletter describing the strategy, but it would probably generate more money if keep secret. Suppose an analyst discovers that stocks beginning with the letter K rise on Wednesdays and fall on Fridays. Buying K stocks on Tuesdays and selling them on Thursdays makes the analyst lots of money. The dilemma, of course, is that once others know about the strategy, it will likely stop working. K stocks will probably start rising one Mondays and falling on Wednesdays as other investors try to anticipate the market. To avoid this, the analyst would probably keep the strategy a secret for as long as possible.

Seriously, some argue that the inclination to keep successful strategies secret introduces a bias into tests of market efficiency and trading rules (it is called sample selection bias). Only those strategies that do not work are widely reported and, consequently, tested strategies that do work are not reported, so the results are biased in favor of the EMH showing that trading rules do not produce abnormal profits by testing inferior trading rules. If the successful trading rules are kept secret. Perhaps we can never fairly test the true ability of investors or the validity of the EMH.

Qualitative versus Quantitative Efficiency: We know that some investors pay more to trade than others. We also know that some investors can obtain information more cheaply than other. Perhaps we should replace the quantitative question “are the markets efficient?” with the more qualitative question “how efficient are the markets?” with the more qualitative question “how efficient are the markets?” In other words, market efficiency may mean different things to different investors. Some of the traditional tests of the three forms of The EMH, most of which appear to support the concept of market efficiency, at least in its weak and semi strong forms, are based on historical prices, market reactions to new public information, and the value of private or inside information.

Usefulness of Historical Prices: Tests of trading based on historical prices essentially evaluate the weak –form theory of market efficiency: that security prices fully reflect all historical information. These tests fall into two general categories: tests of the random nature of security prices and returns, and tests of specific trading rules.

Tests of the randomness of securities prices over time have relied primarily on two statistical techniques: serial correlation, and a so-call runs test. Serial correlation measures the strength of the relationship between the current value of a time series (e.g., stock returns) and past share values. If stock prices follow something like the random walk, serial correlation coefficients should be close to zero. A runs test counts the number of times that price changes, each one designated positive or negative, change sign over a specific time period. For example, say ten days of price changes produce this series: +, +, +, -, -, -, -, -, +, +. This sequence has five runs (the first three positive changes, the next three negative changes, a positive change, a negative change, and the final two positive changes). Now consider the following sequence of ten price changes: +, +, +, +, +, +, -, -, -, -. This sequence has just two runs (the first six positive changes and the final four negative changes) Too many, or too few runs suggests that a series is not random.

The result of these statistical tests from many studies have strongly suggested that stock prices and returns are essentially random, thus providing evidence in support of weak-form market efficiency.

In addition to tests of the randomness of security prices and returns, several studies have examined trading rules based on historical prices to see if they produce abnormal profits. Weak-form efficiency, of course, states that such trading rules cannot produce abnormal profits. Again, the extensive evidence generally supports weak-form efficiency. Let's look at one example of a trading rule, filter rules.

Filter rules are closely analogous to the support and resistance levels that we discussed in conjunction with the Dow Theory and technicians' charts in Chapter 20. Essentially, a filter rule states that if a stock rises X per cent from its most recent low (lists support level), buy it because it has defines an up trend. Similarly, if a stock declines by Y per cent from its most recent high (its resistance level), then sell the stock and hold cash (or sell the stock short if you do not own it) because the stock has defined a down trend.

How well do filter rules perform / Not very well, suggests some of the scientific evidence. One study compared buy-sell filters between 0.5 percent and 5 per cent on each of the Dow Jones Industrial Average's 30 stocks against a simple buy-and-hold portfolio of those stocks. Only the smallest filter, 0.5 percent, outperformed the buy-and-hold portfolio, on average. The difference in performance, however, disappeared because of higher transaction costs associated with the actively managed portfolio. Portfolios based on the larger filters all underperformed the buy-and-hold portfolio, even before accounting for higher transaction costs.

Market Reaction to New Public Information: A huge amount of widely varying new public information enters the financial markets each day. Companies regularly make significant announcements with both negative and positive implications, and their stock react very quickly to the new information. In many cases, much of the reaction takes place before the announcement is made. Semistrong – form market efficiency states that security prices reflect all this information and react quickly to it. The reaction is so fast, in fact, that no one can consistently earn abnormal profits simply by buying or selling in response to almost every conceivable type of new public information. Results of these studies generally support semistrong-form market efficiency.

To find stronger evidence in support of semistrong-form market efficiency, we need to turn to the various scientific studies. These studies, often called event studies, typically examine market reactions to specific kinds of announcements. They analyze a large group of similar announcements using a statistical methodology that measures returns different from what would be expected, given no new information (called abnormal returns or residuals). Semistrong-form market efficiency implies that no abnormal returns should consistently occur after the announcement date.

To illustrate this approach, and the evidence presented by the vast majority of these studies, let's look at a classic study that examined market reactions to merger/takeover announcements. The shareholders of public companies that are taken over (often referred to as target shareholders) receive premium prices for their shares (prices higher than the existing market price). As a result, we would logically expect stock prices to jump in response to a takeover announcement. If the market is semistrong-form efficient, then this jump should occur before, and/or on, the announcement date, not afterward. No one can earn an abnormal profit by acting on this new public information after it enters the market. This study's results are, therefore, consistent with semistrong-form market efficiency.

One has to be careful not to over-interpret the results of this and other event studies. Assume that company A offers to buy company B for Rs. 50 cash per share. The price

of company B's stock will jump on the announcement. If it does not jump to Rs. 50 per share, does that mean that the market is not semistrong-form efficient? Not necessarily; think of all the things that can happen once a takeover offer becomes public. For one, company A's bid may fail. Even if A does buy B, who knows, when the announcement is first made, just how long it will take to complete the deal. For another alternative, company A may be forced to raise its offer price. The point is that takeovers, and many other transactions, are complex and uncertain. As this uncertainty is resolved after the announcement, significant price reactions are likely to occur. The resolution of uncertainty can be thought of as a new public information.

Value of Private Information: Tests of the value of inside, or private, information seek to evaluate strong-form market efficiency. These tests are perhaps the most difficult to conduct because there is no way to pinpoint exactly when new private information, or inside information, enters the market. Further, the definition of inside information is ambiguous. Not surprisingly, the results from these studies are quite mixed.

One group of studies began with assumption that mutual fund managers and securities analysts may have access to information before the general investing public. Securities analysts, for example, constantly talk to the companies they follow and may be able to learn some new information before it is made public. These studies then examined the performance of mutual funds or securities analysts' recommendations, compared with some benchmark.

Results from these studies generally show that neither mutual fund managers nor securities analysts appear, on average, to be capable of consistently outperforming the overall market, after adjusting for risk. Does this evidence support strong-form market efficiency, or does it cast doubt on the assumption that mutual fund managers have access to private information? Obviously, there is no way to answer this question.

Implications: There is still a great deal of controversy over the efficient market theory. On the one hand, statisticians continue to provide evidence in favor of the theory and, on the other hand, economists and financial analysts continue to state that they do not believe in the correctness of the theory. This problem highlights the lack of contact between many of the academic workers and real financial analysts or market operators. One gets an impression of mistrust, partly due to the barrier formed by the different technical languages used by both sides. It is to be hoped that this gap will decrease as each side recognizes the advantages of closer co-operation. Anyhow, from the examination of the evidence relating to stock market efficiency, following implications in three different areas for share market investment strategies can be observed:

Value of the Analyst: The most general implication of the efficient market hypothesis is that most security analysis is logically incomplete and valueless. For true believers in efficient markets, an analyst's recommendations to buy or sell must be predicted on a significant difference between the analyst's view and those of other investors whose opinions have established the stock's current market price.

Economics of Scale in Security and Portfolio Management: The question of efficient allocation of human resources is also stepped up by increasing competition. Analysis of securities costs about same whether the amount available for investment is Rs. 1,000 or Rs. 10 crores. Thus if each Endeavour could produce superior returns of, say, 0.5 percent, they state this would produce additional returns of Rs. 5 on the investment of Rs. 1,000 and of Rs. 5 crores on the investment of large financial institutions having crores of rupees to manage while it would not make sense for investors with smaller sums.

Consistently Superior Performance: Another implication of the efficient markets theory is the extreme unlikelihood that one can consistently earn superior rate of return by

analyzing public information in conventional ways. The only hope for superiority in results lies in seeking unique ways of forming expectations about the prospects for individual companies.

4.12.3 Challenge to Security Analysts

Efficient market hypotheses challenges the conventional security analysts in two ways:

Challenge to the Chartist: If the random walk model is a valid description of reality, the work of the chartist is of no real value in stock market analysis. The only way the chartist can counter the argument is to show that he can consistently use his techniques to make better than chance prediction of stock prices. It is not enough for him to talk mystically about patterns that he sees in the data. He must show that he can consistently use these patterns to make meaningful predictions of future price.

Challenge to the Fundamental Analyst: Against if the random walks theory is valid and if security exchanges are 'efficient' markets, then stock prices in any point in time will represent good estimates of intrinsic of fundamental values. On this basis, it can concluded that additional fundamental analysis is of value only when the analyst has information or new insights not already embedded in a stock's current market price. Thus, if the analyst has neither better insights nor better information, he may as well forget about fundamental analysis and choose securities by some random selection procedure.

4.12.4 Market Efficiency and Anomalies

In recent years, several so-called anomalies have been identified. Anomalies are situations that appear to violate the traditional view of market efficiency, suggesting that it may be possible for careful investors to earn abnormal returns.

The better- known anomalies are listed in Exhibit 4.1. Most of these anomalies appear to revolve around four themes:

- Markets tend to overreact to news, both good and bad.
- Value investing is contrarian in nature and is beneficial because markets overreact.
- The market consistently ignores certain stocks, especially small stocks.
- All things being equal, there are times when it is more advantageous to buy stocks whereas there are other times when it is better to avoid stocks.

Let's examine what anomalies mean for investors and the concept of market efficiency.

Exhibit 4.1: Some Stock Market Anomalies

Low Price-Earnings Ratio	Stock that are selling at price earnings ratios that are low relative to the market
Low Price-Sales Ratio	Stocks that have price-to-sales ratios that are lower compared with other stocks in the same industry or with overall market
Low Price-to-Book Value Ratio	Stocks whose stock prices are less than their respective book values
High Dividend Yield	Stocks that pay high dividends relative to their respective share prices
Small Companies	Stocks of companies whose market capitalization is less than \$100 million

Contd...

Neglected Stock	Stocks followed by only a few analysts and/or stocks with low percentages of institutional ownership
Stocks with High Relative Strength	Stocks whose prices have risen faster relative to the overall market
January Effect	Stocks do better during January than during any other month of the year.
Day of the Week	Stocks do poorer during Monday than during other days of the week.

Source: “Picking Stocks: Techniques That Stand the Test of Time,” American Association of Individual Investors, 1994.

Financial Market Overreaction: One of the most intriguing issues to emerge in the past few years is the notion of market overreaction to new information (both positive and negative). Many practitioners have insisted for years that markets to overreact. Recent statistical evidence for both the market as a whole and individual securities as shown errors in security prices that are systematic and therefore predictable. Overreactions are sometimes called reversals. Stocks that perform poorly in one period suddenly reverse direction and start performing well in a subsequent period, and vice versa.

Several studies have found that stock returns over longer time horizons (in excess of one year) display significant negative serial correlation. This means that high returns in and losers based on performance over a specific time period and then measuring these portfolio’s performance records over subsequent periods of time. One study, for example, found that over the next year a portfolio of “losers” earned about 15 per cent more on average than did a portfolio of “winners”.

Market overreaction may offer the best explanation for several of the anomalies listed in Exhibit 4.1. For example, low price-to-earnings ratio (P/E) stocks may be analogous to the losers we described above, or they may be stocks that are out of favour with investors. However, high P/E stocks may be the current investor favorites, or winner. As the market demonstrates almost daily, today’s favourite stocks can fall from grace and reverse direction very quickly.

Profiting from Reversals: Contrarian and Value Investing: Market overreactions or reversals suggest several possible investment strategies to produce abnormal profits. Some possibilities include buying last year’s worst performing stocks, avoiding stocks with high P/E ratios, or buying on bad news. At the risk of oversimplifying, any investment strategy based on market overreaction represents a contrarian approach to investing, buying what appears to be out of favour with most investors. But does value investing work? Can you do better following the value-oriented anomalies listed in Exhibit 4.1?

There are many studies, done by both academics and practitioners, that suggest that buying stocks with low price-to-sales ratios, low price-to-book ratios, or low P/E ratios produced returns that were higher, on average, than those from the overall market, even after adjusting for higher transactions costs. These findings support the notion that contrarian/value investing may indeed work.

Although value investing appears to work, it requires several caveats. First, stocks, with low P/E ratios are not necessarily cheap, nor are stocks with high P/E (or market-to-book value) ratios is far from perfect. Some stocks may have low (or High) P/E ratios for very good reasons. Further, value is definitely in the eye of the beholder; one person’s bargain is another person’s overvalued pariah.

For another caveat, remember that very good economic reasons may drive some reversals. Reversing prices may be responding to new information and correcting an overreaction. Also, a poor performer may continue to perform poorly as the company continues to slide downhill. The fact that a company had a lousy year this year does not mean it will automatically have a good one next year. Further, the timing of a reversal can be very difficult to predict. Investors have shunned some individual stocks and groups of stocks for long periods of time, whereas other stocks have reversed direction quickly.

Finally, think about what would happen if every investor suddenly became a contrarian. If contrarian investing really does offer abnormal profit opportunities, we would expect the wise investors to exploit opportunities aggressively. Soon competition would eliminate these opportunities. Remember, apparent past success of value investing is no guarantee that it will work in the future.

Calendar-Based Anomalies: Are there better times to own stocks than others? Should you avoid stocks on certain days? The evidence seems to suggest that several calendar-based anomalies exist. The two best known, and widely documented, are the weekend effect and the January effect.

Weekend Effect: Studies of daily returns began with the goal of testing whether the markets operate on calendar time or trading time. In other words, are returns for Mondays (i.e., returns over Friday-to-Monday periods) different from the other day of the week returns? The answer to the question turned out to be yes, the trend was called the weekend effect. Monday returns were substantially lower than other daily returns. One study found that Mondays produced a mean return of almost -35 percent. By contrast, the mean annualized returns on Wednesdays was more than $+25$ percent.

The January Effect: Stock returns appear to exhibit seasonal return patterns as well. In other words, returns are systematically higher in some months than in others. Initial studies found that returns were higher in January for all stocks (thus this anomaly was dubbed the January effect). Whereas later studies found the January effect was more pronounced for small stocks than for large ones.

One widely accepted explanation for the January effect is tax-loss selling by investors at the end of December. Because this selling pressure depresses prices at the end of the year, it would be reasonable to expect a bounce-back in prices during January. Small stocks, the argument goes, are more susceptible to the January effect because their prices are more volatile, and institutional investors (many of whom are tax-exempt) are less likely to invest in shares of small companies.

Calendar-Based Trading Strategies: Both seasonal and day-of-the-week effects are inconsistent with market efficiency because both suggest that historical information can generate abnormal profits. As with all anomalies, however, a more important issue is whether seasonal and/or day-of-the-week effects can create profit opportunities for investors. Should you, for example, always buy stocks at the close of trading on Mondays and sell them at the close of trading on Wednesdays?

Although differences in daily returns appear impressive, they are probably much too small to offset transaction costs. The January effect appears to have far more profit potential. However, once profitable investment strategies are recognized, it is reasonable to expect other investors to aggressively exploit them. Eventually eliminating the profit potential. This may be happening to the January effect. Entire books have been published about this widely recognized anomaly, and it may be disappearing.

Small – Firm Effect: Generally the stocks of small companies substantially outperform stocks of large companies. Of course, history has also shown that small stocks have exhibited more year-to-year variation than large stocks. However, even after correcting

for differences in risk, some studies suggest that investors can earn abnormal profits by investing in shares of small companies, exploiting the small –firm effect.

Two explanations for the small – firm effect seem plausible to us. The first is that analysts have applied the wrong risk measures to evaluate returns from small stocks. Small stocks may well be riskier than these traditional risk measures indicate. If proper risk measures were used, the argument goes, the small-firm effect might disappear. Small-firm stocks may not generate larger risk-adjusted returns than large stocks. Although the risk of small stocks may not be adequately captured by standard risk measures, It is hard to believe that better measures of risk would eliminate the entire small-firm effect.

Another explanation for the small-firm effect is that large institutional investors often overlook small-firm stocks. Consequently, less information is available one small companies. (They are also followed by fewer analysts.) One could argue that this information deficiency makes small –firm stocks riskier investments, but one could also argue that discovery of a neglected small-firm stock by the institutions could send its price rising as the institutions start buying it. The small –firm effect may arise from the continuous process of discovery of neglected small-firm stocks leading to purchases by institutional investors.

Whatever the explanation, small-firm stocks, although riskier than large-firm stocks, have historically provided substantial returns to investors, far higher than those produced by large-firm stocks. Of course, we can only speculate about whether this relationship will continue in the future.

Performance of Investment Professionals: Investments professionals such as mutual fund managers seem to have a difficult time beating the overall market. In a particular year, some professionals will beat the market, whereas others will not. The key question is whether some professionals can consistently outperform the market. Some evidence suggests that the answer to this question may be yes.

So, are the Markets Efficient?

Today, it is fashionable to discuss the pending demise of the old EMH. Well, we are not quite yet ready to bury it, but a considerable amount of evidence does contradict it, and more evidence seems to emerge daily. However, a considerable amount of evidence also supports the concept of market efficiency. And even if the markets are not efficient in an academic sense, they may be efficient in a more practical sense. In most parts of the world, the financial markets are well functioning, competitive institutions in which consistent abnormal profits based on public or historical information are rare.

There is an often repeated joke about a trader and a finance professor walking down the street. The trader notices a Rs.500 note lying on the street and stops to pick it up “Why bother?” the finance professor says, “If it had really been a Rs.500 note, someone would already have grabbed it.”

In one sense, this joke sums up the debate over market efficiency. An unquestioning acceptance of the EMH, and subsequent rejection of all investment analysis and research as worthless, can leave a lot of money lying on the street for someone else. Eal –world situations defy a strict view of market efficiency often enough to justify the careful search for undervalued (and overvalued) securities. However, one should always be very skeptical of someone who claims to have a clever system or special insight to very skeptical of someone who claims to have a clever system or special insight to consistently beat the market. There are not too many Rs. 500 note lying on the sidewalk, waiting to be picked up. Making money consistently in the stock market is darned hard, but it is possible.

Why should one care if the market is efficient? This is a crucial issue for a security analyst. He may well be hired to find mispriced securities to produce an additional increment of return on the portfolios. If the market is truly efficient, in making it that increment of return on the portfolios. If the market is truly efficient, in making it that why, professional investors have performed a valuable service for society.

The investment decisions of the managers of business firms are based to a large extent on signals they get from the capital market. If the market is efficient, the cost of obtaining capital will accurately reflect the prospects for each firm. This means the firm with the most attractive investment opportunities will be able to obtain capital at firms with the most attractive investment opportunities will be able to obtain capital at a fair price which reflects their true potential. The “right” investments will be made, and society will be better off. To the extent that professional security analysts played a role in making it this way, they have served society well, and the total benefit of their services may be very large.

The marginal benefit of any one analyst is another matter, however. If the market is efficient, any one financial institution can fire all their analysts without affecting its expected investment performance. Rather than doing analysis, they can select their investments at random, knowing each security selected has been priced correctly by the remaining analysis. In an efficient market, the total product of professional investors may be positive, but the marginal product of any one analyst is close to zero. Unfortunately, the amount any one firm is willing to pay an analyst is based on the marginal product. Thus, unless investment analyst can convince people the market is inefficient, he will make very little money as a security analyst. If the market is truly efficient then success will be a matter of chance. The expected probability of “beating” the market in any one year will be 50 per cent, and there is nothing a security analyst, personally, can do to improve these odds.

Of what significance is market efficiency to a corporate financial manager? Companies frequently repurchase their own stock because they feel it has been undervalued by the market. If the market is strong form efficient, this rationale is untenable. The stock is never undervalued by the market. If financial manager disagrees with the valuation, it may be because his estimate of the company’s prospects are overly optimistic. Perhaps he has neglected to consider carefully the implications of some macroeconomic variable, such as the future course of interest rates, on the future prospects and valuation of his firm.

Frequently, investment projects are postponed or financing is done with debt rather than with equity because management feels the entire stock market is depressed. If by the term depressed they mean stock prices have fallen below their intrinsic value based on available public information, this rationale is also inappropriate if the market is semistrong form efficient. In a semistrong form efficient market stocks are never “depressed” in the sense their values are less than the present value of the best estimate, based on publicly available information, of the future stream of dividends. In estimate, based on publicly available information, of the futures stream of dividends. In an efficient market, the cost of equity capital to the firm is both fair and reasonable in bear as well as bull markets. Future prospects may not appear as good in bear markets, but in an efficient market the prospects upon which stock prices are set are based on rational analysis of all publicly available information.

In an efficient market, one can also question the rationale for including complexities, such as call provisions in bond indentures. A call provision gives the firm a call option to buy the bonds back from the bondholders at a specific price. This call option held by the

stockholders has an implicit market value. The market value of a callable bond will be less than the market value of a comparable no callable bond by the market value of this call option. If the only rationale for including the call provision is to provide the firm with the opportunity to reissue the bond at a lower interest cost should interest rates fall, this rationale should be questioned if the market is taken to be efficient. In an efficient market, the callable bond will be priced as the difference between the market value of an identical no callable issue and the market value of the call option held by the stockholders. Both market values will be based on the best available forecast of the future course of interest rates. Given the firm's forecast can't be better than the best forecast available, the firm is no better off by including the call provision in the bond indenture than it would be by selling the bond as a non callable issue. One can look at it this way: If the call option is priced correctly by the market, the firm should be indifferent toward buying it (including it in the bond indenture) or not buying it.

One can frequently see advertisements by firms announcing that the firm has achieved a remarkable growth record in earnings and dividends. These advertisements frequently appear in financial publications. If these advertisements were placed to cast a favorable light on the firm's equity so as to support its market price, the money to purchase the ad was unwisely spent, given that the market is semi strong form efficient. The information constrained in the ad has already been publicly disclosed, fully analyzed by the army of professional analysts, and is also reflected in the stock price. If the market is efficient, the ad will have absolutely no impact on the market value of the equity.

Managers sometimes express concern over the effect that a change in accounting procedure will have on reported earnings per share. If the market is semi strong form efficient, they should not be concerned. Informed, rational analysts will adjust for different accounting procedures used by different firms and assess prospects on the basis of standardized numbers. The adjustment in accounting technique will have no effect on the opinions of those analysts or on the price of the firm's equity.

If the market is efficient, it should exhibit the following characteristics:

1. Security prices should respond quickly and accurately to the receipt of new information that is relevant to valuation. Every day a rich flow of bits and pieces of information pours into the market. The information pertains to general economic conditions, weather, strikes, shortages of raw materials, international tension, and product demand. This information is relevant to security valuation, and it affects the prices of securities. If the market is efficient. Security prices response can't be instantaneous, but the gap between the receipt of the information and the reaction of the price should reflect the best available procedures and techniques for receiving and processing the information. The reaction of market prices should also be unbiased. The initial reaction should accurately reflect the true implications of the information on the value of the security. There should be no need for a subsequent correction, for example, of an overreaction to a piece of information.
2. The changes in expected security returns from one period to the next should be related only to changes in the level of the risk-free rate and changes in the level of the risk premium associated with security. Returns associated with factors other than these should be unpredictable.
3. It should be impossible, by examining the characteristics of current investments, to discriminate between profitable and unprofitable investments in the future (profitable in the sense that the returns are greater than you would normally expect to see, given the risk).

4. If we separate investors who are knowledgeable from those who are not, we should discover we are unable to find a significant difference between the average investment performance of the two groups. Moreover, it should be the case that differences in the performance of individual investors within each group should be insignificant. In other words, differences in performance between groups and within groups should be due to chance, and not something systematic and permanent like differences in ability to find information not already reflected in stock prices.
5. In most multiperiod equilibrium models, you would expect to find some serial correlation in equilibrium prices and expected rates of return. Within the context of these models, it is technically correct to say that market efficiency is consistent with the case where future deviations from equilibrium rates of return can't be predicted on the basis of past deviations from equilibrium rates of return. Moreover, in a more general context, an increase in the value of a levered firm body will reduce its debt-to-equity ratio. This may result in a lower required and expected rate return tomorrow. Thus we may have slight tendency for negative correlation in stock returns even in an efficient market.

Systematic Patterns in Stock Prices Related Only to Time-Varying Interest Rates and Risk Premia: In an efficient market the expected returns to stocks may change over time. However, changes in expected returns must result from changes in (a) the risk-free rate of interest or (b) the magnitude of the risk premium in the stocks expected return. Changes in the risk premium may result from changes in the risk of the stock or from changes in the level of risk aversion reflected in investor behaviour.

Interest rates, risk, and risk aversion can all be expected to change with business cycle. As the level of economic activity declines, we would expect a decline in the real rate of interest and the expected rate of inflation. Both these factors should produce a decline in the nominal risk-free. At the same time, investors may revise upward their perception of the risk associated with the stock, as the company may begin to experience recession-related trouble in its line of business. Lower levels of economic activity may also mean lower wealth levels for investors, making them less willing to take on risk they expose themselves to. All these factors may cause the expected returns to stocks to fluctuate with the business cycle. To the extent may reduce nonrandom patterns in stock prices through its effect on the rates that investors use to discount future expected dividends to present values.

However, abstracting from the influence of time-varying interest rates and risk premia on stock prices, the changes in stock prices related to other factors, like changes in expectations about future earnings and dividends, should be random in an efficient market.

Why should security price changes unrelated to changes in equilibrium expected return be random in an efficient market? If the market is efficient, today's stock price both relevant to the valuation of the stock and "knowable". By knowable we mean all information that has been announced and can be predicted based on past announcements. The only information not reflected in the stock price is that which hasn't been received and can't be predicted. This kind of information, by its very nature, must come into the market in an unpredictable, random fashion. As the market price responds instantly and accurately to its receipt, the price, itself changes in a random, unpredictable fashion over time.

Failure of Simulated Trading Strategies: If the market is efficient, there should be no way to discriminate between profitable and unprofitable investments based on information that is currently available. A profitable investment is one that is expected to produce a rate of return that is higher than it should be, given an appropriate benchmark.

One way to test for market efficiency is to test whether a specific trading rule, or investment strategy, would have produced profitable rates of return in the past. Suppose, for example, an investor thinks the market is slow to react to the announcement of new information, such as the release of the firm's earnings reports. In this case, the investment strategy might be to always invest in the top 10 companies that have reported the highest increased in earnings per share for the year. To test the hypothesis, one may go back to a past period of time and try to simulate the results of investing on the basis of this trading rule. The question is : "Would this strategy have produced profitable returns in the past?" If the market is truly efficient, all strategies should fall in this regard.

The first problem in testing any strategy is defining the profitable rate of return. By profitable one must mean that the expected, or realized, rate of return is greater than what the investment should have, given some benchmark. If one chooses the capital asset pricing model as a benchmark, the expected rate of return should be the rate given by the beta factor of the investment and the security market line. If the choice is arbitrage pricing theory as a benchmark, the expected rate of return should be equal to the risk-free rate plus the sum of the products of the factor betas of the investment and the factor prices. The test of the performance of the trading rule, in this sense, can be viewed as a joint test of two hypotheses:

1. One has chosen the correct benchmark to measure profitability.
2. The market is efficient relative to the information employed by the trading rule.

In constructing simulation experiment, one has to be careful about a number of other potential pitfalls. First, one must be sure of formulating investment strategy on the basis of information which is actually available at the time of buy or sell the securities. If the strategy is to invest in the stocks that have the greater increased in earnings per share for the previous year, in simulating the results of executing this strategy in the past, one must be sure of having the earnings number for the year at the time one assume to buy the stock.

In testing the profitability of investment strategy, it's also important to consider the costs involved in finding and processing the required information as well as the differential costs involved in transacting in the market. In a passive investment strategy, one would invest at the very beginning of the period and hold on to the instruments completely the performance of trading rule. In addition, the investor is to determine whether any extra return produced by his strategy is due to chance or due to his having successfully exploited some systematic inefficiency in pricing by the market. To do this, the investor must determine whether the magnitude of the extra return is significant in a statistical sense.

The issue of whether the extra return is merely compensation for bearing extra risk must also be addressed. This gets back to the question of selecting the appropriate benchmark. Even if the investor has employed information that was actually available at the time he made his investments, even if he has factored in the additional costs associated with transacting and taxes, and even if he still find a statistically significant increment of extra return associated with his trading rule, he must be prepared to defend what he means by extra.

Mediocrity in The Performance of Informed Investors: If security prices don't reflect all available information, those investors who are fully informed should be able to construct portfolios that produce superior returns. If the true market pricing structure is that of the capital asset pricing model (CAPM) and if security prices reflect publicly available information alone, traders who possess private information should see investments positioned relative to the security market line. In fact, they should be able to construct portfolios that are also positioned above the security market line. If we use the CAPM-

based risk-adjusted performance measures to assess their performance, we should find their performance is superior relative to that of other investors.

If, on the other hand, the market is efficient, no investment is truly positioned above or below the security market line. An investment in such a position implies that estimates of expected return and risk on the basis of less than the complete set of available information. One may construct a portfolio composed of securities that he thinks are above the security market line, but since their true expected returns are all positioned on the line, his risk-adjusted investment performance will be indistinguishable from other investors. Even if some are more intelligent, or have more resources, than others, if security prices reflect all relevant information, intelligence and capital will be ineffective in searching for undervalued securities.

Thus, we can assess the efficiency of the market by first separating those investors who are likely to be most informed and then measuring their investment performance. If these investors exhibit records of superior performance, they must be investing on the basis of information that is both relevant and not reflected in security prices.

Professional investors are likely to be most informed. They are trained in security and portfolio analysis, and they spend their working days searching for, and analyzing, information. Thus, in attempting to resolve the question of market efficiency, we should determine whether professionals as a group are distinguished in terms of their performance and whether we can find significant differences in the performance of individual professional investors.

Thus, we find the findings of the various studies vary widely as to the efficient market theory. Some studies accept the efficient market in toto; others reject it on all counts. This is due to the basic differences with respect to the following listed assumptions.

Perfect Markets: The efficient market theory holds that at any time stocks sell at the best estimates of their intrinsic values. The problem is that the time of reasoning is uncomfortably close to that used by proponents of the greater-fool theory. Moreover, there has been ample evidence that stocks sometimes are not priced on estimates of actual value but are often swept up in waves of frenzy.

Speed of News Dissemination: News does not travel instantaneously, as the efficient market theory suggests. Moreover, the theory implies that no one possesses monopolistic power over the market and the stock recommendations based on unfounded beliefs do not lead to large buying. But in practice, neither of these assumptions accords with reality in today's markets. Brokerage firms specializing in research services institutions wield enormous power in the market and can direct tremendous money flows in and out of stocks. Many speculators may buy and sell a stock simply because they believe that an influential brokerage house may recommend buying or selling it. Consequently, it is entirely possible that erroneous beliefs about a stock by some professionals can, for a considerable time, be self-fulfilling.

Evaluation of Information: Major determinants of a stock's value concern the extent and duration of its growth path far into the future. To convert information of a stock into specific estimates of true value requires expertise in security analysis. In such an environment there is considerable scope for a financial manager to exercise his superior intellect and judgment to turn in superior professional investment performance. However, the number of such competent financial managers is very rare.

Check Your Progress 5

What do you understand by strong form of efficient market hypothesis?

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4.13 RECENT DEVELOPMENT IN THE INDIAN STOCK MARKET

The wild fluctuations in Indian share prices over the past two months point to the increasing power foreign finance capital is exerting over Indian equity markets and indirectly the Indian economy.

After reaching an all-time high of 12,761 on May 11, the Bombay Stock Exchange (BSE) Sensitive Index (SENSEX), fell back sharply. By June 14, it had fallen some 30 percent, closing at 8,929—a loss of around \$250 billion in a market whose total capitalisation is estimated at between \$800 and \$900 billion.

In the past three weeks, share prices have risen in fits and starts. On Thursday, the Sensex closed at 10,768 points, meaning share values have recovered about half of the losses they incurred between mid-May and mid-June.

Prior to this May's stock market plunge, India's business houses, political elite and corporate media were holding up the more than doubling in the value of India's premier stock market since May 2004 as proof of the "take-off" of India's economy.

Much, if not most, of this increase was due to the inflow of equity investments from Foreign Institutional Investors (FIIs) such as investment banks and hedge funds. A large portion of this investment came from the small Indian Ocean island and tax haven of Mauritius, where FIIs have set up paper companies that masquerade as Mauritius-based firms so they can take advantage of the double taxation treaty between Mauritius and India and escape paying taxes on their investment gains.

The biggest decline in the Sensex occurred May 22, when it plunged 1,111.70 points or more than 10 percent, triggering an automatic hour halt in trading. According to stock analysts, much of the fall on that and preceding days was due to sustained selling by FIIs, especially hedge funds. Such funds are notorious for borrowing massive amounts for speculative investments, which makes them vulnerable to margin calls (a demand for cash by lenders due to falling asset prices).

Following the May 22 plunge, Indian Finance Minister Chidambaram tried to exude calm: "There was certain nervousness in the market. My message to retail investors is to stay invested. FIIs are here to stay. There is no reason to panic.... Banks will provide money to those who want to provide margin calls."

Fearing that stock market losses might trigger a rash of suicides among ruined small investors, police in several cities, including Mumbai and Ahmedabad, were instructed to closely watch bridges and railway lines. Such suicides did occur in the 1990s when a speculative stock bubble burst.

According to estimates made in mid-June, the stock market sell-off has nearly halved the net foreign equity investment in India for this year to about \$2.7 billion. By contrast, in 2005 there was a net inflow of foreign investment in Indian equities of \$10 billion and in 2004 of \$8.6 billion.

The share sell-off and associated withdrawal of foreign funds from India affected the exchange rate of the rupee. The rupee declined to a three-year low against the US dollar of Rs 46.57, but recovered somewhat after the Reserve Bank of India increased two key interest rates by 0.25 percent.

Ironically, the May 22 stock market plunge coincided with the second anniversary of the coming to power of the Congress Party-led United Progressive Alliance (UPA) government. During the campaign for the 2004 elections, the Congress made a calibrated appeal to popular anger over mounting economic insecurity and social inequality, while the Bharatiya Janata Party (BJP)-led National Democratic Alliance, reflecting the mood in the corporate elite and the most privileged sections of the middle class, sought re-election under the slogan "India shining."

Predictably, the Congress-led UPA, while continuing to spout pro-poor rhetoric, has pursued the same neo-liberal agenda as the BJP, seeking to make India a centre of cheap-labour IT engineering, business-processing, research, and manufacturing for the world market.

The dismantling of barriers to foreign investment in banking, retail and other sectors and government plans to gut restrictions on the layoff of workers and plant closures and divert state funds from income support and public services to developing energy and communication infrastructure have made India a magnet for foreign capital, helping fuel a quickening in the country's growth rate.

But the 7 percent-plus annual increases in GDP and sizeable per capita income increases of recent years have not translated into any improvement in the socio-economic well-being of the vast majority of Indians. On the contrary, the dismantling of India's nationally regulated economy, the associated cuts in social spending, including agricultural price supports, and the diversion of state investment away from agriculture towards the infrastructure projects wanted by Indian and foreign capital have produced mounting unemployment in the cities and severe distress in the countryside. According to a recent World Bank report, 35 percent of India's population live on less than a dollar a day.

Moreover, the claims of the corporate and political elite that India is on the fast track to becoming a world economic power are based on decades-long extrapolations of current growth rates.

By virtually any measure, and in all but a few sectors, India's economy remains small and backward. Although home to more than 15 percent of the world's population, India accounts for barely 1 percent of total world trade.

Just as importantly, the claims of India's irresistible rise ignore fundamental problems and imbalances in both the Indian and world economies.

The dilapidated state of India's infrastructure is increasingly cited by the information technology sector, a niche in which India has emerged as a significant global player, as a barrier to further investments.

Many economists estimate that for India to achieve an annual growth rate of 8.5 percent, it will require a yearly capital inflow of \$50-\$60 billion. Even this sum could be an underestimate, as Prime Minister Manmohan Singh told the 39th Annual Meeting of the Board of Governors of Asian Development Bank on May 5 that India's infrastructure requires an investment of more than \$150 billion in the next few years.

With a view to attracting foreign infrastructure investment, the UPA, like the government before it, is planning to turn over key resources, like water, and key economic sectors, like power generation, to partial or even complete private sector control and ownership.

Yet, most of the foreign capital that India has attracted in recent years has been in the form of foreign institutional investment, rather than foreign direct investment. (In 2005, the ratio was 60 to 40 percent.) While the FII inflow has enabled Indian companies to raise additional capital through new share offerings or by raising loans based on the increase in their valuation, FII investments are by definition highly liquid, as financial institutions are in the business of profiting from short-term variations in share and currency values.

India's dependence on FII forms a marked contrast with China and Brazil, where FII investment accounted respectively for 26 percent and 30 percent of all foreign investment in 2005.

Should India's growth rate slacken, foreign investors grow impatient with the pace of neo-liberal reform, or international market conditions deteriorate, India could, as the recent stock market gyrations have shown, be sideswiped by a sudden withdrawal of FII and consequent rupee devaluation.

An article earlier this year on the *asiatimes.com* web site noted that the India's economy "faces significant risks arising from much higher international oil prices and the impact of higher energy prices on Indian inflation and global economic growth" and warned these risks could lead to the withdrawal of foreign funds from India's equity markets.

"In the past," continued the article, "emerging-markets investment performance that has lived by the accumulation of short-term foreign capital has also died because of sudden foreign capital flight. And India is very vulnerable to this syndrome."

India is running a substantial current account deficit. For the April-December 2005 period, the deficit was \$13.5 billion, more than double the \$5.9 billion deficit incurred in the corresponding period in 2004. The main reason for the increase in the current account deficit was the ballooning of the trade deficit, which totalled \$39.6 billion for the nine months between April and December 2005.

On the fiscal front, both the central and state governments in India are mired in debts with up to 40 percent of revenue set aside for debt repayment. The huge debts are a direct consequence of successive rounds of tax cuts for business and the rich. With combined central and state government debt around 9 percent of GDP, international capital is insisting public spending must be sharply reduced.

In the long run, a confluence of factors beyond the control of the Indian elite could well bring about an economic crisis similar to the one that devastated Southeast Asia in 1997-1998.

4.13.1 Retrospection

Before we look at the recent trends in the Indian capital market, a retrospective glance at the market will be relevant. Fortunately, India has been spared of any major corporate debacles of the kind and magnitude the world witnessed in the recent years. But, certain developments like widespread industrial sickness - not attributable entirely to external factors - capacity overhang constricting growth, unsustainably high IPO pricing by companies who chose not to mix business with scruples, vanishing acts of vampire companies, robbed the market of its buoyancy. Two scams of serious ramifications skimmed the investors' confidence Bitten badly - not once, but twice - investors became noticeably shy and even perceptibly paranoid. As a consequence, secondary market slipped into slumber; primary market passed into passivity. The damaging developments, however, had one redeeming feature; one favourable fall out: Least resistance to the reform at the market. The reform was needed to address the inadequacies and enhance the efficacy of the market.

4.13.2 Reformation

The recent years witnessed significant reforms in the capital market. It is well known that trading platform has become automatic, electronic, anonymous, order-driven, nationwide and screen-based. Shouting and gesticulations have yielded place to punching and clicking. Speed and efficiency are the hallmark of the current system. Across the system, multitude of market participants trade with one another anonymously and simultaneously. On any trading day, more than 10,000 terminals come alive, in 400 towns and cities; information is flashed on real time basis. Equal opportunity is provided for all concerned to access the information. Transparency is ensured in respect of dissemination of information, price and quantum of the order; but, member's identity is sought to be hidden to prevent any bias in response. Today, a trading member need not wend his way to the Jeejeebhoy Tower in Dalal Street, Mumbai or to any stock exchange building elsewhere; he can comfortably sit at his computer terminal and execute the order. Laptops, palmtops and hand mobiles, in fact, challenge the relevance of the brick and mortar.

An investor, today, need not wait, with his fingers crossed, for a fortnight or more, for getting crossed cheques or crisp notes for the sale proceeds of his securities. The trading cycle has been shortened to T+2. This shortening of the cycle has been done in a phased manner but in a rapid succession – from T+5 to T+3 to T+2, all in a matter of two years.

Another material development, which proved to be of immense relief to the investors, was dematerialisation of the scrips. Now 99% of the scrips in the market are dematerialised. Almost 100% of the trades are in D-mat form. Inconvenience of physical custody and transfer, tedium of intimating change of address and problems of bad delivery, late delivery, non delivery and the risks of forgery and frauds have virtually disappeared – or shall I say - have been dematerialised! The benefit is relished but not the cost. We should bear in mind the maxim – no cost, no benefit. There is no free lunch in this world. Still, there is no denying the fact that there could be a possibility for reduction in the cost; such possibilities are explored.

At the stock exchanges, robust risk management system has been put in place, Value-at-risk margining and exposure limits, on-line monitoring of margins and positions, Clearing Corporation and Settlement Guarantee Fund mechanism for trade settlement – all these have made Indian capital market now arguably world class, in terms of transparency, efficiency and safety.

Antiquated and abused badla system or ALBM stands abolished. In its place, for hedging and trading purposes, a number of derivatives – in the form of futures and options, both index-based and stocks-specific have been introduced. The sophistication of these products have not scared away our brokers and investors. Instead, with their native intelligence, they are as comfortable in the F&O Quarter as a fish in the water. The vibrancy of F&O segment has surpassed the cash segment in terms of daily turnover within a short period.

Corporate bonds and Government Securities used to be traded via telephone exchange. A beginning has been made for their trading on the stock exchange now. As is natural, the weaning takes time!

Our accounting standards are already principle-based; they have been aligned with international standards almost in all aspects, barring one or two. Our disclosure requirements, both initial and continuing, are on par with global practices.

The corporate governance and corporate performance do reflect and get reflected in the conditions of capital market. As a market regulator and protector, SEBI is concerned with corporate governance practice on an ongoing basis. According to the Economic

Intelligence Unit Survey of 2003 regarding corporate governance across the countries, “Top of the country class, as might be expected, was Singapore followed by Hongkong and, somewhat surprisingly, India.” It is significant to note that Singapore and Hongkong claiming the top positions, was not a matter of surprise, but India coming as third, surprised the world! It shall be our collective endeavour to eliminate the “surprise element”. As part of its endeavour towards continual improvement, SEBI has got corporate governance code and practice reviewed, by Narayana Murthy Committee. The Committee’s recommendations for refinement were evolved through consultative process, transparent deliberations and democratic approach. These were posted on SEBI’s website for 21 long days. Thereafter, they were got incorporated in Clause 49 of Listing Agreement. No sooner was this done, the corporate quietitude was disturbed and a spate of representations followed. The three major aspects, which disturbed the corporates, related to definition of independent directors, their nine-year term and whistle blowing policy.

4.13.3 Resurgence

During the last one year, Indian capital market has been regaining its buoyancy. Globally recognised economic fundamentals of the country and widely perceived robustness of the Indian Capital Market system have gradually restored the confidence of the investors, global and local, in the Indian market, to a substantial degree. During the last one year, the sensex has risen by over 75%. The Indian capital market has out performed many in the world. More importantly, the primary market too has perked up. The depth and liquidity of the market and its absorbing capacity has been indisputably proven. The fear of failure of PSU disinvestments turned out to be unfounded. Some mistakes have occurred. To err is human and occasional systemic fault/fatigue is not uncommon. Mistakes may happen and do happen; but they should not lead to paralysis, panic and cynicism; nor should they be allowed to be exploited. Mistakes if any should be rectified and rectified quickly and their recurrence prevented. If by ignorance, one mistakes, by mistake one should learn.

Check Your Progress 6

State whether the following statements are true or false:

1. The term technical analysis is used to mean fairly wide range of techniques based on the concept that past information on prices and trading volume of stock gives the investor about what lies ahead.
2. A neutral network is a trading system in which a forecasting model is trained to find desired output from past trading data.
3. Most technicians rely heavily on charts and trading volume for their analysis of the market and individual stocks.
4. Random walk theory is a special case of the general efficient market model.
5. Random walk theory refutes technical analysis and cautions fundamentalists to be more exceptional in current information gathering and analysis which impact market fluctuations.

4.13.4 Vigilance

However sophisticated, efficacious, fail-proof a system or technology may be, human intervention is inevitable, for, the system is manned, managed or used by human beings. Human nature being what it is, and as the human ingenuity knows no bounds, constant regulatory surveillance and prompt action is necessary. That is what SEBI is trying to

do. Armed with statutory authority and consumed by missionary zeal, SEBI keeps vigil, clamps down appropriate surveillance actions. Any market misconduct or manipulation are sought to be dealt with severely in the interest of the market and the investors. Investigations into allegations of manipulations etc. are getting speeded up and necessary regulatory action is taken, without bias or prejudice, with no fear or favour. At times, the action may turn out to be deterrent in nature, as circumstances warrant.

4.13.5 Furtherance

A few more things are on the anvil. Margin trading and securities lending have been introduced with adequate checks and balances. The Central Listing Authority has become operational to provide an independent entry-point scrutiny of the corporates to be listed. Straight Through Processing will get broadened market wide in another 3 month's time. The Central Registry of market intermediaries and professionals with unique identification number is under construction. And, when RTGS is being ushered in, T+1 settlement cannot be far behind! Structural consolidation, infrastructural improvements, product-innovation, refinement of regulations, and integrated surveillance should be some of the thrust areas for planned action in the days ahead.

4.14 LET US SUM UP

In this chapter we understood relevance of Technical Analysis, Components of Technical analysis and difference between fundamental analysis and technical analysis. And also the lesson discussed about the different tools for technical analysis and efficient capital market theory.

Efficient capital markets are desirable for they channels liquid capital to where it do the nation the most good. Efficiency is bifurcated – external and internal. External efficiency refers to dissemination of information to all investors to impact on market prices of securities. Internal efficiency concerns with the cost and speed required to trade securities. Some major imperfections affecting external efficiency are: Uninterested shareholders, financing by retained earnings, investor's ignorance or laziness and mob speculation. Internal efficiency requires many market makers and low cost of trading.

Cootner described, price-value interaction model which suggests that security prices can be viewed as a series of constrained random fluctuations around their intrinsic value. According to Cootner investors fall into two types : Naïve and Professional.

While naïve investors create fluctuations in security prices professionals erect upper and lower reflecting barriers around the true intrinsic value and correct the fluctuations to settle prices at intrinsic value. Paul Samuelson opined that a security with a perfectly efficient price would be in “continuous equilibrium”.

Random walk theory is a special case of the general efficient market model. It contends that a security's market price fluctuates randomly around its intrinsic value. The reason are (i) News is generated in a random fashion (ii) Security analysis estimate the values of securities (iii) No one investor can significantly control prices due to the presence of several investors. The popular efficient market hypotheses are – weak semi-strong and strong form. Past information has no relevance: current prices reflect all information (historical and current public information), and also inside information are propositions of the three forms. Enough empirical evidence is available to support the random walk model. Random walk theory refutes technical analysis and cautions fundamentalists to be more exceptional in current information gathering and analysis which impact market price fluctuations.

4.15 LESSON END ACTIVITY

1. Study the fundamental analysis of BSE 30 companies.
2. Study the technical analysis of the Resent IPO's listed in NSE and BSE
3. List out the document required to Open a Demate Account (Promissory Account)
4. What sequences of events might bring about on "efficient market"?

4.16 KEYWORDS

Technical analysis: It is used to mean fairly wide range of techniques, all based on the concept that past information on prices and trading volume of stocks gives the enlightened investor a picture of what lies ahead.

Technical Investors: Technically oriented investors start by checking the market action of the stock.

Dow Theory: The Dow theory is built upon the assertion that measures of stock prices tend to move together.

Elliott Wave Principle: One theory that attempts to develop a rationale for a long-term pattern in the stock price movements.

Neutral Networks: A neutral network is a trading system in which a forecasting model is trained to find desired output from past trading data.

Confidence Index: It is the ratio of a group of lower-grade bonds to a group of higher-grade bonds.

The Odd-Lot Ratio: Odd-lot transactions are measured by odd-lot changes in index.

Moving Average: A moving average is a smoothed presentation of underlying historical data.

4.17 QUESTIONS FOR DISCUSSION

1. If the weak form of hypothesis is true, is it a direct repudation of technical analysis?
2. "An analyst will not be able to develop a trading strategy based on adjustment to new public information" – Discuss.
3. Random walk theorist is interested in what price levels or changes in successive levels?
4. Random walk model represents a special restrictive of the efficient market model – Discuss.
5. Based on the implications of random walk model. What guidelines do you recommend to an investor?
6. Write a brief note on recent Trends in capital market and primary market.

Check Your Progress: Model Answers

CYP 1

Fibonacci numbers have intrigued mathematicians and scientists for hundred of years. Leonardo Fibonacci (1170-1240) was a medieval mathematician who discovered the series of numbers while studying the reproductive behaviour of rabbits. The beginning of the Fibonacci series is shown below:

1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233,.....

After the initial pair of ones, each succeeding number is simply the sum of the previous two.

CYP 2

A *neutral network* is a trading system in which a forecasting model is trained to find desired output from past trading data. By repeatedly cycling through the data, the neutral network eventually learns the pattern that produces the desired output.

CYP 3

1. On a line chart, the closing prices of successive time periods are connected by straight lines, with no notice taken of the highs and lows of stock prices for each period.
2. The procedure for preparing a vertical line or bar chart is simple. Suppose an investor is to draw on graph on logarithmic paper a series of vertical lines, each line representing the price movements for a time period – a day, a week, or even a year. The vertical dimensions of the line represent price; the horizontal dimension indicates the time involved by the chart as a whole. In a daily chart, for example, each vertical line represents the range of each day's price activity, and the chart as a whole may extend for a month. For this, extend the line on the graph paper from the highest transaction of each day drawn to the lowest and make a cross mark to indicate the closing price.

CYP 4

Large spreads between yields indicate low confidence and are bearish the market appears to require a large compensation for business, financial and inflation risks. Small spreads indicate high confidence and are bullish. In short, the larger the spreads, the lower the ratio and the less the confidence. The smaller the spreads, the greater the ratio, indicating greater confidence.

CYP 5

The strong form is concerned with whether or not certain individuals or groups of individuals possess inside information which can be used to make above average profits. If the strong form of the efficient capital market hypothesis holds, then any day is as good as any other day to buy any stock.

CYP 6

1. T, 2. T, 3. T, 4. T, 5. T.

4.18 SUGGESTED READINGS

Sudhindra Bhat, *Security Analysis and Portfolio Management*, Excel Books, Delhi.

Preeti Singh, *Security Analysis and Portfolio Management*.

V.A. Avadhani, *Investment Management*.

M.Y. Khan, *Financial Services*.

V.K. Bhalla, *Financial Services*.

G.S. Batra, *Financial Services and Markets*.

Mahana Rao, *Financial Services, Cases and Strategies*.

L. M. Bhole, *Financial Markets and Services*.

LESSON

5

SECURITY EVALUATION

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5.0 AIMS AND OBJECTIVES

After studying this lesson, you should be able to:

- Understand the objectives of security evaluation
- Learn about the investment alternatives
- Attempt on the valuation theories of fixed and variable income securities.
- Know about the government securities
- Get an idea about the Non- security form of investment
- Learn about the concept of real estate management
- Know about the investment instruments of the money market

5.1 INTRODUCTION

Unlike natural science and like medicine, law and economics, investing lies somewhere between an art and a science. Certain aspects of investing lend themselves to a scientific approach. The creation of computer skills has accelerated the use of scientific methods.

However, corporations are managed by people and therefore open to problems associated with their faulty judgments. Moreover, the corporations operate in a highly dynamic and competitive environment, and many operate both nationally and internationally. As a result, the judgment factor still dominates investment decisions.

Whether investing will ever be classified as a science is doubtful, but research, training and experience have developed investing into a discipline. Discipline means a structured, consistent and orderly process without rigidity in either concept or methods.

5.2 OBJECTIVES OF SECURITY EVALUATION

5.2.1 Financial Analysis

Financial analysis is the informative and predictive function in investing. It provides information about the past and present, and it quantifies expectations for the future. Capital- Budgeting decisions, corporate financial policies, and informed selections of securities for investment are all products of financial analysis. Analytical resources mobilized for these purposes include economic, capital market, sector and specific security analyses.

5.2.2 Economic Analysis

Economic Analysis provides both near-term and longer term projections for the total economy in terms of the nation's output of goods and services, Inflation, profits, monetary and fiscal policy, and productivity. It thus provides the foundation for capital market, sector, industry and company estimates of the future.

5.2.3 Capital Market Analysis

Capital Market analysis examines the industries and securities of individual companies primarily to develop value and return expectations for securities and thus to distinguish overpriced securities from under-priced ones.

Between capital market analysis and security analysis, with some characteristics of each is sector analysis. Broader than industry and company analysis, sector analysis may be viewed as a bridge between capital market context; sectors consist of major groupings of stocks (i.e. according to economic sector, growth rate, or cyclically in earnings) that either cut across or combine several industries.

5.2.4 Comparative Selection of Securities

Selection among alternative investment opportunities requires appraisal of securities so that their relative attractiveness in terms of return and risk can be judged at any time. This purpose can be accomplished only if consistent analytical procedures are employed and industry and company forecasts are based on an internally consistent set of economic and capital market projections.

If Hindalco is considered for purchase, it must be considered more attractive than Nalco, Indian Aluminium, or other issues with comparable investment characteristics. Thus isolated analysis and evaluation of an individual security is impractical and inappropriate. One security cannot be effectively appraised apart from other securities apart from other securities or apart from the general investment climate.

Consistency and comparability are so important that they should be the twin goals of the investment analysis process. Consistency applies to date for an individual company across time, whereas comparability seeks valid data on companies for each time period. Without

consistency and comparability, the investor cannot exercise sound judgment in identifying instances of overvaluation and under-valuation.

5.2.5 Investment Decision Making

Investment decisions can best be viewed as an integrated process to which security analysis makes its unique contribution. Portfolio management requires the consistent application of economic, capital market and sector analysis to the definition of objectives and the measurement of performance. Security analysis serves the investment decision maker by identifying the fairly priced or under-priced securities that are most likely to produce the desired results.

Investment policies and asset allocation strategies are developed based on the following objectives:

- To earn a sufficient “real” rate of return and maintains the purchasing power of its assets adjusted for inflation in perpetuity.
- To control portfolio risk and volatility in order to provide as much year to year spending stability as possible and still meet.

5.3 INVESTMENT ALTERNATIVES

Two basic investment avenues are:

- (i) Financial assets
- (ii) Physical assets (Real assets)

Investment in Financial Assets consists of

- (a) Securitized (i.e., security forms of) investments
- (b) Non-securitized investments.

The term ‘Securities’ is used in the broadest sense, of consisting of those papers which are quoted and are transferable. Under section 2(h) of the Securities Contract (Regulation) Act, 1956 (SCRA) ‘securities’ include:

- (i) Shares. Scripts, stocks, bonds, debentures, debenture stock or other marketable securities of a like nature in or of any incorporated company or other body corporate.
- (ii) Government securities.
- (iii) such other instruments as may be declared by the Central Government to be securities, and
- (iv) rights or interest in securities.

Therefore, in the above context, security forms of investments include Equity shares, preference shares, debentures, government bonds. Units of UTI and other Mutual Funds, and Equity shares and bonds of Public Sector Undertakings (PSUs).

Non-Security forms of investment include all those investments which are not quoted in any stock market and are not freely marketable. viz., Bank Deposits, Corporate deposits, post office deposits, National Savings and other Small savings certificates and schemes, provident funds, and insurance policies. The above investments are essentially forms of savings and should be treated as such. In India nearly 33% of the household savings go into such savings schemes as Post office savings schemes, life insurance, provident funds, etc.

Another popular investment avenue is the investment in physical Assets such as Gold, silver, Diamonds, Real estate, Antiques etc. Indian investors have always considered the physical assets to be attractive investments and, particularly, for hedging against inflation, India has a very long tradition in Arts and Crafts in Jewelry, made of gold/silver and precious stones. Moreover, it has been observed that in times of high inflation investors move away from financial assets into physical assets more particularly, real estate.

Different types of Investment Avenues in financial assets, therefore characteristics and their risk-return features are described below.

5.3.1 Equity Shares

Equity shares represent equity capital which is the ownership capital because equity shareholder collectively own the company. The ownership of equity shares or stocks confers upon the shareholders the benefits of such ownership, which is a residuary claim on the profits and assets of the company after the claims of other have been satisfied. The shareholders are the last category of those with claims on the company to receive any of its earnings and if the company is dissolved, the last to receive any assets. Equity shareholder also enjoy the right to control the company through the board of directors and have the right to vote on every resolution placed before the general body. Yet another right enjoyed by the equity shareholders is the Pre-emptive right which obliges the company to give the existing equity shareholders the first opportunity to purchase, proportionately, additional equity shares called the 'Right shares'.

Equity shares can be classified in different ways but we will use the terminology of "INVESTORS". However, it should be noted that the lines of demarcation between the classes are not clear and such a classification is not mutually exclusive.

Blue Chips: (Also called Stalwarts): These are stocks of high quality financially strong companies which are usually the leaders in their industry. They are stable and mature companies. They pay good dividends regularly and the market price of the shares does not fluctuate widely. Examples are stocks of Colgate, Pond's Hindustan lever, TELCO, Mafatlal Industries etc.

Growth Stocks: Growth stocks are companies whose earnings per share is growing faster than the Economy and at a rate higher than that of an average firm in the same industry. Often, the earnings are ploughed back with a view to use them for financing growth. They invest in Research and Development and diversify with an aggressive marketing policy. They are evidenced by high and strong EPS. Examples are ITC, Dr. Reddy's, Bajaj Auto, Spartek, ITW Signode, etc. The high Growth stocks are often called "GLAMOUR STOCKS" or "HIGH FLYERS". If such companies can sustain their growth, they become emerging blue chips. Many of such emerging blue chips are in the Hi-Tech industries, particularly in the Information Technology segment. Notable examples of such shares are Infosys Technologies, Satyam Computer etc.

Income Stocks: A company that pays a large dividend relative to the market price is called an Income stock. They are also called Defensive stocks. Usually income stocks are not growth stocks and vice versa. Drug, food and public utility industry shares are regarded as income stocks, Prices of income stocks aren't as volatile as growth stocks.

Cyclical Stocks: Cyclical stocks are companies whose earnings fluctuate with the business cycle. They are affected by economic and trade cycles like boom, recession, recovery, etc., Cyclical stocks generally belong to infrastructure or capital goods industries such as General Engineering, auto, cement, paper, construction, steel, sugar etc. Their performance is good in the boom period but plunges in times of recession. Their share prices also rise and fall in tandem with the trade cycles.

Discount Stocks: Discount stocks are those which are quoted or valued below their face values. These are the Shares of sick units. Discount shares are different from under-valued or under-priced shares. Under-priced or under-valued shares are those which have all the potential to become growth stocks; have very good future but somehow the market is yet to price the shares correctly. Discount shares are also different from the 'Turn-around Shares.

Turn Around Stocks: Turn around stocks are those that are not really doing well in the sense that the market price is well below the intrinsic value mainly because the company is going through a bad patch but is on the way to recovery with signs of turning around the corner in the new future. Turn-around stocks may resemble discount stocks and therefore require a very careful analysis and a keen eye to spot them. Turn-around stocks can fetch very attractive returns to the investors. Turning around a sick company can be done either with the help of Board for industrial and Financial Reconstruction (BIFR) or by management effort – by shading losing products, financial restructuring, offering attractive voluntary retirement schemes to the employees, etc. EID-Parry in 80's. Tata Tea (Tata Finlay). SPIC, Mukand Iron and Steel etc., are the examples of turn-around companies. Sometimes a sick company may be turned around by a dynamic management taking over the company.

Advantages of Investing in Equity Shares

- (i) Capital appreciation – The stock price reflects the underlying fundamentals. Capital gains offer certain tax advantages.
- (ii) Dividend payout – companies can pay higher dividends and provide current cash flows to the investor.
- (iii) Bonus shares – enhances liquidity and ensures capital gains.
- (iv) Rights shares – shareholders may get additional shares for less than market price. If the investor does not want to invest in that company he can sell his rights in the market.
- (v) Liquidity – Saleability and exit options are ensured in the case of actively traded stocks.
- (vi) Security for pledging – Capital appreciation of equity shares makes them good securities for borrowing from the financial institutions and banks.

5.3.2 Other Investment Alternatives

Mutual Funds

- Offer diversification
- Professional Investment Management
- Liquidity – redeemable at any time
- Flexibility – a broad selection of funds available

Annuities

- High degree of safety
- Offers tax deferred growth
- Fixed or variable returns

Municipal Bonds

- Provides a fixed rate of return if held to maturity
- *Subject to market risk if sold prior to maturity*

Treasury Securities

- Maximum security – guaranteed by the US Government
- Provides state tax savings
- *Subject to market risk if sold prior to maturity*

Stocks & Corporate Securities

- Offer diversification potential
- Liquidity – redeemable at anytime
- Flexibility – a broad selection available

Investment Attributes: Some of the main investment attributes which envelope the investment decision are:

- (a) Risk and return
- (b) Liquidity of the investment
- (c) Tax advantages
- (d) Convenience

We have already covered Risk and Return in the proceeding section. Therefore, we shall now look at the other attributes.

Liquidity of the investment is largely a function of its marketability. An investment is highly marketable if it can be bought/sold quickly without a loss or with a very minimum loss which is possible, again, only if the prices do not fluctuate widely. Further, marketability exists when the transactions cost is low. Empirical evidence suggests that shares of small companies suffer from lack of liquidity, perhaps, on account of infrequent trading. In the case of Non-security forms of investments, liquidity is not dependent on the physical marketability of the asset, because they are not transferable, but on their acceptability as collateral for borrowing.

The next important attribute is the Tax advantage or Tax shelter the investment enjoys. Many of the Non-security forms of investment are attractive, despite the low rate of return, only because of the tax benefits they provide. The Tax Shelters are:

- (i) ***Initial Tax Shelter:*** This is the tax benefit the investor gets when he makes the investment for the first time. Usually many of the investments in Non-security forms like contribution to Provident Fund, purchase of NSC etc. are eligible for initial tax shelter under Section 88 of the Income Tax Act.
- (ii) ***On-going Tax Shelters:*** These are the tax benefits available for the interest or dividends earned on investments already made. These tax benefits are generally available under sections 10 and SOL of the Income Tax Act.
- (iii) ***Terminal Tax Shelters:*** These tax reliefs are available when the investment made in the past are liquidated or realized.

Finally, convenience is an important attribute of investment decision making. Convenience refers to the procedural ease when the investment is made and also the ease with which

the day-to-day management of the investment can be done. For instance, buying of a National Saving Certificate (VIII issue) may require only filling of a form initially. Thereafter, there is no need for the investor to manage the investment. On the other hand, in the case of equity shares, the investor will be required to analyze different shares ; time the entry by technical analysis and place an order to buy. Thereafter, he needs to continuously check on the price behavior of the stock and also track the performance of the company so that he can quickly exit from the scrip if need be. From the point of view of convenience, the two ends of the spectrum are occupied by the equity shares on one end, which is the point of least convenience, and the bank deposits on the other end which is the point of extreme convenience. Other investments require close attention from the investors; and the returns justify the time spent.

Investments that represent evidence of debt, ownership of a business or the legal right to acquire or sell an ownership interest in business are called securities. Two of the most common types of securities are bonds and shares. Another way of classifying securities is to divide them into two main groups:

- Government obligations and
- Bonds and stock of Corporations

There are four major ways of classifying the above mentioned securities:

- Short-term Money Market Securities
- Bonds Issued by Corporations
- Equity Shares
- Hybrid Instruments

5.3.3 Money Market Securities

Highly liquid debt securities that have short-term maturity periods and involve little or no risk of default are known as money market securities. All money market securities are debts that mature within 364 days or less. Money market securities are frequently issued instead of longer-term debt securities in order to avoid long and costly formalities.

Money market securities pay continuously fluctuating rate of interest that hovers somewhere between the rate of inflation and the rate paid by the longer term debt instruments.

Money market securities typically pay interest, to their investors, as a discount from their face (or maturity) values. Indian Government Treasury Bills, for instance, with a face value of Rs.1 crore and a maturity of 90 days can be sold for Rs.97 lacs, when issued by the Treasury Department. The buyer can either hold the security for 90 days or sell it in the active secondary market before it matures. Upon maturity, whosoever owns the T-bill can redeem it for its face value of Rs.1 crore. The Rs. 3 lac difference between the discounted purchase price of Rs. 97 lac and the maturity value of Rs. 1 crore is the interest paid to the T-bill's investor (or series of investors).

Certificates of Deposit (CD): One of the money market securities, CD's were innovated by Citibank, New York in 1961. A CD is a receipt from a commercial bank for a deposit of Rs.10 lakh or more, with certain provisions attached. One of the provisions is that the deposit will not be withdrawn from the bank before a specific maturity date.

Banker's Acceptances: Securities that are written when a bank inserts itself between the borrower and the investor and accepts the responsibility for paying the loan, thereby shielding the investor from the risk of default.

Commercial Paper (CP): Refers to the short term promissory notes issued by “blue-chip” corporations – large, old, safe, well known, national companies like TISCO, ONGC, SAIL, etc. The maturities vary from 5 to 270 days, and the denominations are for Rs.10 lakh or more- usually more. These notes are backed only by the high credit ratings of the issuing corporations.

5.3.4 Bonds Issued by Corporations

A bond is a marketable legal contract that promises to pay its investors a stated rate of interest and to repay the principal amount at the maturity date. Bonds differ according to their provisions for repayment, security pledged and other technical aspects. Bonds are the senior securities of a corporation in the respect that in the case of bankruptcy of the corporation, the law requires that the bondholders should be paid off before their stock investors.

A legal agreement, called a trust deed or indentures, is drawn between the bondholders and the corporation. Every bond issued under it has the same right and protection; however, bonds of the same issue may mature at different dates and carry different interest rates. Trust deed is a complicated legal document containing restrictions, pledges and promises. The trustee, usually a large bank or a financial institution, ensures that the issuing corporation keeps its promises and conforms to the terms and conditions of the contract. The trustee is the watchdog guarding the bondholder’s interests.

Term Loans: These are long – term debt contracts under which a borrower agrees to make a series of interest and principal payments on the specific dates to the lender. While this is true for bonds also, term loans differ in one significant aspect: they are generally sold to one or a consortium of lenders, especially financial institutions and banks, while bonds (term debentures used interchangeably) are typically offered to the public. Another significant difference is that the loan is repaid in monthly/ quarterly/ half yearly/ annual installments, which also include the interest accrued for the specified period. In bonds, however, repayment is usually made by one lump-sum payment although interest may be paid at periodic intervals.

Interest Payments: Bond interest is usually paid semi-annually, though annual payments are also popular. The method of payment depends on whether the bond is a registered or coupon bond. The interest on registered bonds is paid to the holder by cheque. Coupon bonds have a series of attached coupons that are clipped off at the appropriate times and sent through banking channels for collection of the interest.

Coupon Rate: The coupon rate is the stipulated interest rate to be paid on the face value of a bond. It represents a fixed annual Rupee amount that is paid as long as the debtor is solvent. The coupon rate is fixed after the issuing corporation’s investment banker has weighed the risk of default, the credit standing of the issuer, the convertibility options, the investment position of the industry, the security backing of the bond and the appropriate market rate of interest for the firm’s industry, size, and risk class. The goal is to pick a coupon rate that is just high enough to attract investors.

Yield to Maturity: Riskier bonds must pay higher yield-to-maturity (YTM) to attract investors. The YTM is more significant than the coupon rate to bond investors. If the bond is selling at a discount, its market price is below its face value. In this case the bond’s YTM exceeds its coupon rate. If it is selling at a premium, the market price of the bond is above its face value and the coupon rate is higher than the YTM.

Maturities vary widely. Bonds are sometimes grouped by the length of time until maturity that existed on the date the bond was first issued. Money Market Securities mature in 364 days or less. Short-term bonds are any bonds maturing within about 1 to 5 years.

They are common in industrial financing and may be secured and unsecured. Medium term bonds mature between 5 to 10 years and long term bonds are the ones who have a maturity life of more than 10 years.

5.3.5 Some Other Types of Bonds

Bearer Bonds: If the coupon interest may be paid to whoever holds the bond, the bonds are called Bearer Bonds. Unlike registered bonds, the ownership of bearer bonds may be transferred simply by handling them over, like cash.

Deep Discount Bonds: Like money market securities, these bonds are issued at a discount to their face values. Long term bonds with maturities exceeding 10 years, these bonds are normally issued by blue chip corporations or financial institutions.

Non-Convertible Debentures: NCDs are medium-term bonds issued by corporations, with maturity periods varying between 5 to 8 years. They are normally secured and have to be credit rated by one of the credit rating agencies if the maturity period exceeds 18 months.

Secured Premium Notes (SPNs): SPNs are medium-term bonds issued by corporations and mature between 3 to 8 years. Their distinctive feature is the flexibility they offer in yielding returns either in the form of premium or interest payments, depending on holder's preferences.

Call Provision: A call provision may be included in the trust deed. This provision allows both the issuing corporation and the investor to call or redeem the bonds at a specified amount before the maturity date. Issuing corporation will use the provision if the interest rates fall substantially below the specified coupon rates.

Sinking Fund: It is a provision that requires the corporation to set aside a fixed amount each year towards the orderly retirement of the issue.

Credit Rating: It is approved credit rating agencies is mandatory before corporations are allowed to issue bonds or debentures. Rating reflects the probability of the corporations going into default. The higher the bond's rating, the lower the risk of default and the lower the interest rate.

Refunding Analysis: It is performed by the issuer to determine (1) whether it is currently profitable to call an outstanding debt issue, and (2) whether it might be even more profitable to delay the call until some time in the future, e.g.. In a scenario where interest rates are rising steadily.

5.3.6 Advantages and Disadvantages of Long-term Debt Financing

From the issuer's view point, the major advantages are as follows:

- The cost of debt is independent of earnings, so debt holders do not participate if profits soar. There is however, a flip side to this- profits fall, the debt holders must still be paid their interest.
- Because of tax effects, the risk- adjusted component cost of debt is lower than that of common stock.
- The owners of the corporation do not have to share control.

The major disadvantages are as follows:

- Since debt service (interest plus scheduled principal repayments) is a fixed charge, a reduction in revenues may result in insufficient cash flow to meet debt service requirements. This can lead to bankruptcy.

- Financial leverage increases the firm's risk exposure, hence the cost of both debt and equity also rise accordingly.
- Debt normally has a fixed maturity, hence the firm has to repay the principal on a fixed date. It cannot be deferred.
- In a long term contractual relationship, it is necessary for the indenture provisions to be much more stringent than in a short-term credit agreement. Thus, the firm will be subject to more restrictions than if it had borrowed on a short-term basis or had issued equity shares.
- There is a limit to the amount of funds that can be raised at a "reasonable" rate. Widely accepted lending standards dictate that the debt ratio should not exceed certain limits, and when debt goes beyond these limits, its costs become exorbitant.

Some recent innovations in long-term financing include floating rate debt, whose interest payments fluctuate with changes in the general level of interest rates; junk bonds (junk FDs in India), which are high-yield instruments used by firms which are poor credit risks.

A firm's long term financing decisions are influenced by its target capital structure, the maturity of assets, current and projected interest rates levels, the firm's current and projected financial conditions, and the suitability of its assets for use as collateral.

5.3.7 Common Stock

Equity Shares are the first security to be issued by a corporation and, in the event of bankruptcy, the last to be retired. Equity Shares, also called common stock, represent a share in the ownership of a firm; they have the lowest-priority claim on earnings and assets of all securities issued.

Equity Shares, however an unlimited potential for dividend payments and price appreciation. In contrast, bonds and preference shares have a contract for fixed interest or dividend payments that equity shares do not have. A share certificate states the number of shares, their par value, the certificate number, distinctive numbers and the name of owner of the certificate.

Common stock holders or share holders elect the board of directors and vote on major issues that affect the corporation because they are the owners of the corporation.

Par Value: It is the face value of a share of the stock. Companies are allowed to fix a par value the minimum being Re.1 per share.

Book Value: The book value is calculated by adding reserves to the equity capital of the company, multiplied by the face value and divided by the equity capital of the company. Book and market values might be equal on the day the stock in a new corporation is issued, but after that, it appears that only coincidence will ever make them equal at any given moment.

Stock Price Quotations: If you pick up any of the financial news papers, they carry the quotations of the last day's trading on the major stock exchanges, including National Stock Exchange (NSE), Bombay Stock Exchange (BSE), etc. They normally carry Open, high, low, close prices along with volumes of shares traded as well as the previous 52 week (1 year) high-low prices for each stock. The prices mentioned are for one share of the company.

Preferred Stock: Sandwiched between bond holders and common stock holders, preferred stock have an assured dividend and assume less risk than that borne by common

stock holders. They hardly have any voting rights in the corporation as compared to the common stock holders.

There are two types of companies: One, Publicly held companies and second, Private companies. Private companies are owned by the promoters (a small group of shareholders) while the publicly have shareholding by the ordinary investors also. There are several advantages and disadvantages associated with going public:

(a) *Advantages of Going Public*

Permits Diversification: As a company grows and becomes more valuable, its founders often have most of their wealth tied up in the company. By selling some of their stock in a public offering, they can diversify their holdings, thereby reducing the riskiness of their personal portfolios.

Increase's liquidity: The stock of a closely held firm is illiquid; it has no ready market. If one of the owners wants to sell some shares to raise cash, it is hard to find a ready buyer, and even if a buyer is located, there is no established price on which to base the transaction. These problems do not exist with publicly held

Facilitates raising new corporate cash: If a privately held company wants to raise cash by a sale of new stock, it must either go to its existing owners, who may not have any money or not want to put any more eggs in this particular basket, or to shop around elsewhere for wealthy investors. However, it is usually quite difficult to get outsiders to put money into a closely held company, because if the outsiders do not have voting control, inside stock holders/ managers can put them to severe disadvantages.

Discover and Establish a value for the firm: As the book value is not the real value put by any one entity will merely reflect his personal opinion, the best way is to get the valuation of the business done by the market valuation will reflect the collective opinion of all the persons who are participating in the market. The Book-building system in vogue for the purpose provides a reliable, workable mechanism for such fixation of a company's share price.

(b) *Disadvantages*

Cost of Reporting: A publicly owned company must file quarterly, semi-annual and annual reports with stock exchanges on which it is listed. These reports can be costly, especially for small firms.

Disclosure: Management may not like the idea of reporting operating data because such data will then be available to competitors. Similarly, the owners of the company may not want people to know their net worth, and since a publicly owned company must disclose the number of shares owned by its officers, directors and major shareholders, it is easy enough for anyone to multiply shares held by price per share to estimate the value of an insider's investment.

Self-Dealings: The owners/managers of closely held companies have many opportunities for various types of questionable but legal self-dealings, including the payment of high salaries, nepotism, personal transactions with the business (such as a leasing arrangement), and not-truly-necessary fringe benefits. Such insider dealings, which are often designed to minimize taxes, are much harder to arrange if a company is publicly owned.

Inactive market/low price: If the firm is small, and if its shares are not frequently traded, its stock will not really be liquid, and the market price may not be representative of the stock's true value. Security analyst and stockbrokers simply will not follow the stock, because there will just not be sufficient trading activity to generate enough sales commissions to cover the cost of following the stock.

Control: Because of the dramatic increase in tender offers, proxy fights, and institutional investor activism, the managers of publicly owned firms who do not have voting control must be concerned about maintaining control. Further, there is pressure on such managers to repeatedly generate higher profits every year, even when it might be in the shareholders' best long-term interests to adopt a strategy that sacrifices short-term earnings in favour of higher earnings in future years. Moreover, this relentless pressure to keep giving higher returns can force managers to adopt questionable practices that can one day severely damage the company's reputation.

There are five different ways of offering equity shares: Public issues, Right issues, preferential allotments, and international offerings like GDRs/ADRs.

1. **Public Issues** could be the first or the subsequent issues by the company to the general investor who may not be an existing shareholder in the company. The value of the shares held by existing shareholders could fluctuate depending upon the price at which the shares are offered to potential shareholders.
2. **Right Issue** is issued to the existing shareholders as a matter of pre-emptive right, in certain ratio relative to the existing holdings in the company. If the shareholders subscribe to their rights or sell the rights entitlement in the market, the value of the shares held by them does not change. The value changes only if the shares offered as a right are not subscribed to.
3. **Preferential Allotments** are just like public issues, with two major differences:
One, the shares are offered at prices practically at par with market prices, unlike public issues, where the issue is usually below market prices. Two, the offer is specifically targeted at a select group of individuals, whether promoters or the institutional investors.
4. **Global Depository Receipts (GDRs)** and American Depository Receipts (ADRs) issues are the same as public issues, the only difference being that the issue is offered to international investors (including FIIs) at or around market prices prevailing in the domestic markets.
5. **Bonus Issue** is an in which free shares are given to the existing shareholders in a predetermined ratio. No cash exchange takes place, and value of the shares held by the shareholders does not change.

Advantages and Disadvantages of Equity Shares

Advantages

- Equity shares do not entail fixed charges. If the company does not generate the earnings, it does not have to pay equity share dividends. This is very much in contrast to interest on debt, which must be paid regardless of the level of earnings.
- Equity shares have no fixed maturity date- it is permanent capital that does not have to be "paid back".
- Since equity shares provide a cushion against losses to the firm's creditors, the sale of equity shares increases the credit worthiness of the firm.
- Equity shares can, at times, be sold more easily than debt. They appeal to certain investor groups because (1) they typically carry a higher expected return than do preferred stock or debt, (2) provide investors with a better hedge against inflation than bonds, and (3) returns from capital gains on equity shares are not equity shares are not taxed at a lower rate.

Disadvantages

- The sale of equity shares extends voting rights, or even control, to the additional new share owners who are brought into the company. For this reason, additional equity financing is often avoided by small firms, whose owner managers may be unwilling to share control.
- The use of debt enables the firm to acquire funds at a fixed cost, whereas the use of equity shares means that more share in the firm's net profits.
- The costs of underwriting and selling equity shares are usually higher than the costs of underwriting and selling preferred shares or debt.
- The sale of the new equity shares may be perceived by investors as a negative signal hence may cause the share price to fall.

5.3.8 Hybrid Instruments

A **warrant** is a long term call option issued along with a bond or on stand alone basis. Warrants are generally detachable from the bond, and they trade separately. When warrants are exercised, the firms receive additional equity capital and the original bonds remain outstanding. Warrants are “sweeteners” that are used to make the underlying debt or preferred share issue more attractive to investors.

Fully convertible debentures (FCDs) bonds issued by corporations which are convertible into common stock not too far in to the future. In order to avoid the credit rating process, these bonds are normally converted in to common stock in less than 18 months with 6, 12 and 18 months being the normal converse periods. Rate of conversion is usually decided at the time of the issue but a price band can also be specified.

Partly convertible debentures are a combination of non convertible debentures and fully convertible debentures.

Optionally convertible debentures give an option to the debenture holder, to convert or not to convert. They usually carry an interest rate that they keep on paying if the investor decides not to convert these into equity shares because the market price of the shares is less than the conversion price.

Foreign currency convertible bonds (FCCBs) exactly like optionally convertible debentures with the difference that these are offered only to overseas investors.

Check Your Progress 1

Define the following:

1. Blue chips

.....
.....

2. Turn around stocks

.....
.....

5.4 VALUATION THEORIES OF FIXED AND VARIABLE INCOME SECURITIES

5.4.1 Three Step Valuation Process

Implicit in all rational buy-sell transactions relating to claims, goods, and services is the question. It is good real? The investor surrenders a cost (time or money) in exchange for promised benefits. Both cost and benefits leave to face uncertainty since nothing except death and taxes appear certain in this world. The basic valuation process, therefore, is a constant exercise in rationally weighing cost, benefits, and uncertainty as important variables.

The question of the valuation process following a sequence has been examined in the literature and widely the industry performance, in turn, is linked to performance of the economy and the market in general. The three sequential steps in the valuation process would, therefore, be as follows.

1. Economy analysis
 2. Industry analysis
 3. Company analysis
1. ***Economy Influences:*** All firms are parts of the overall systems known as the 'general economy' which records ups-downs. It is special to begin the valuation process with projections of the 'macro economy'. What you should grasp is the vast number of influences that affect the 'general economy'. To give only a few examples. Fiscal policy affects spending both directly and through its multiplier effects. Monetary policy affects the supply and cost of funds available to business units. Interest rates and hence required rates of return are influenced by expected inflation. Balance payments position exchange rates and hence required rates of return are influenced by expected inflation. Balance of affect the performance of the economy. A well-informed investor will first attempt to project the future course of the economy. Should he anticipate a recession he should get his cash back and say 'good bye' to new investments. If this projection indicate conditions of boom, he should select industries most likely to benefit from the expected prosperity phase.
 2. ***Industry Influences:*** All Industries are not influenced equally by changes in the economy nor are they are affected by busy cycles at just one single point of time. For example, in an international environment of peace treaties and reason cold war, profits of defence-related industries would wane economy is not likely to benefit industries subject behind the economy. Similarly, a boom or expansion of the economy is not likely to benefit industries subject foreign competition of product obsolescence. A weak firm in boom industry might prove more rewarding of leader in a weak or declining industry. Of course, the investor would continuously be through a search process that the identifies the best firms in strong industries, and narrow down his area of search for investment out.
 3. ***The General Valuation Framework:*** Most investors look at price movements in securities markets. They perceive opportunities of capital gains in movements. All would wish it they could successfully predict then and ensure their gains. Few, however, organize that value determines price and both change randomly. It would be useful for an intelligent investors to be are of this process. The present section examines this process in detail. We first present a brief outline of the evaluation model and then proceed do discuss the relationship of value with price via investor-market-action shall also recall active and passive investment strategies and finally figure out the dynamic valuation model.

5.4.2 Basic Valuation Model

Value of security is a fundamental variable and depends on its promised return, risk, and the discount rate. It may recall your basic understanding of present value concept with the mention of fundamental factor like sum and discount rate. In fact, the basic valuation model is none else than the present value procedure. Given a adjusted a discount rate and the future expected earnings flow of a security in the form of interest, dividend, earnings or cash flow, you can always determine the present value as follows:

$$PV = \frac{CF_1}{1+r} + \frac{CF_2}{(1+r)^2} + \frac{CF_3}{(1+r)^3} + \frac{CF_n}{(1+r)^n}$$

PV = Present value

CV = Cash, flow, interest, dividend, or earnings per time period upto 'n' number of periods.

R = Risk adjusted discount rate (generally the interest rate)

Expressed in the above manner, the model looks simple. But practical difficulties do make the use or model complicated. For instance, it may be quite in the fitness of this that a single value is generated. Whose does the valuation job (a professional analyst or an intelligent investor), the safest course would be work on margin of error. Thus, the value estimated may be Rs. 100 \pm Rs. 20 and not just Rs. 100 or Rs. 800 or Rs. 120 will realize that market operations would become tedious with a range of values. Secondly, return risk, and value would tend to change over time. Thus security prices may rise or fall with buying and selling pressures respective (assuming supply of securities doe not change) and this may affect capital gains and hence returns expect. Consequently, estimates of future income will have to be revised and values reworked. Similarly, the risk complete of the security may change over time. The firm may over borrow (and face operating risk) or engage in a venture (and fact operating risk). An increase in risks would raise the discount rate and lower value. It would seem to be a continuous exercise Every new information will affect values and the buying and selling pressed which keep prices in continuous motion would drive them continuously close to new values. The last part of section portrays this dynamic valuation model with ever-changing information inputs.

5.4.3 Value-Price Relationship

Present value, also known as intrinsic value or economic value. Determines price. We have said that preceding section. But how does it happen? Again, a hint to the answer for this question has been stated in foregoing paragraph. You should have noted the role of buying and selling pressures' which makes price .. towards value. Now, you would ask. 'what these pressures are and hoe do they occur?' You will briefly understand that 'investor action' in the wake of revisions of values spurs such pressures.

You would recall that investments strategies can be 'passive' or 'active'. Following this, investors and investment managers can also be broadly grouped in 'passive' and 'active' categories. You should note that buying and selling pressures dominantly originate with active investors. And they follow certain rules of the game which are:

Rule 1: Buy when value is more than price. This underlines the fact that shares are under priced and it was to be a bargain to buy now and sell when prices move up towards value.

Rule 2: Sell when value is less than price. In a situation like this, shares would be overpriced and it would be advantageous to sell them now and avoid loss when price later moves down to the level of the value.

Rule 3: Don't trade when value is equal to price. This is a state when the market price is in an equilibrium and is not expected to change.

An example would make the operation of these rules and the consequential investor action clear. Assume that the share of a hundred-per cent-export-unit (EOV) is currently trading at Rs. 80 against a face value of Rs. 100. Now the news of the company having lost a value export contract amounting to around 40 per cent of its expected total export sales of the coming year is gained by most active investors in the market. They revise the estimate of future income downward by 40 per cent and, risk, discount rate and other things remaining unchanged. Review the present value at Rs. 48 (60% of Rs. 80). Now, this takes you to rule 2 when you value it less than price more appropriately when price is more than value. One would expect a decline in price due to an adverse net affecting the present value. Active investors would begin to sell to avoid probable losses so the selling pressure would be generated and if supply of shares does not change, such a pressure would reduce price till such time that it nears the new present value viz., Rs. 48. Contrarily, take the case of a company whose share was trading at Rs. 20 (with a par of Rs. 10). Now, the alert and active investors get the news of the lifting of a 1-year-long lock-out and signing of three-wage agreement quite beneficial to management much before even media could get it. Other things including risk and discount rate remaining unchanged, analysts revise the estimates of the present value to Rs. 40 (Rs. 10 below the peak of the last year when the company was working normally). You will see the case now falling under rule 1. Investors would expect price to move up towards the next value of Rs. 40 and would immediately start buying at or around the current price of Rs. 20. This will generally create buying pressures and the price would increase if supplies of the scrip do not increase at the same time.

5.4.4 The Cootner Hypothesis

Cootner adds one more dimension to the general view of investor action and buy-sell pressures. He classified active investors further into two groups viz., 'professional investors' and 'unsophisticated investors'. The former is resourceful enough to discover news and develop estimates of intrinsic value even before the unsophisticated investors get the news. They will, therefore, be the first to commence market action the moment a value-price mismatch is discovered. 'Unsophisticated investors' including hasty speculators who act on 'hot tips' would be getting any news other than public news and will not have the skill to interpret even such public news. They were, however, active in the market but such an action would be incompatible with true changes in intrinsic value. For instance, some of them might have got retirement unfortunately, such an action may come up at a time when price is already ruling at a level lower than the intrinsic value. It is obvious that the action of unsophisticated investors could cut against the trading pressures needed to rectify the disequilibrium between value and price. It is only when their irrational action takes prices to substantial 'highs' or 'lows' that the professional investors re-enter the market and pocket enormous profits even while attempting to realign the errant prices to intrinsic values.

The figure 5.1 shows the effect of Cootner hypothesis on the valuation process.

Figure 5.1 plots prices and value on the vertical axis and time on the horizontal axis. The dotted horizontal line against Rs. 20 is the intrinsic value line and other against Rs. 25 being the lower price line. Notice price moves, one against Rs. 35 being the higher and the other against Rs. 25 being the lower price line. Notice price movements within the range

Rs. 25 – Rs. 35 and observe the two sets of movements market as phase. During phase I, the price moves beyond the intrinsic value line. This happens even when the price (Rs. 35) is more than the intrinsic value (Rs. 30). Likewise, the price moves down below the intrinsic value is phase II even when the current price (Rs. 25) is less than the true value (Rs. 30). You will readily understand from discussion in a preceding paragraph that this unusual buying and price occurs due to irrationality of unsophisticated investors. The fact, prices move aimlessly between Rs. 25 and Rs. 35. It is only when prices move significantly out of line at points L (lower bound) and H (upper bound) that the professional move into action. They begin buying after ‘L’ and selling after ‘H’ and realign the prices to the intrinsic value. In the process, the professionals get substantial profits. Generally, they would not rise into action till such time that they get worthwhile earnings out of the wanderings of the unsophisticated investors. In fact, they will be found to have erected upper and lower bounds for their action filled by counter as Upper Reflecting Barrier (URB) and Lower Reflecting Barrier (LRB) respectively. The market situation described in this part is known as the intrinsic value random-walk market or the constrained random walk. The URB and the LRB are the two constraints within which price moves randomly.

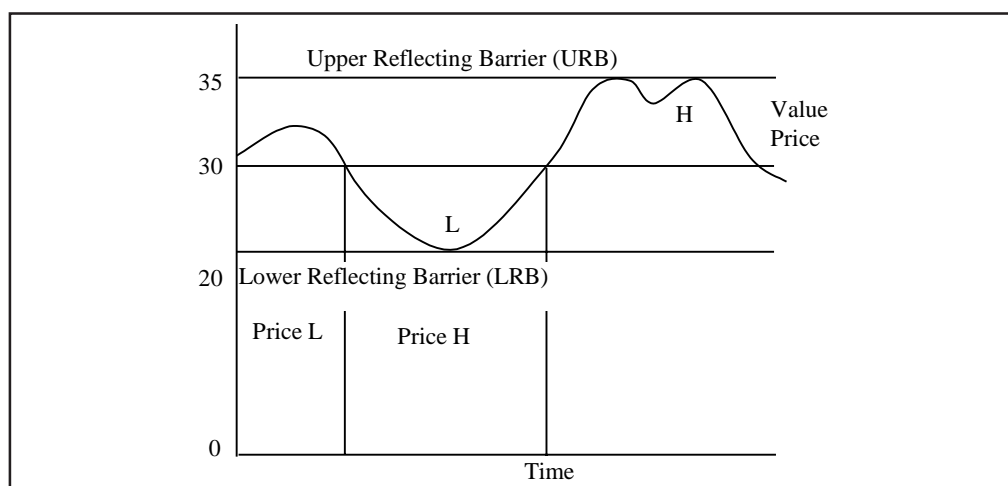


Figure 5.1: The Cootner Hypothesis

Paul Samuelson has supplemented the Cootner formulation of the valuation model by stressing the state of continuous equilibrium. Such a situation would be formed when prices adjust at high speed to values. Instantaneously adjusting prices to ‘vibrating values’ would be known as perfectly efficient prices which would be assumed to reflect all information. A security with perfectly efficient prices would be in continuous equilibrium.

Check Your Progress 2

Distinguish between professional investors and unsophisticated investors?

.....

5.5 VALUATION OF FIXED INCOME SECURITIES

Debt securities issued by governments, government and quasi-government organizations, and private business firms are fixed income securities. Bonds and debentures are the most common examples.

The intrinsic value of bond or debenture is equal to the present value of its expected cash flows. The coupon interest payments, and the principal repayment are known and the

present value is determined by discounting these future payments from the issuer at an appropriate discount rate or market yield. The usual present value calculations are made with the help of the following equation.

$$PV = \sum_{t=1}^n \frac{c}{(1+r)_t} + \frac{c}{(1+r)_n}$$

Where PV = the present value of the security today (i.e., time period zero)

C = coupons or interest payments per time period 't'

TV = the terminal value repayable at maturity ; this could be at par, premium, or even at discount (in extraordinary cases)

r = the appropriate discount rate or market yield

n = the number of years to maturity

The valuation methodology implicit in the above equation can be illustrated. Consider Rs. 1000 bond issued with a maturity of five years at par to yield 10% Interest is paid annually and the bond is newly issued. The value of the bond would be as follows.

$$\begin{aligned} PVA &= \frac{Rs.100}{1+.10} + \frac{Rs. 100}{(1+.10)^2} + \frac{Rs. 100}{(1+.10)^3} + \frac{Rs. 100}{(1+.10)^4} + \frac{Rs. 100 + Rs. 1000}{(1+.10)^5} \\ &= 100 + .90.91 + 100 \times .8264 + 100 \times .7513 + 100 \times .6830 + 1100 \times .6209 \\ &= 90.91 + 82.64 + 75.13 + 68.30 + 682.99 \\ &= 999.97 \text{ or Rs. 1000 approx.} \end{aligned}$$

You should recognize that the present value of the bond viz., Rs. 1000 estimated above is equal to the issue price because the bond was just been sold at par of Rs. 100.

Now, consider another Rs. 1000 bond B is issued ten years ago at a coupon at 6%. The bond had a maturity period of ten years and as of today, therefore, five more years are left for final repayment at par. The current discount rate is 10 per cent as before. All other characteristics of bond B are identical with bond A.

It is obvious that the present value of bond B will not be Rs. 1000 because investors will not pay this price and agree to receive Rs. 60 per year as interest for the next five years when bond a with similar characteristics provides annual interest payments of Rs. 100 for the five years. The present value of bond B will be determined.

$$\begin{aligned} PVA &= \frac{Rs.60}{1+.10} + \frac{Rs. 60}{(1+.10)^2} + \frac{Rs. 60}{(1+.10)^3} + \frac{Rs. 60}{(1+.10)^4} + \frac{Rs. 60 + Rs. 1000}{(1+.10)^5} \\ &= 60 \times .90.91 + 60 \times .8264 + 60 \times .7513 + 60 \times .6830 + 1100 \times .6209 \\ &= 54.55 + 48.59 + 45.08 + 40.98 + 657.15 \\ &= Rs. 847.35 \end{aligned}$$

You will observe that the numerator of the PV equation will be given at the time of issuance of the bond or the nature. The maturity period, timing of interest is payments, and maturity value will also be specified. What ... to be determined is the denominator of the equation viz., the discount rate. You may notice that the is with the same features. In other words, it is an opportunity cost. Thus, the discount rate incorporates the of interest rates and reflects the current market yield for the issue.

Should interest payments be semi-annual, the PV equation will have to be modified as follows: divide 'ct' both end and by multiply 'n' by 2, the resultant equation will be:

$$PV = \sum_{t=1}^{2n} \frac{ct/2}{(1+r/2)^t} + \frac{C}{(1+r/2)^{2n}}$$

Coming semi-annual payments, present values of bonds A and B the above examples can be solved as under

$$PV_A = \sum_{t=1}^{10} \frac{Rs. 50}{(1.05)^t} + \frac{1000}{(1.05)^{10}}$$

= Rs. 999.985 or Rs. 1000 approx.

$$PV_A = \sum_{t=1}^{10} \frac{Rs. 30}{(1.05)^t} + \frac{1000}{(1.05)^{10}}$$

= 845.551

5.5.1 Estimating Returns on Fixed Income Securities

Several measures of returns on bonds are available. They are the coupon rate the current yield, and the yield maturity. The coupon rate is specified at the time of issue and is all too obvious. The other two measures can discussed.

Current yield: This is calculated as follows

$$\text{Current yeild} = \frac{\text{Stated (coupon) Interest per year}}{\text{Current market price}}$$

For example, it a 15% Rs. 200 debenture is currently selling for Rs. 220, the annual current yield would be

$$\frac{Rs.30}{Rs.220} = 13.64\%$$

You must notice that the 15% debenture is currently selling for Rs. 220 because interest rates subsequently declined and debenture/bond prices move inversely with interest rates. The current yield having declined to 13.64% .. the coupon rate of 15% reflects this.

Current yield is a superior measure to coupon rate because it is based on the current market price. However, does not account for the difference between the purchase price of the bond/debenture and its maturity value.

Yield-to-maturity (YTM)

This is most widely used measure of return on fixed income securities.. It may be defined as in (promised) compounded rate of return will receive from a bond purchased at the current market and held to maturity. Computing YTM involves equating the current market price of bond with the discount value of future interest payments and the terminal principal repayment, thus YTM equates the two values. Value market price and the present value of future payments including the principal repayment. You may note that compounding intervals may be annual, semi-annual or quarterly. Equations 3(1) or 3(2), the latter being more for compounding intervals may be annual, semi-annual or quarterly used. The difference would have to be to known variables and the variable to be solved. Thus, while calculating the present value, numerator values of interest and present value. Numerator values interest and principal payments), timing of such payments, and the appropriate discount rate will be know other words, the entire left-hand side of the equation 3(1) or 3(2) will be known and you will be known and you have to solve for the right hand side variable viz., the present value. On the other hand, for calculating yield maturity, you are given the right hand side, and the timing and maturity of the numerator

values. What is not is the discount rate which is solved to equate the two sides of the equation.

Assume that an investor purchased a 15% Rs. 500 fully secured non-convertible debenture at par five year ago. The current market price of the debenture is Rs. 400 which implies increase in market interest rates subsidy to the issue of the security. Five years remain to maturity and the debenture is repaid at par. The yield-to maturity can be estimated as follows.

What is required in this case is a value of YTM which equates Rs. 400 with the sum of present values 75 per year for 5 years and of Rs. 500 receivable at the end of the fifth year. Clearly, a process of trial-and-end indicated. Several values of YTM can be tried till the equating value emerges. Trials can be started with the current with the next trial rate increased if the present value of the preceding trial exceeds the current market and vice versa. Thus, trying at 15%, the following present value of the right hand side cash flows is estimate.

$$\begin{aligned} PV_{15\%} &= \text{Rs. } 75 \text{ per annum} \times PVIF_{a.yrs.15\%} + \text{Rs. } 500 \times PVIF_{15\%.5yrs.} \\ &= \text{Rs. } 75 \times 3.3522 + \text{Rs. } 500 \times .4972 = \text{Rs. } 251.42 + 248.60 \\ &= \text{Rs. } 500.08 \end{aligned}$$

Since the PV of Rs. 500.08 exceeds Rs. 400, a higher discount rate must be tried.

$$\begin{aligned} PV_{20\%} &= \text{Rs. } 75 \times 2.9906 + \text{Rs. } 500 \times .8333 \\ &= \text{Rs. } 224.295 + \text{Rs. } 200.95 \\ &= \text{Rs. } 425.245 \end{aligned}$$

Even the second trial has failed to equate the two values. Hence, you can go over to the third trial at, say

$$\begin{aligned} PV_{24\%} &= \text{Rs. } 75 \times 2.7454 + \text{Rs. } 500 \times .3411 \\ &= \text{Rs. } 205.91 + \text{Rs. } 170.55 \\ &= \text{Rs. } 376.46 \end{aligned}$$

The third trial has lowered the present value to Rs. 376.46 which is less than Rs. 400. Hence, the required must lie between 20% and 24\$. The estimate can be obtained by interpolating, thus :

$$YTM = \frac{20\% + 425.245 - 400.00 \times (24\% - 20\%)}{425.245 - 376.46} = \frac{20\% + 25.245 \times 4\%}{48.785}$$

$$20\% + 2.07\% = 22.07\%$$

It may note that YTM calculation is similar to calculating the internal rate of return. Calculators and computers made these calculations and computers made these calculations extremely easy. You may further note that the YTM is just a promised yield and the cannot earn it unless the bond /debenture is held to maturity. And if you have to hold the security till you cannot, at the same time, sell it. Thus, there would be not trading. One significant implication of such of that the investor simply buys and holds and assumes all intermediate cash flows in the form of interest principal repayments be reinvested at YTM. In other words, the YTM concept is a compound interest concept investor earning interest-n-interest at YTM throughout the hold period till maturity. You should understand intermediate cash flows are not reinvested at YTM, the realizes yield actually earned will differ from the rate receipts are reinvested at different rates (interest being receivable semi-annually).

Coupon Interest Income (Rs.) (1)	Assumed Reinvestment(%) (2)	Interest n Interest income(Rs.) (3)	Total return (Rs.) (4)	Realized Return (%) (5)
2000	0%	0	2000	5.57
2000	5%	1370	3370	7.51
2000	8%	2751	4751	8.94
2000	9%	3352	5352	9.46
2000	10%	4040	6040*	10.00
2000	11%	4830	6830	10.56
2000	12%	5738	7738	11.14

Notes:

Vol. 1: Coupon interest @ 10% on Rs. 1000 received for 20 years semi-annually = Rs. 50x 40 periods = Rs. 2000 Interest on interest at the assumed reinvestment rate for 40 percent

Vol. 3: Co. 1 + Col. 3 + Co.4

Vol. 4: Sum of an annuity of Rs. 50 for 40 periods at 5% semi-annual reinvestment rate is thus period annuity factor = 120.80x50=Rs.6040*

Vol. 5: Realised return = (Future value per rupee invested)^{1/N-1}

$$\text{Future value per rupee invested} = \frac{\text{Total return} + \text{Cost of bond}}{\text{Cost of bond}}$$

The realized return is the compound return on semi-annual basis. For an annual basis this figure must be doubled. See table above clearly demonstrates the critical nature of the reinvestment rate assumption of YTM. You note that the realized return is equal to the YTM of 10% only when the reinvestment rate is 10%. At a payment rate of Zero (i.e., the investor consumes away all intermediate cash flows from the bond), interest-on-interest is zero and the realized return is a low 5.57% in contrast, at a reinvestment rate of 12%, the interest-on-invest us Rs. 5738 (i.e. 5738/7738 = around 75% of total return) and the realized return 11.14%

Investors must make specific assumptions about re-investment rates in order to gain ideas about realized. Zero coupon bonds eliminate the reinvestment rate risk because investors know at the time of purchase of YTM that will be realized when the bond is held to maturity.

$$\text{Approximate YTM} = \frac{\text{CouponInterest} + MP_n - MP_t}{[MP_n + MP_t]/2} \quad \text{where } MP_n \text{ is market price at } t=3$$

If maturity and MPt is market price (or cost) at beginning.

5.6 VALUATION OF PREFERENCE SHARES

Preference shares are a hybrid security. They have some features of bonds and some of equity shares. Theoretically, preference shares are considered a perpetual security but there are convertible, callable, redeemable and other similar features which enable issuers to terminate within a finite time horizon. In the case of redeemable preference shares, legal mandates require creation of redemption sinking funds and earmarked investments to ensure funds for repayments.

Preference dividends are specified like bonds. This has to be done because they rank prior to equity share for dividends. However, specification does not imply obligation,

failure to comply with which may amount to defined. Several preference issues are cumulative where dividends accumulate over time and equity dividends read clearance of preference arrears first,

Preference shares are less risky than equity because their dividends are specified and all arrears must be paid before equity holders get dividends. They are, however, more risky than bonds because the latter earn priority in payment and in liquidation. Bonds are secured also and enjoy protection of principal which is ordinarily not available to preference shares. Investors' required returns on preference shares are more than those on bonds, but less than on equity shares. In exceptional circumstances when preference shares enjoy special tax-shares (like in U.S., inter-corporate holdings of preference shares get exemption on 80% of preference dividends) required return on such shares may even be marginally below those on bonds.

Since dividends from preference shares are assumed to be perpetual payments, the intrinsic value of shares will be estimated from the following equation valid for perpetuities in general

$$VP = \frac{C}{(1 + K_p)} + \frac{C}{(1 + K_p)^2} + \dots$$

Where V_p = the value of a perpetuity today

C = the constant annual payment to be received

K_p = the required rate of return appropriate for the perpetuity

You have only to substitute preference dividend (D) for ' C ' and the appropriate required return (K_{ps}) for ' K_p ' obtain the following equation for valuing preference shares.

$$VP = \frac{D}{K_{PS}}$$

You may note that ' D ' is a perpetuity and is known and fixed forever. A perpetuity does not involve present value calculations and the equation provides for computing any of the three variables viz., value of perpetuity (V) preference dividend (D) required rate of return (K_{ps}) only if the remaining two variables are known. Thus, the value of a preference share can be calculated if the dividend per share and the required rate of return are known. Similarly, the required rate of return (or yield) can be known if the value of the perpetuity and dividend per share are known.

A hypothetical example can be used to illustrate the valuation process of a preference share. Consider for issuing preference shares of Rs. 100 each with a specified dividend of Rs. 11.5 per share. Now, if the investor required rate of return corresponding to the risk-level of firm A is 10% the value today of the share would be

$$VP = \frac{\text{Rs. } 11.50}{.10} = \text{Rs. } 115.00$$

Should the required return increase (say in the wake of rising interest rates and, in consequence the high opportunity costs) to 12%, value will be:

$$\frac{\text{Rs. } 11.50}{.12} = 95.83$$

You may note that the value changes inversely to the required rate of return.

If you are an observer of market prices, you may notice the price of any preference share on any day calculate its yield on that day using the above formula. Thus, if the current market price of the preference share question is Rs. 125.00, the required rate of return or yield can be calculated as under:

$$VP = \frac{D}{K_{PS}} \text{ or, Rs. } 125.00 = \frac{\text{Rs. } 11.50}{K_{PS}} \text{ Or, } K_{PS} \frac{125.00}{125.00} = 9.2\%$$

Thus, the yield declines after issue of the shares by 'A'. May be, interest rates declines or other changed to induce the downward shift in the yield.

You can observe price shifts over various ranges of time, say weeks, months, and years and examine causes shifts in yields of preference shares.

Valuation of Equity Shares

You have known the basic features of equity shares in Unit 1, Unit 2 introduce the risk-return complexion of securities. Calculating total return for the holding period on equity shares was also explained and illustrated in Unit 2 Factors affecting the riskiness of equity shares and other securities were also discussed in Unit 2. This .. of the present unit will on-line attention to valuation of equity shares using present value principles. The .. broad approaches to valuation viz., efficient market, technical, and fundamental will be examined in detail in check 3. However, much if what would be said and analyzed here would relate to 'fundamental approach to 'floatation equity shares'

5.6.1 Present Value of Expected Stream of Benefits from Equity Shares

Fundamental analysis is centered on present value which is computed as the discounted value of future of earnings poses two problems. One, it is neither specified (as in the case of preference shares) not states and their timing have both to be estimated in a probabilistic viz., dividends, cash flows, and earnings solution to the first problem is offered by past data which is appropriately modified for future projections. Also doing period of investors on the margin (i.e., the major players in the market who influence the pricing in the case of active strategists and 'infinity' in the case of those who follow the 'buy-and-hold' strategy' the base for determining the timing of these benefits. A major modification to past data will be premised on received growth rates of return on equities.

The second problem can also be viewed as a case of three alternative not really conflicting with each other. And question is : which cash flows are appropriate in the valuation of equity shares ? Now, if you buy equity and place them all in a trust fund for your and your heir's perpetual benefit, what cash flows will be received to fund? The answer is 'dividends' because this is the only cash distribution which a company makes to that. Even though earnings per share in any year do belong to the shareholders, companies do not distribute them all.

There is no doubt that investors who follow the 'buy-and-sell' strategy i.e., active strategists, would sell their whenever price changes are favourable. But sine, a price is the present value of future dividends investors cash flows from equity shares as a combination of dividends and a future price at which the shares can be this is equivalent to the stream of all dividends to be received on the shares.

Finally, should you regard earnings as important and use them as a measure of future benefits? Obviously. Answer 'yes'. All dividends are paid out of earnings. Moreover, a popular approach to valuation of equity down as P/E ratio uses earnings as its basis. Hence, earnings are important. Now if all earnings are paid dividends, they will be accounted for as dividends. In the event of a part of earnings being retained and dividends,

they will be accounted for as dividends. In the even of a part of earnings being retained and the effect will be to increase future earnings and finally future dividends also. Present value analysis account earnings reinvested currently and paid later as dividends. Such as risk of double counting is open 'earnings' are used as a measure of future benefits. In fact, the two can be properly defined and in which case the two variables viz., earnings and dividends would produced the same results. You would recognize that more than one present value model is possible in the case of equity shares viz., earnings how (i.e., earnings after tax plus depreciation). However, it is always correct to use dividends as the sum of the present value equation used to estimate the intrinsic value of equity shares. The present value which uses dividends as its variable representing the cash flow stream is known as the dividend valuation. This model is discussed below and is followed by a discussion of the P/E approach to equity shares situation.

5.6.2 Dividend Valuation Model

A difficult problem in using the dividend valuation model is the timing of cash flows from dividends. Since equity shares have no finite the investor must forecast all future dividends. This might imply a forecast of intently long stream of dividends. Clearly, this would be almost impossible. And to manage the problem therefore assumption are made with regard to the future grown of the dividend of the immediately precious period available sat the time and investor wants to determine the intrinsic value of his/her equity shares. The assumptions can be:

- (a) Dividends do not grow in future i.e., the constant or zero growth assumption
- (b) Dividends grow at a constant rate in future, i.e., the constant assumption
- (c) Dividends grow at varying rates in future time period i.e., multiple growth assumption.

The dividend valuation model is now discussed with these assumptions.

The Zero-growth Case: The growth rate of dividend D at time 't' will be known by solving for 'g' in the following:

$$D_t = D_{t-1} (1+g_t) \quad \dots(3.3)$$

$$\text{Or, } D_t = \frac{D_{t-1} (1+g_t)}{D_1 - 1} \quad \dots(3.4)$$

You can easily see that when $g_t = 0$, 3 equation 3.3 will yield $D_t = D_{t-1}$ which means all future dividends would equal to be current dividend (i.e., the dividend of the immediately preceding period available as on date)

Now, the present value of dividends for an infinite future period would be

$$V = \frac{D_0}{1+K} + \frac{D_1}{(1+K)^2} + \frac{D_2}{(1+K)^3} + \dots \infty$$

$$\sum_{t=1}^{\infty} \frac{D_0}{(1+K)^t}$$

Since, $D_0 = D_1 = D_2 = D_3$, under the zero-grown assumption, the numerator D_1 in equation 3.5 is replaced D_0

$$v = D \sum_{t=1}^{\infty} \frac{D_0}{(1+K)^t}$$

You will appreciate that discounting cash flows over a very distant long future period would be meaningless mathematics tells us that if $K > 0$ then the value of an infinite series like the one in equation (3.6) is reduced so that the equation (3.6) results in following

$$V_0 = \frac{D_0}{K} - \frac{1}{K_0} = D_0$$

And since $D_0 = D_1$, equation 3.7 can also be written as

$$V = \frac{D_1}{K}$$

You may recall that equation 3.8 was used for the valuation of preference shares. This is one case for application of the zero-growth assumption.

The calculation underlying the zero-growth model can be illustrated. Consider a preference share on which the company expects to pay a cash dividend of Rs.9 per shares for an indefinite future period. The required rate return is 10% and the current market price is Rs. 80.00. Would you buy the share at its current price?

This is a zero-growth case because the dividend per share remains Rs.9 for all future time periods. You find the intrinsic value of the share using equation 3.7 or 3.8 as follows.

$$V = \frac{\text{Rs. } 900}{10} = \text{Rs. } 90$$

The intrinsic value of Rs. 90 is more than the market price of Rs. 80. You would consider buying the share.

Constant Growth Case : when dividends flow in all future periods at a uniform rate 'g'

$$D_t = D_1 (1+g)^t \quad \dots(3.9)$$

Substituting ' D_0 ' in equation 3.5 by the value of D_1 in equation 3.9, we get

$$v = D_1 \sum_{t=0}^{\infty} \frac{(1+g)^t}{(1+K)^t} \quad \dots(3.10)$$

For a constant amount ' D_0 ' can be written out of summation to obtain the following question

$$v = D_0 \sum_{t=0}^{\infty} \frac{(1+g)^t}{(1+K)^t} \quad \dots(3.11)$$

Constant amount, ' D_0 ' can be written out of summation to obtain the following equation

$$\sum_{t=0}^{\infty} \frac{(1+g)^t}{(1+K)^t} = \frac{1+g}{K-g} \quad \dots(3.12)$$

Substituting mathematical properties of infinite series, if $K > g$, then it can be shown that

$$V = \frac{D_0 (1+g)}{(K-g)} \quad \dots(3.13)$$

Equation 3.13 can be re-written as follows:

$$V = \frac{D_0 (1+g)}{(K-g)} = \frac{D_1}{K-g} \quad \dots(3.14)$$

Example: Alfa Ltd., paid a dividend of Rs. 2.00 per share for the year ending March 31, 1991. A constant growth of 10% income has been forecast for an indefinite future period. Investors required rate of return has been estimated to 15%. You want to buy the share at a market price quoted on July 1, 1991 in the stock market at Rs. 60.00 that would be your decision?

Solution: This is a case of constant-growth-rate situation. Equation 3.14 can be used to find out the intrinsic value of the equity share as under

$$V = \frac{D_1}{(K-g)} = \frac{\text{Rs. } 2(1.10)}{.15-.10} = \frac{\text{Rs. } 2.20}{.05} = \text{Rs. } 44.00 \quad \dots(3.13)$$

The intrinsic value of Rs. 44 is less than the market price of Rs. 60.00. Hence, the share is overvalued and you could not buy.

The Multiple-Growth Case: The multiple-growth assumption has to be made in a vast number of practical situations. The infinite future period is viewed as divisible into two or more different growth segments. The investor must forecast the time to which growth would be variable and after which only the growth rate would show a pattern and would be constant. This would mean that present value calculations will have to be spread over two phases viz., one phase would last until time 'T' and other would begin after 'T' in infinity.

The present value of all dividends forecast upto and including time 'T' $V_{T(i)}$ would be

$$V_{T(i)} = \sum_{t=1}^T \frac{D_t}{(1+K)^t} \quad \dots(3.14)$$

The second phase present value is denoted by $V_{T(2)}$ and would be based on constant-growth dividend forecast after time 'T'. The position of the investor at time 'T' after which the second phase commences is viewed as a point in time when he is forecasting a stream of dividends for time periods $T+1$, $T+2$, $T+3$ and on which grow at a constant rate. The second phase dividends would

$$\begin{aligned} D_{T+1} &= D_T (1+g) \\ D_{T+2} &= D_{T+1} (1+g) = D_T (1+g)^2 \\ D_{T+3} &= D_{T+2} (1+g) = D_T (1+g)^3 \end{aligned} \quad \dots(3.15)$$

And so on. The present value of the second phase stream of dividends can, therefore, be estimated using equation 3.14 and at time 'T'

$$V_T = D_{T+1} \frac{1}{(K-g)} \quad \dots(3.16)$$

You may note ' V_T ' given by equation 3.16 is the present value at time 'T' of all future expected dividends. Hence, when this value has to be viewed at time 'zero' it must be discounted to provide the present value at time for the second phase present value. The latter can also be viewed at time 'zero' as a series of each dividend that grows at a constant rate as already stated. The resulting second phase value $V_{T(2)}$ will be given following.

$$V_{T(2)} = V_T \frac{1}{(1+K)^T} \quad \dots(3.16)$$

$$V_{T(2)} = V_{T+1} \frac{D_{T+1}}{(K-g)(1+K)^T}$$

Now, the two present values of phase 1 and 2 can be added to estimate the intrinsic value of an equal that will pass through a multiple growth situation. The following describes the summation of the two phase.

$$V_{T(2)} = V_{T(1)} + V_{T(2)}$$

$$\sum_{t=1}^T \frac{D_t}{(1+K)^t} + \frac{D_{T+1}}{(K-g)(1+K)^T}$$

Example: Cronecom Ltd., paid dividends amounting to Rs. 0.75 per share during the last year. The company is to pay Rs. 2.00 per share during the next year. Investors forecast a dividend of Rs. 3.00 per share in the year that. At this time, the forecast is that dividends will grow at 10% per year into an indefinite future. Would sell the share if the current price is Rs. 54.00? The required rate of return is 15%.

Solution: This is a case of multiple growth. Growth rates for the first phase must be worked out and the time between the two phases established. It is clear that 'T' = 2 years. Hence, this becomes the time-partition rates before 'T' are:

$$g_1 = \frac{D_1 - D_0}{D_0} = \frac{\text{Rs. } 2.00 - \text{Rs. } 0.75}{\text{Rs. } 0.75} = 167\%$$

$$g_2 = \frac{D_2 - D_1}{D_1} = \frac{\text{Rs. } 3.00 - \text{Rs. } 2.00}{\text{Rs. } 2.00} = 50\%$$

The values $V_{T(1)} + V_{T(2)}$ can be calculated as follows:

$$V_{T(1)} = \frac{\text{Rs. } 2.0}{(1+0.15)^1} + \frac{\text{Rs. } 3.0}{(1+0.15)^2} = \text{Rs. } 4.01$$

$$V_{T(2)} = \frac{\text{Rs. } 3.30}{(0.15+0.10)^1} + \frac{\text{Rs. } 49.91}{(1+0.15)^2}$$

Since $V_0 = V_{T(1)} + V_{T(2)}$ the two values can be summed to find the intrinsic value of a Cronecon equity share time 'zero'. This is given below:

$$V_0 = \text{Rs. } 4.01 + \text{Rs. } 49.91 = \text{Rs. } 53.92$$

At the current price of Rs. 54.00, the share is fairly priced and hence you won't trade.

5.6.3 P/E Approach to Equity Valuation

The first step here consists of estimating future earning per share. Next, the normal price-earnings ratio will be used. Product of these two estimates will give the expected price. For a single year holding period with D_1 as expected dividends in the coming year, the expected return of an investor can be found as under.

$$\text{Expected Return} = \frac{D_1 (P_1 - P)}{P}$$

Stagnating normal price- earning ratio is central to the P/E approach for valuing equity shares. The procedure has been described in the following paragraphs.

You may go back to equation 3.5 and introduce the earnings variable in it by expressing.

$$D_t = p_1 \cdot E_t \quad \dots(3.20)$$

Where P_1 = pay-out ratio, and E_t = earnings per share in time 't' so, if you fore case earnings per share and layout ratio you have in fact forecast dividends per share. Now, use equation 3.20 to restore equation 3.5 where will be replaced by $p_1 E_t$ as follows

$$\begin{aligned} V_0 &= \frac{D_1}{1+K} + \frac{D_1}{(1+K)^2} + \frac{D_1}{(1+K)^3} + \dots \\ &= \frac{p_1 E_1}{1+K} + \frac{p_2 E_2}{(1+K)^2} + \frac{p_3 E_3}{(1+K)^3} \\ &= \sum_{t=1}^{\infty} \frac{p_t E_t}{(1+K)^t} \quad \dots(3.21) \end{aligned}$$

Now, if earnings like dividends also grow at a rate 'ge' in future time periods as

$$E_t = E_{t-1} (1+g_{et})$$

And which would also imply that

$$\begin{aligned} E_1 &= E_{t-1} (1+g_{et}) \\ E_2 &= E_1 (1+g_{e1}) = E_0 (1+g_{e1}) (1+g_{e2}) \\ E_3 &= E_2 (1+g_{e3}) = E_0 (1+g_{e3}) (1+g_{e3}) \end{aligned}$$

and so on where E_0 is the actual level of earnings per share over the past year, E_1 is the expected level of earnings per share for the year after E_1 and E_2 is expected level of earnings per share for the year after E_2 .

Substituting these equation in equation 3.21, we get

$$V = \frac{p_1 [E_0 (1+g_{e1})]}{1+K} + \frac{p_2 [E_0 (1+g_{e1})]}{(1+K)^2} + \frac{p_3 [E_0 (1+g_{e2}) + (1+g_{e3})]}{(1+K)^3} \quad \dots(3.23)$$

now you may recall that 'V' is the intrinsic value or the price at which the share would selling if it were priced. Them, V/E_0 would be the price-earnings ratio that must prevail if the share were fairly priced. In other was V/E_0 would be the normal price-earnings ratio. To obtain a normal price-earnings ratio from equation 3.23, did both sides of the equation by E_0 and simplify. The resultant equation would be

$$V = \frac{p_1 (1+g_{e1})}{1+K} + \frac{p_2 (1+g_{e2}) + (1+g_{e2})}{(1+K)^2} + \frac{p_3 (1+g_{e1}) + (1+g_{e2})}{(1+K)^3} \quad \dots(3.24)$$

You can now interpret equation 3.25 to show that a share's normal price-earnings ratio will be higher:

(g_{e1} , g_{e1} , g_{e1} ,.....); the smaller the required rate of return (K).

The above relationships are qualified by the phrase 'other things being equal' which means hat change variables. For example, the normal price earnings ratio would increase with increase with increase in payout ratio but no company can ever achieve this result

on concentrating on an increase in the payout ratio. What happens with an increased payout ratio is a corresponding decrease in reinvestment of earnings and consequently a diminution in the growth rate, increased payout would be neutralized by decreased growth so on. Consequently, intrinsic value and hence the normal price-earnings will not increase.

Two further points need to be noted with regard to normal price-earnings ratios. First, a share would be underpriced if its normal price-earnings ratio (V/E_0) exceeds the actual price-earnings ratio (P/E_0) and would be overpriced when the normal price-earnings ratio is less than the actual price-earnings ratio. This is directly defined from the intrinsic value-market price rule already stated. Both intrinsic value and market price are divided by constant viz., E_0 and the new rule obtained. Second, equation 24 based on the infinite series of dividends in the growth situations, the equations can be derived as follows:

$$\text{The Constant Growth Situation: } V = \frac{P}{E_0} \frac{1+g}{K-g} \quad \dots(3.25)$$

$$\text{Zero Growth Situation} = \frac{V}{E_0} = \frac{1}{K}$$

Example:

Zeta Ltd., is paying dividends on its equity shares at Rs. 8 per share and expects to pay it for an undefined long period in future. The equity share currently sells for Rs. 65 and investor's required rate of return is 10. Determine if the Zeta share is fairly priced using P/E approach valuation.

Solution:

This is a zero-growth case and the normal price-earnings ratio can be found as under

$$\frac{V}{E_0} = \frac{1}{K} = \frac{1}{.10} = 10$$

The actual price earnings ratio = $P/E = \text{Rs. } 65/\text{Rs. } 8 = 8.1$. Since the normal price-earnings ratio of 10 is more than the actual price-earnings ratio of 8.1, the share at Rs. 65.0 is underpriced.

Now, assume the Zeta paid a dividend of Rs. 1.80 per share over the past year and the forecast that it would grow at 5 per cent per annum for ever. The required rate of return is 11% and the current market price is Rs. 40 per share. Using P/E approach, determine if the Zeta share is fairly priced. E_0 may be taken as Rs. 2.70.

This is a constant growth case. The normal price earnings ratio (V/E_0) can be

$$\begin{aligned} \frac{V}{E_0} &= P = \frac{1+g}{K-g} \\ &= 1.80/2.70 \times \frac{1+.05}{.11-.05} \\ &= .6667 \times \frac{1.05}{.05} = 11.67 \end{aligned}$$

$$\frac{P}{E_0} = \frac{\text{Rs. } 40.00}{2.70} = 14.81$$

$$\text{Since } \frac{V}{E_0} = 11.67 < \frac{P}{E_0} = 14.81$$

5.6.4 Fixed Income Investments

Fixed income securities consist of Government securities, corporate securities and PSU bonds. Securities issued by the central government, state governments, semi-government authorities, autonomous institutions like part trusts, electricity boards, public sector financial institutions and other Public sector units are broadly known as Gilt-edged securities. Gilt-edged securities include Treasury bills and Dated securities.

Treasury bills are the short term securities issued by the Central government having maturity periods of 91, 182 and 364 days. Of late, the 91 and 364 days Treasury bills are commonly issued by the government. Typically, the Treasury bills do not carry any coupon rate but are sold at a discount. The difference between the face value and the discounted value constitutes the income to the investor. The discount rates on Treasury bills are low and hence the rates of return offered by the bills is not very attractive. Most of the buyers of Treasury bills are Banks who purchase them to satisfy the liquidity requirements. Other buyers include institutional investors and provident funds. Individual investor interest in Treasury bills is almost zero. Treasury bills are the safest and hence the return is low. Central government also issues Ad-hoc Treasury bills to meet its short-term resource requirements. These bills are taken up by the RBI and hence are not available to other buyers. The Finance Minister. In his 1995 budget speech, announced that government borrowing from the RBI through Ad-hoc Treasury bills would be gradually stopped.

Dated government securities have a maturity period longer than one year and carry a fixed coupon rate. Interest is generally paid semi-annually through encashable coupons. These securities may be issued at par or below par but are redeemed at par. The dated securities are either in the form of promissory notes or in the form of stock certificates. While the government promissory notes are negotiable freely by a simple endorsement, the stock certificates are transferable only through transfer deed, copies of which should be filed with the RBI. RBI will make appropriate entries in its books and issue a new certificate to the transferee. The Secondary market for government securities is very narrow and the major individual investor interest in these securities is very low on account of largeness of the size of each transaction. The rates of return on dated government securities is higher than that on treasury bills and the only risks are the risk of unexpected inflation and the interest rate risk.

Semi-government dated securities are those issued by Government undertaking and guaranteed by the Central/state governments. These are promissory notes and are similar to the government dated securities in all respects. They carry a slightly higher rate of interest than dated government securities. The risks involved in these securities are the risk of unexpected inflation, interest rate risk and a possible default risk.

Corporate securities, excluding equity shares, consist of Debentures and Commercial paper (CP). The latter is more like a Treasury bill (no coupon rate and issued at a discount to the face value) and is raised by the corporate to meet their working capital needs. Transactions in CP are limited to a small set of players like banks and financial institutions. Common investors are not interested in CP.

Corporate decisions of issuing CPs should have a minimum net worth of Rs. 5 crores and should get the CP credit rates. Further, the company should be a listed company and should maintain a current ratio of 1.33 :1. The CPs can be issued for a term of 3 to 6 months and should be of a minimum size of Rs. 50 lakhs. The CPs should be issued in trading lots of Rs. 5 lakhs each.

Corporate Debentures are the promissory notes issued by the companies in the private sector. These debentures have a maturity period of 7 to 10 years. They carry a fixed

coupon rate and may be issued at par or below par. They may be redeemed at a par or above par. Debentures are issued to the investing public subject to the conditions laid down in the agreement, between the company and the debenture holders. Called the Indenture. A public trustee is appointed to ensure that the interests of the debenture holders are not compromised by the corporates. However, in case the debentures are privately placed, an Indenture is not created and no trustee is appointed. Prior to 1991, the interest rates of corporate debentures were regulated with a ceiling on coupon rates of 12.5% for the Convertible Debentures and 14% for the Non-convertible debentures. In July 1991, the government removed all restriction on interest rates. Debentures can be classified as follows.

- (i) **On the basis of Security:** Secured debentures and unsecured debentures. Unsecured debentures, called Naked debentures, are not permitted to be issued by the corporates. Secured debentures carry a fixed or floating charge on the assets of the corporate.
- (ii) **On the basis of transferability:** Registered or Unregistered debentures. Registered debentures can be transferred only through a transfer deed which has to be registered with the company and stamp duty is payable at the transfer. Stamp duty varies from state to state. Unregistered debentures are bearer bonds which can be freely transferred by a mere endorsement. There is not need for a transfer deed and hence no stamp duty. However, Unregistered debentures are not issued because of many practical problems.
- (iii) **On the basis of redeemability:** Redeemable and unredeemable debentures. Redeemable debentures are those repayable after a fixed maturity period or by annual installments. The unredeemable debentures are those that are not redeemed till the company is liquidated. At present they are not issued by the corporates.
- (iv) **On the basis of convertibility:** Convertible and non-convertible, debentures. Convertible debentures are in turn classified into two types – Fully convertible and partly convertible debentures. Fully convertible debentures are converted into equity shares on a specified date or dates at a specified price. The conversion ratio, conversion price and the period when conversion option could be exercised and indicated in the offer document. Conversion of debentures into equity shares is optional to the investor but not compulsory. Partly convertible debentures have two portions – the convertible portion and the non-convertible portion. While the convertible portion is convertible into equity shares at the option of the investor, the non-convertible portion carries fixed interest and is redeemable after the maturity period. The non-convertible portion, called 'khokha'. Traded in the secondary market like any other non-convertible debentures. Non-convertible debentures (NCI), on the other hand do not carry any option for conversion into equity shares. These NCI generally carry a coupon rate of 14-17% and a much higher effect current yield. NCDs are traded in the secondary market at a discount because of which the effective yield will be higher than the coupon rates. For example ; If a NCD of a Face value of Rs. 100 carrying coupon rate of 15% is traded at Rs. 80 in the secondary market- the nominal interest for one year will be Rs. 15. if an investor buys the NCD in the market at Rs. 80, his current yield will be

$$\frac{\text{Nominal interest}}{\text{Current price}} = \frac{15}{80} = 0.1875 \text{ i.e., } 18.75$$

The corporate debentures are affected by such risk factors as the inflation risk, interest rate risk and default risk. They are also subject to certain degree of liquidity risk. In spite

of several attractive features of debentures, the secondary market in corporate debentures has remained out of bounds for individual investors. At present the market is dominated by the institutional investors. At present the market is dominated by the institutional investors but of late it is getting broad based with the commencement of trading in corporate debentures in the National Stock Exchange and the OTCEI. Another interesting features that is emerging is to attach 'Equity Warrants' as sweeteners to the NCDs at the time of issue. These warrants can be converted into equity shares at a predetermined time and pre-set price. Some corporate have started innovative practices in designing debt instruments; most prominent among them are the 'Zero Coupon Bonds', 'Zero Coupon Convertible Bonds' and 'Deep Discount Bonds'. Zero coupon bond is a debenture without any coupon rate and is issued at a discount to the face value. After the maturity period, the face value of the instrument is paid to the investor. These bonds take care of Re-investment risk because the interest earned is deemed to be reinvested. When the zero coupon bonds come with the option of conversion into equity shares they are called the Zero Coupon Convertible bonds. Deep discount bonds, for example, the bond issued by the IDBI in 1992, are similar to Zero coupon bonds except that they have a very long maturity period such as 15 to 25 years.

Sometimes debentures are issued by the corporates with a call option embedded into them. Such debentures can be called for redemption by the corporate at a specified price before the maturity date.

The prices of bonds changes to reflect interest rate movements. For example, if there is an increase in interest rates, the current yield can remain constant only if the market price of the debentures goes down. In case interest rates were to decline the market values of the securities appreciates so that the investor would continue to get current yield. This leads to capital gains or loss even on debt securities as prices move up or down in relation to changes in interest rates. Hence, the concept of Yield To Maturity takes into account not only current yield but also capital appreciation on the residual life of security.

Advantages of Fixed Income Securities

1. Source of relatively safe regular income.
2. Legally binding agreement to pay interest and principal.
3. Generally secured by the assets of the issuing company.
4. If a fund is created for redeeming the bonds, like Debenture Redemption Fund, there is an assurance of timely repayment of interest and principal.
5. Bonds that can be converted into equity shares have built-in potential for capital gains.
6. Comparatively less volatile in price fluctuation.
7. Many bonds issued by the government, public sector companies and other companies are eligible for tax concessions.
8. Act as better collateral for borrowing purposes.
9. The degree of risk involved can be evaluated by independent professional rating agencies before the issue. Hence the investor can ascertain whether the investment is safe or not. Periodical review by the Rating agency affords investor protection.

5.7 GOVERNMENT SECURITIES

Government Securities (G. Secs) or gilts are sovereign securities, which are issued by the Reserve Bank of India (RBI) on behalf of the Government of India (GOI). The GOI uses these funds to meet its expenditure commitments.

5.7.1 Treasury Bills

Treasury bills are short-term money market instruments, which are issued by the RBI on behalf of the GOI. The GOI uses these funds to meet its short-term financial requirements of the government. The salient features of T-Bills are:

- These are zero coupon bonds, which are issued at discount to face value and are redeemed at par.
- No tax is deducted at source and there is minimal default risk.
- The maximum tenure of these securities is one year.

Different Types of Government Securities

Following are the different types of government securities:

Dated securities: These securities generally carry a fixed coupon (interest) rate and have a fixed maturity period, e.g. an 11.40% GOI 2008 G.Sec. In this case 11.40% is the coupon rate and it is maturing in the year 2008. The salient features of Dated Securities are:

- These are issued at the face value.
- The rate of interest and tenure of the security is fixed at the time of issuance and does not change till maturity.
- The interest payment is made on half yearly rest.
- On maturity the security is redeemed at face value.

Zero coupon bonds: These securities are issued at a discount to the face value and redeemed at par, i.e. they are issued at below face value and redeemed at face value. The salient features of Zero Coupon Bonds are:

- The tenure of these securities is fixed.
- No interest is paid on these securities.
- The return on these securities is a function of time and the discount to face value.

Partly Paid Stock: In these securities the payment of principal is made in installments over a given period of time. The salient features of Partly Paid Stock are:

- These types of securities are issued at face value and the principal amount is paid in installments over a period of time.
- The rate of interest and tenure of the security is fixed at the time of issuance and does not change till maturity.
- The interest payment is made on half yearly rest.
- These are redeemed at par on maturity.

Floating Rate Bonds: These types of securities have a variable interest rate, which is calculated as a fixed percentage over a benchmark rate. The interest rate on these

securities changes in sync with the benchmark rate. The salient features of Floating Rate Bonds are:

- These are issued at the face value.
- The interest rate is fixed as a percentage over a predefined benchmark rate. The benchmark rate may be a bank rate, Treasury bill rate etc.
- The interest payment is made on half yearly rests.
- The security is redeemed at par on maturity, which is fixed.

Capital indexed bonds: These securities carry an interest rate, which is calculated as a fixed percentage over the wholesale price index. The salient features of Capital Indexed Bonds are:

- These securities are issued at face value.
- The interest rate changes according to the change in the Wholesale price index, as the interest rate is fixed as a percentage over the wholesale price index.
- The maturity of these securities is fixed and the interest is payable on half yearly rests.
- The principal redemption is linked to the Wholesale price index.

Investing in Government Securities

Entities registered in India including banks, financial institutions, Primary Dealers, Partnership firms, Institutions, Mutual funds, Foreign Institutional Investors, State governments, Provident Funds, Trusts, Research organizations, Nepal Rashtra Bank and individuals can invest in government securities.

5.7.2 Advantages and Disadvantages of Investing in Gilts

Advantages

1. The main advantage of investing in G-secs is that there is a minimal default risk, as the instrument is issued by the GOI.
2. G-Secs, especially dated securities, offer investors the opportunity to invest in very long term debt (at times with maturity over 20 years), which is usually not available from the private sector.
3. Although some issues of G-secs tend to be illiquid, there is adequate liquidity in most other issues. Infact, buying and selling from/to a primary dealer can take care of the liquidity risk.

Disadvantages

The main disadvantage of investing in G-secs is the same as in the case of investing in any other debt instrument i.e. possibility of higher interest rates and inflation. While higher interest rates will lead to an erosion in value of the bond, a rise in inflation will eat into the real return (though this can be taken care of by buying capital indexed bonds for example).

5.7.3 Tax Benefits by Investing in Gilts

There is no tax deducted at source and the investor can avail tax benefit u/s 80L i.e. Rs 3,000/-

Minimum Amount for Investing in Gilts: The minimum amount for investing in gilts varies depending on the primary dealer e.g. In case of DBI Capital markets who is a primary dealer the minimum amount for investing in gilts is Rs 10,000/-.

Hold these Instruments in a Demat Form: Reserve Bank of India maintains a Subsidiary General Ledger (SGL) Account for holding and trading gilts and treasury bills in dematerialised form. Banks and Primary dealers are allowed to open SGL accounts with RBI. These primary dealers in turn are permitted to offer the facility of Constituent SGL account to other non bank clients to hold these securities in a demat form.

What are Gilt Accounts?: Accounts maintained by investors with the Primary dealers for holding their Government securities and Treasury bills in the demat form are known as Gilt accounts. The salient features of Gilt accounts are:

- It is like a bank, which debits or credits the holders account on withdrawal or deposit of the money. Similarly in a gilt account the holder's account is debited or credited on the sale or purchase of the securities.
- The account holder receives a statement at periodic intervals showing the balance of securities in his account.
- All the securities are maintained in demat mode, which can be converted into physical mode whenever required by the gilt account holder.

5.7.4 Commonly Used Terms

Coupon rate: Every government security carries a coupon rate also called as interest rate, which is fixed. e.g. 12.00% GOI 2008 where 12.00% is the coupon rate payable on the face value which is maturing in the year 2008.

Face value: The par value of the security. (The issue price may be at a discount or a premium to the par value).

Current price: As these G-secs are traded in the secondary market the price of these G-secs fluctuates according to the demand/supply in the market for that security. The current price is the prevailing price in the secondary market.

Wholesale price index: A wholesale price index is an index of prices of select commodities. The percentage in the index reflects the inflation/deflation.

Primary dealer: Primary dealer is an intermediary who buys and sells government securities and treasury bills. He is authorised by the RBI.

Secondary market: Like the stock market where stocks are traded there is a secondary market where the debt instruments like gilts, bonds and treasury bill can be bought and sold.

Yield: Yield is the actual return on the investments. There are different types of yield

- **Coupon yield:** Coupon yield is the fixed interest rate on a government security or bond e.g. 12.00% GOI 2008 where 12.00% is the coupon yield. This yield does not reflect the change in the interest rate, inflation rate or any other economic factor.
- **Current yield:** Current yield is the return on the government security or bond depending on its purchase price. e.g. An investor 'A' purchases 12.00% GOI 2008 at Rs 100 and another investor 'B' purchases the same instrument at Rs 110. The current yield of investor 'A' will be =12.00%. The current yield of investor 'B' will be =10.91%.

- **Yield to Maturity (YTM):** Yield to maturity is the discount rate that equates present value of all the cash inflows to the cost price of the government security or bond. This is actually the Internal Rate of Return (IRR) of the government security or bond.

Check Your Progress 3

What are the salient features of treasury-bills (T-bills)?

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5.8 NON-SECURITY FORM OF INVESTMENT

There are a large number of Non-security forms of financial asset that are available to investors in India. As stated earlier, these are more in the nature of savings of individuals and households, particularly for the benefit of small saver. These investments are guided more by conveniences safety and tax benefits rather than a strong desire to earn a very attractive rate of return. Most of the investments are illiquid but are general accepted as good collateral for borrowing from banks. The following table describes the main features of these investments.

Table 5.1: Non-Security Forms of Investment Avenues

S.No.	Name of Investment	Rate of interest per annum	Term	Income tax deduction
1.	Bank Deposits			
	Savings bank a/c	5%	short	u/s 80L
	Fixed/Recurring deposits	9-12%	medium	u/s 80L
2.	Post Office Schemes			
	P.O.Savings bank	5.5%	short	tax free
	Public Provident fund	12%	long	sec.88 rebate + int.tax free
	Recurring deposits	11%	long	sec.80L
	Time deposits	9-11%	long	sec.80L
	Monthly income scheme	13%		sec.80L
	NSS	11%	long	sec.88 rebate + sec.80L
3.	Small savings Certificates			
	NSC	12%	long	sec.88,sec.80L
4.	UTI/Mutual Funds			
	US 64	variable	long	sec.80L
	Units of Mutual Funds	variable	long	sec.80L
	ELSS	variable	long	sec.88+sec.80L
5.	Others			
	Life Insurance Policy	variable		
	Premium	bonus	long	sec.88

Other Form of Non Marketable Securities

- Bank Deposits
- Post Office Time Deposits (POTDS)
- Monthly Income Scheme of the Post Office (MISPO)
- Kisan Vikas Patra (KVP)
- National Savings Certificate
- Company Deposits
- Employees Provident Fund Scheme
- Public Provident Fund Scheme

5.9 REAL ESTATE INVESTMENT

Real estate has historically been useful in a portfolio for both income and capital gains. Home ownership, in itself, is a form of equity investment, as is the ownership of a second or vacation home, since these properties generally appreciate in value. Other types of real estate, such as residential and commercial rental property, can create income streams as well as potential long-term capital gains.

Real Estate investments can be made directly, with a purchase in your own name or through investments in limited partnerships, mutual funds, or *Real Estate Investment Trusts* (REIT). REIT is a company organized to invest in real estate. Shares are generally traded in the organized exchanges.

Also, there are many kinds of investment investments. Some are very speculative while others are more conservative. The major classifications are:

- Residential House
- Sources of Housing Finance
- Features of Housing Loans
- Guidelines for Buying a Flat
- Commercial Property
- Agricultural Land
- Suburban Land
- Time Share in a Holiday Resort
- Unimproved land
- Improved Real Estate
- New and used residential property
- Vacation homes
- Low income housing
- Certified historic rehab structures
- Other income-producing real estate such as office buildings, shopping centers and industrial or commercial properties
- Mortgages such as through certificates packaged and sold through entities

Advantages

1. The potential for high return in real estate exists due, in part to the frequent use of financial leverage. Financial leverage is the use of borrowed funds, as in a long-term mortgage, to try to increase the rate of return that can be earned on the investment. When the cost of borrowing is less than what can be earned on the investment, it is considered “favorable” leverage, but when the reverse is true, it is considered “unfavorable” leverage.
2. There are potential tax advantages in real estate, as well. First, for personal use residential property, there is the opportunity to deduct interest paid (first and second homes, within limitations) There may also be a deductions for property taxes. If the property is income-producing, other expenses may be deductible, as well, such as depreciation, insurance, and repairs. Also real estate can be traded or exchanged for like-kind property on a tax-free basis. And, lastly, if the sale of investment real estate results in a profit, the gain is normally a capital gain. (Note: Real estate investment was dealt a blow under the Tax Reform Act of 1986, and the related rules are somewhat complex, as it relates to passive business activities, so your tax adviser should be consulted concerning any tax implications for your specific situation.)
3. Some consider real estate a good hedge against inflation.
4. Good quality carefully-selected income property will generally produce a positive cash flow.
5. As a real estate owner, you may be in a position to take your gains from real estate through refinancing the property without having to sell the property, therein triggering a taxable capital gain. Real estate is advantageous, in this respect because good quality properties can be used to secure mortgage loans up to a relatively high percentage of current value.

Disadvantages

1. There is generally limited marketability in real estate (depending on the nature and location of the property.)
2. There is also a lack of liquidity, in that there is no guarantee that the property can be disposed of at its original value, especially if it must be done within short period of time.
3. A relatively large initial investment often is required to buy real estate.
4. If ownership in investment property is held directly by the investor, there are many “hands-on” management duties that must be performed.
5. Real estate is often considered high risk because it is fixed in location and character. It is particularly vulnerable to economic fluctuations such as interest rate changes and/or recession.
6. The Tax Reform Act of 1986 eliminated many of the previously –available tax advantages relating to real estate.

Check Your Progress 4

State whether the following statements are true or false:

1. Financial analysis is the informative and predictive function in investing.
2. Investment decisions can best be viewed as an integrated process to which security analysis makes its unique contribution.
3. Discount stocks are those, which are quoted or valued below their face values.
4. Cyclical stocks are companies whose earnings fluctuate with the business cycle.
5. A company that pays a large dividend relative to the market price is called an income stock.

5.10 INVESTMENT INSTRUMENTS OF THE MONEY MARKET

A money market is a mechanism which makes it possible for borrowers and lenders to come together. Essentially it refers to a market for short term funds. It meets the short term requirements of the borrowers and provides liquidity of cash to the lenders.

Money market is the market in which short term funds are borrowed and lent. The money market does not deal in cash or money but in trade bills, promissory notes and government papers which are drawn for short periods. These short term bills are known as near money.

5.10.1 Importance of Money Market

- Dealing in bills of exchange and commercial papers
- Acting as an outlet for the excess short term funds of commercial banks
- Dealing in treasury bills and short dated government securities
- Guiding central banking policies
- Making central banking policies effective
- Reduction of disparities in interest rates
- Influencing the capital market

5.10.2 Features of a Developed Money Market

- Existence of a efficient and effective central bank
- Well organized commercial banking system
- Existence of specialized sectors
- Free flow of funds between the various sub markets
- Adequate facilities for transfer of funds
- Uniformity in interest rates
- Availability of ample funds
- Availability of ample short term credit instruments
- Sensitiveness to internal and external events
- Existence of specialized financial institutions

Features and Weakness of Indian Money Market

- Existence of unorganized money market
- Absence of integration
- Diversity in money rates of interests
- Seasonal stringency of money
- Highly volatile call money market
- Absence of the bill market
- Absence of well organized banking system
- Availability of credit investments

5.10.3 Reserve Bank of India and the Indian Money Market

At the head of the structure of the money market is the RBI which controls and regulates this market through discount and finance house of India (DFHI). The control extends to all those operating in the call money market mostly financial institutions, banks and mutual funds.

Discount and Finance House of India (DFHI)

The RBI is the leader and controller of money market and to perform these functions on her behalf, the DFHI was designed. The DFHI was set up by the RBI in April 1988 with a paid up capital of Rs 100 crores. Oversee and supervise the money market operations. Operate and intervene through the bid and offer rates in the interbank market, treasury bill market, discount and rediscount of treasury bills, short-term commercial bills, commercial paper and other money market instruments. Thus DFHI is a public sector institutions for the purpose of stabilizing the money market through purchase and sale operations in the instruments of trading in money market.

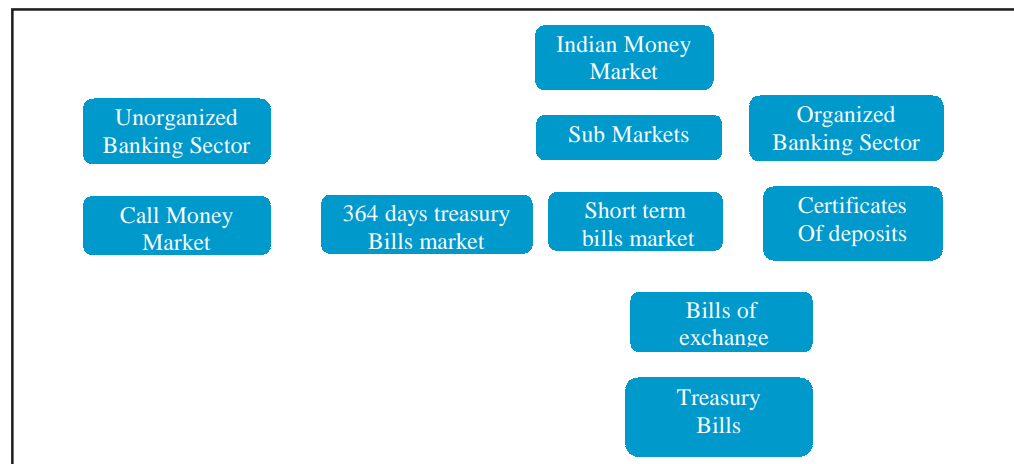


Figure 5.3: Composition of Indian Money Market

The major short term credit instruments dealt with in a money market include:

- **Trade Bills:** These are bills exchange arising out of bona fide commercial transactions. They include both inland bills and foreign bills.
- **Bankers' Acceptances:** These are bills of exchange accepted by commercial banks on behalf of their customers. The fact that a bill is accepted by a bank of repute increases its creditworthiness which, in turn, means that it can easily be discounted.

- **Treasury Bills:** These are promissory notes of short term maturity issued by the government to meet its short term financial needs.
- **Short dated Government Securities:** These are securities issued by the government for short periods. Long term government securities which are nearing maturity are also sometimes included in this category.
- **Commercial Papers:** These are short-term credit instruments dealt with in the Indian money market. They refer to promissory notes issued by certain well known business houses to the specialized institutions known as 'commercial paper houses'. Their maturity period ranges between 90 to 180 days.
- **Hundis:** These are short term credit instruments dealt with in the Indian money market. They refer to indigenous bills of exchange drawn in vernacular languages and under various circumstances.

5.10.4 New Instruments Introduced

- Zero Coupon Bonds (ZCBs)
- Non-Convertible Debentures (NCDs)
- Zero Interest Fully Convertible Debentures
- Equity Shares with Detachable Warrants
- Fully Convertible Cumulative Preference Shares
- Preference Shares with Warrants
- Fully Convertible Bonds with Interest
- Floating Rate Notes or Debentures
- Naked Debentures
- Debentures or Equity with Loyalty Coupons
- Discount Bonds
- Deep Discount Bonds

5.10.5 Issuers

- Government of India and other sovereign bodies
- Banks and development financial institutions
- Public sector undertakings
- Private sector companies
- Government or quasi government owned non-corporate entities

5.10.6 Money Market Mutual Funds

- In April 1992, the government of India announced the setting up of money market mutual funds with the purpose of bringing money market instruments within the reach of individuals. Only commercial banks and public sector financial institutions are permitted to set up MMMFs.
- In 1995, RBI permitted private sector institutions to set up MMMFs.

5.11 LET US SUM UP

In this lesson we discussed about the objective of the security analysis, avenues or Investment Attributes Investment decisions are taken in the light of investor needs such as extent of liquidity required, tax smelters he expects and his convenience. The structure of the capital market, operational efficiency of the market, existence of specialized intermediaries, availability of adequate number of instruments, transparency of transactions are some of the major parameters required for the growth of investment culture in a country.

There are three approaches to valuation of securities viz., the efficient market hypothesis (EMH), the technical total factor like earnings, dividends, cash flows etc. if properly defined, these fundamental factors like dividends, cash flows etc., if properly defined, these fundamentals when incorporated in a present value would produce identical results. Present value is general concept and share valuation is one of its several applications. The intrinsic share at any point of time is the present value of a series of cash dividends in future time periods with assumption models with zero growth, constant growth, and super-normal growth assumptions are found the practicing security analyst and the investors. The price-earnings approach to valuation uses current earnings as the basis for determining normal price-earnings ratios (V/E_0) and calculating actual price-earnings ratios (P/E_0). It may be noted that present values which form the numerator of normal price-earnings ratio (V/E_0) are based on future estimates of cash flows and which form the numerator of normal price-earnings ratios (E_0) through varying growth assumptions. The primary focus on valuation is determine if a share is overpriced, under priced, or fairly priced at any given market price.

Valuation is at the heart of an investment decision and risk-return are its primary determinants. A Value is down at given discount or market yield or the investors' required return. Likewise, a yield is estimated from a market price. Thus, returns and values are closely linked together. Risk factors, together with movements in rates, have a close bearing on investors' required rate of return and we also understood different types of securities including money market.

5.12 LESSON END ACTIVITY

1. Evaluate briefly earning of Variable income securities
2. Do a comparative study different money market instrument
3. Do the risk return analysis of different securities mainly with fixed income and variable income.
4. Study on Indian capital market and Money market.

5.13 KEYWORDS

Equity shares: Equity shares represent equity capital which is the ownership capital because equity shareholder collectively own the company.

Blue Chips: Stocks of high quality financially strong companies which are usually the leaders in their industry.

Coupon Rate: The stipulated interest rate to be paid on the face value of a bond.

Bearer Bonds: If the coupon interest may be paid to whoever holds the bond, the bonds are called Bearer Bonds.

Par Value: The face value of a share of the stock.

Hundis: These are short term credit instruments dealt with in the Indian money market. They refer to indigenous bills of exchange drawn in vernacular languages and under various circumstances.

5.14 QUESTIONS FOR DISCUSSION

1. Distinguish between security and non-security forms of investment.
2. Write a detailed note on Government securities.
3. Describe fully the features of Corporate Debentures. What are the latest innovations in Indian corporate debentures?
4. Explain the investor classification of Equity shares.
5. Give a full description of investment attributes.
6. Define different types Fixed income securities.
7. Write a brief note on Money market instruments.
8. Explain government Security Bonds.
9. What is Real Estate investment. How it will be different from Equity investment?
10. Write the advantages and disadvantages of real estate investment.
11. What the difference between money market instrument and Fixed income securities?
12. Write a brief note on Fixed income investment and Variable income investment.

Check Your Progress: Model Answers

CYP 1

1. These are stocks of high quality financially strong companies which are usually the leaders in their industry. They are stable and mature companies.
2. Turn around stocks are those that are not really doing well in the sense that the market price is well below the intrinsic value mainly because the company is going through a bad patch but is on the way to recovery with signs of turning around the corner in the new future.

CYP 2

The former a resourceful enough to discover news and develop estimates of intrinsic value even before the unsophisticated investors get the news. They will, therefore, be the first to commence market action the moment a value-price mismatch is discovered. 'Unsophisticated investors' including hasty speculators who act on 'hot tips' would be get any news other than public news and will not have the skill to interpret even such public news. They were however, act in the market but such an action would be incompatible with true changes in intrinsic value.

Contd...

CYP 3

The salient features of T-Bills are:

- These are zero coupon bonds, which are issued at discount to face value and are redeemed at par.
- No tax is deducted at source and there is minimal default risk.
- The maximum tenure of these securities is one year.

1. T, 2. T, 3. T, 4. T, 5. T.

5.15 SUGGESTED READINGS

Sudhindra Bhat, *Security Analysis and Portfolio Management*, Excel Books, Delhi.

Preeti Singh, *Security Analysis and Portfolio Management*.

V.A. Avadhani, *Investment Management*.

M.Y. Khan, *Financial Services*.

V.K. Bhalla, *Financial Services*.

G.S. Batra, *Financial Services and Markets*.

Mahana Rao, *Financial Services, Cases and Strategies*.

L. M. Bhole, *Financial Markets and Services*.

LESSON

6

PORTFOLIO ANALYSIS AND MANAGEMENT

CONTENTS

- 6.0 Aims and Objectives
- 6.1 Introduction
- 6.2 Portfolio Selection Problem
 - 6.2.1 Selection of Optimal Portfolio
 - 6.2.2 Traditional Portfolio Analysis
 - 6.2.3 Portfolio Management
- 6.3 Diversification
 - 6.3.1 Optimal Portfolio
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- 6.4 Rates of Return
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 - 6.4.2 Expected Return on a Portfolio
 - 6.4.3 Short and Long Positions
 - 6.4.4 Portfolio Rate of Return in case of Short Selling and Long Buying
 - 6.4.5 Portfolio Risk
- 6.5 Distribution of Rates of Return on Two Perfectly Negatively Correlated Stocks
 - 6.5.1 Sharpe's Single Index Market Model
 - 6.5.2 Beta Predicting
- 6.6 Markowitz Model: The Mean-variance Criterion
 - 6.6.1 Assumptions
- 6.7 Let us Sum up
- 6.8 Lesson End Activity
- 6.9 Keywords
- 6.10 Questions for Discussion
- 6.11 Suggested Readings

6.0 AIMS AND OBJECTIVES

After studying this lesson, you should be able to:

- Understand the nature, meaning, scope, features and objectives of portfolio management.
- Attempt on the problem of portfolio selection.
- Understand the Markowitz's diversification and classification of risks.
- Learn about the portfolio selection process and types of portfolio
- Understand the risk management technique of diversification.
- Know about the traditional and modern portfolio analysis.

6.1 INTRODUCTION

Now that we have reviewed all the attributes of combination of assets (namely, return, risk and diversification), we are in a position to examine the portfolio selection process. For the purpose of our analysis, we will assume that rational investors are risk-averse and prefer more returns to less. With this assumption, let us first state the portfolio selection problem.

6.2 PORTFOLIO SELECTION PROBLEM

What is the opportunity set of investments or portfolios from which an investor must take a choice? A quick reflection on the above equation would reveal that there are infinite number of possibilities to combine all assets into a portfolio, provided an investor can hold a fraction of an asset if he or she so desires. Each one of these portfolios available for investment corresponds to a set of portfolio weights (i.e., the proportions of fund that investors may allocate to different assets), and is characterized by an expected rate of return and variance (or standard deviation).

Does an investor need to evaluate all the portfolios of 'feasible set' to determine his or her 'best' or 'optimal' portfolio? Fortunately, the answer to this question is 'no'. The investor is required to examine only a subset of feasible set of portfolios.

Generally, investors would, however, prefer some of them to others. Since the investors are assumed to be risk averse and prefer more return to less, their choice of portfolios will be bounded by the following two criteria:

1. Given two portfolios with the same expected return, prefer the one with the least risk exposure.
2. Given two portfolio with the same risk exposures, prefer the one with the higher expected return.

Not all the portfolios will conform to these criteria. And, hence, an investor's choice set will be reduced from an infinite possible combination of assets to the set of portfolio meeting the criteria. This set of portfolios is termed as 'efficient set' or 'efficient frontier'.

6.2.1 Selection of Optimal Portfolio

The actual computational procedure for locating efficient frontier is much more complex than what it might appear to be from our geometric interpretations. We need to employ

some optimisation technique, and this we will discuss in next unit. Meanwhile, let us search for an optimal portfolio from the efficient set.

Once the location and composition of the efficient set have been determined, the selection of optimal portfolio by an investor will depend on his/her 'risk tolerance' or 'trade-offs between risk and expected return'. For instance, a risk-averse investor, such as a person nearing retirement, may prefer an efficient portfolio with low risk (as measured by standard deviation or variance), whereas a risk taker may prefer a portfolio with greater risk and commensurately higher returns.

Portfolio selection process entails four basic steps:

Step 1: Identifying the assets to be considered for portfolio construction.

Step 2: Generating the necessary input data to portfolio selection; this involves estimating the expected returns, variances and covariance's for all the assets considered.

Step 3: Delineating the efficient portfolio.

Step 4: Given an investor's risk tolerance level, selecting the optimal portfolio in terms of: (a) the assets to be held; and (b) the proportion of available funds to be allocated to each.

The portfolio selection process as described above is not something new; the model was presented by Harry Markowitz briefly in 1952 and later in a complete book entitled *Portfolio Selection-Efficient Diversification of Investments* (1959). One important concept that Markowitz emphasized for the first time was that some measure of risk, and not just the expected rate of return, should be considered when dealing with investment decision. Markowitz's approach to portfolio analysis and selection attracted a number of academicians and practitioners, who subsequently began to adjust the basic framework so that practical application could be more readily considered. Another interesting thing happened. Following the presentation of the model, there had been a widespread realization of how computers could be utilized in investment decision-making. Markowitz's own solution to portfolio selection problem necessitates, as we will see in the next unit, application of computers. As a final remark, we may mention that Markowitz's work marks the beginnings of what is today known as modern portfolio theory.

In all our earlier illustrations, we have seen that the portfolio risk is smaller than the risk of individual assets. It indicates that the portfolios are less risky than the isolated assets. This phenomenon has been often attributed to Markowitz's contribution. If an investor intends to diversify his investment into different assets instead of investing the whole in one security, he is with to benefit from reduced risk level. Further, if he can find assets with negative correlation, the combined risk works out zero or near zero. But in reality, it is difficult to find many assets with negative correlation.

What will happen to portfolio risk if we go on adding more and more stocks to a portfolio? It is logical to believe that the risk is bound to reduce, as the number of stocks in a portfolio increases. Can we eliminate risk completely? It all depends on the correlation between assets. Smaller the correlations, lower will be the risk in the portfolio. In fact, if we can find stocks with either zero correlation or negative correlation, the portfolio risk would be certainly low. But it is impossible to find such stocks to construct our portfolios. In such a case there exists a minimum level of risk in every portfolio, however large the number of assets in it may be:

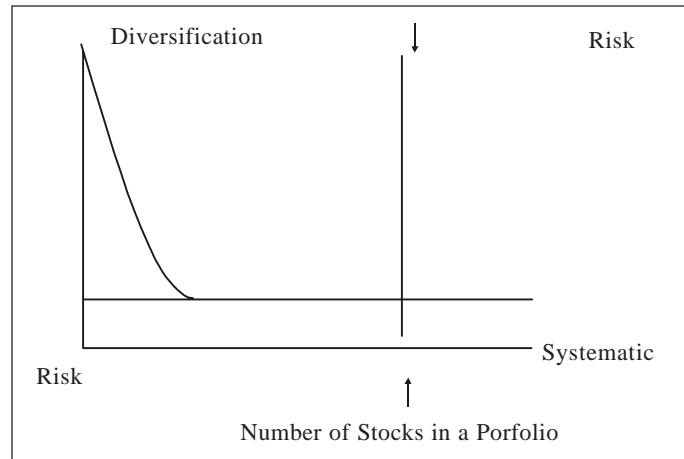


Figure 6.1: Effect of Portfolio Size on Portfolio Risk

Observe the above diagram which depicts the decline in size of portfolio risk as the number of individual stocks increase in a portfolio. That portion of the total risk which declines due to diversification of investment, from a single asset to others is called diversifiable risk or firm specific risk. It may arise due to the internal firm level or company level or industry level reasons like strikes and lock outs, sudden fall in demand for the product, entry of new technology, specific governmental restrictions, fluctuating growth to the given industry. On the other hand, the diversifiable risk which is also called 'systematic risk', is that portion of risk which cannot be further reduced by adding any number of newer scrips to the given portfolio. It is called 'systematic' or market risk' as the reasons like general changes in the economy, political and market fluctuations, inflation and interest rates which have a common bearing on all stocks. As these factors simultaneously affect all industries as well as firms alike this risk is universal to all risky assets.

This aspect brings a new dimension to the risk return analysis. In efficient markets assets are expected to be priced in such a way that they yield a return proportional to the size of risk that the asset carries. Which risk is generally rewarded? Is it the total risk that the asset brings or something else? Certainly, market is not expected to reward the risk which can be diversified by putting investment across different stocks. Then the relevant individual is its contribution systematic risk of an individual stock is its contribution to the systematic risk in well diversified portfolio. How to identify this contribution? William F. Sharpe has an answer to this. He has established the contribution of each single asset to the portfolio risk by developing a Single-Index Market Model'.

6.2.2 Traditional Portfolio Analysis

Traditional security analysis recognizes the key importance of risk and return to the investor traditional approaches which really upon intuition and insight. The result of these rather subjective approaches to portfolio analysis.

Most traditional methods recognize return as some dividend receipts and price appreciation over a forward period portfolio or combination of securities are thought of as helping to spread risk over many securities.

6.2.3 Portfolio Management

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 vs. performance. Portfolio management is all about strengths, weaknesses,

opportunities and threats in the choice of debt vs. equity, domestic vs. international, growth vs. safety, and numerous other trade-offs encountered in the attempt to maximize return at a given appetite for risk.

Check Your Progress 1

What are the steps involved in the process of portfolio selection?

.....

.....

6.3 DIVERSIFICATION

Diversification is a risk-management technique that mixes a wide variety of investments within a portfolio in order to minimize the impact that any one security will have on the overall performance of the portfolio. Diversification lowers the risk of your portfolio. Academics have complex formulas to demonstrate how this works, but we can explain it clearly with an example:

Suppose that you live on an island where the entire economy consists of only two companies: one sells umbrellas while the other sells sunscreen. If you invest your entire portfolio in the company that sells umbrellas, you'll have strong performance during the rainy season, but poor performance when it's sunny outside. The reverse occurs with the sunscreen company, the alternative investment; your portfolio will be high performance when the sun is out, but it will tank when the clouds roll in. Chances are you'd rather have constant, steady returns. The solution is to invest 50% in one company and 50% in the other. Because you have diversified your portfolio, you will get decent performance year round instead of having either excellent or terrible performance depending on the season.

There are three main practices that can help you ensure the best diversification:

1. Spread your portfolio among multiple investment vehicles such as cash, stocks, bonds, mutual funds and perhaps even some real estate.
2. Vary the risk in your securities. You're not restricted to choosing only blue chip stocks. In fact, it would be wise to pick investments with varied risk levels; this will ensure that large losses are offset by other areas.
3. Vary your securities by industry. This will minimize the impact of industry-specific risks.

Diversification is the most important component in helping you reach your long-range financial goals while minimizing your risk. At the same time, diversification is not an ironclad guarantee against loss. No matter how much diversification you employ, investing involves taking on some risk.

Another question that frequently baffles investors is how many stocks should be bought in order to reach optimal diversification. According to portfolio theorists, adding about 20 securities to your portfolio reduces almost all of the individual security risk involved. This assumes that you buy stocks of different sizes from various industries. Now let us understand optimal portfolio.

6.3.1 Optimal Portfolio

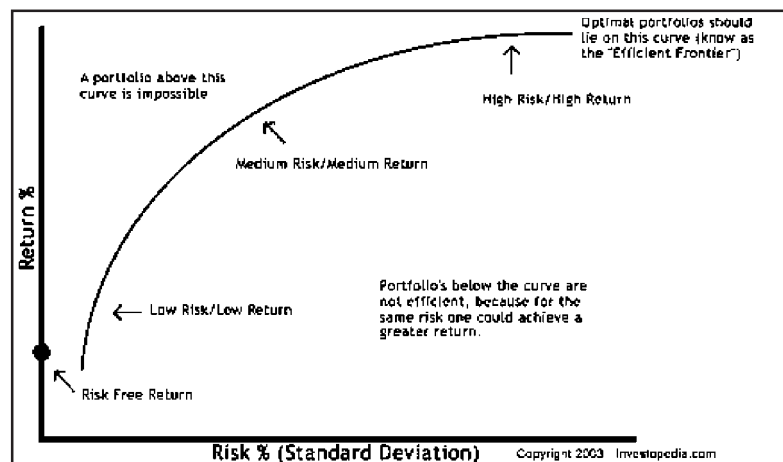
The optimal portfolio concept falls under the modern portfolio theory. The theory assumes (among other things) that investors fanatically try to minimize risk while striving for the

highest return possible. The theory states that investors will act rationally, always making decisions aimed at maximizing their return for their acceptable level of risk.

The optimal portfolio was used in 1952 by Harry Markowitz, and it shows us that it is possible for different portfolios to have varying levels of risk and return. Each investor must decide how much risk they can handle and then allocate (or diversify) their portfolio according to this decision.

The chart below illustrates how the optimal portfolio works. The optimal-risk portfolio is usually determined to be somewhere in the middle of the curve because as you go higher up the curve, you take on proportionately more risk for a lower incremental return. On the other end, low risk/low return portfolios are pointless because you can achieve a similar return by investing in risk-free assets, like government securities.

Chart 6.1



You can choose how much volatility you are willing to bear in your portfolio by picking any other point that falls on the efficient frontier. This will give you the maximum return for the amount of risk you wish to accept. Optimizing your portfolio is not something you can calculate in your head. There are computer programs that are dedicated to determining optimal portfolios by estimating hundreds (and sometimes thousands) of different expected returns for each given amount of risk.

6.3.2 Selection and Problems

Suppose you find a great investment opportunity, but lack the cash to take advantage of it. This is the classic problem of financing. The short answer is that you borrow - either privately from a bank, or publicly by issuing securities. Securities are nothing more than promises of future payment. They are initially issued through financial intermediaries such as investment banks, which underwrite the offering and work to sell the securities to the public. Once they are sold, securities can often be re-sold. There is a secondary market for many corporate securities. If they meet certain regulatory requirements, they may be traded through brokers on the stock exchanges, such as the NYSE, the AMEX and NASDAQ, or on options exchanges and bond trading desks.

Securities come in a bewildering variety of forms - there are more types of securities than there are breeds of cats and dogs, for instance. They range from relatively straightforward to incredibly complex. A straight bond promises to repay a loan over a fixed amount of interest over time and the principal at maturity. A share of stock, on the other hand, represents a fraction of ownership in a corporation, and a claim to future dividends. Today, much of the innovation in finance is in the development of sophisticated securities: structured notes, reverse floaters, IO's and PO's - these are today's specialized

breeds. Sources of information about securities are numerous on the world-wide web. For a start, begin with the Ohio State Financial Data Finder. All securities, from the simplest to the most complex, share some basic similarities that allow us to evaluate their usefulness from the investor's perspective. All of them are economic claims against future benefits. No one borrows money that they intend to repay immediately; the dimension of time is always present in financial instruments. Thus, a bond represents claims to a future stream of pre-specified coupon payments, while a stock represents claims to uncertain future dividends and division of the corporate assets. In addition, all financial securities can be characterized by two important features: risk and return. These two key measures will be the focus of this second module.

6.3.3 Finance from the Investor's Perspective

Most financial decisions you have addressed up to this point in the term have been from the perspective of the firm. Should the company undertake the construction of a new processing plant? Is it more profitable to replace an old boiler now, or wait? In this module, we will examine financial decisions from the perspective of the purchaser of corporate securities: shareholders and bondholders who are free to buy or sell financial assets. Investors, whether they are individuals or institutions such as pension funds, mutual funds, or college endowments, hold portfolios, that is, they hold a collection of different securities. Much of the innovation in investment research over the past 40 years has been the development of a theory of portfolio management, and this module is principally an introduction to these new methods. It will answer the basic question, What rate of return will investors demand to hold a risky security in their portfolio? To answer this question, we first must consider what investors want, how we define return, and what we mean by risk.

6.4 RATES OF RETURN

The investor return is a measure of the growth in wealth resulting from that investment. This growth measure is expressed in percentage terms to make it comparable across large and small investors. We often express the percent return over a specific time interval, say, one year. For instance, the purchase of a share of stock at time t , represented as P_t will yield P_{t+1} in one year's time, assuming no dividends are paid. This return is calculated as: $R_t = [P_{t+1} - P_t] / P_t$. Notice that this is algebraically the same as: $R_t = [P_{t+1} / P_t] - 1$. When dividends are paid, we adjust the calculation to include the intermediate dividend payment: $R_t = [P_{t+1} + D_t - P_t] / P_t$. While this takes care of all the explicit payments, there are other benefits that may derive from holding a stock, including the right to vote on corporate governance, tax treatment, rights offerings, and many other things. These are typically reflected in the price fluctuation of the shares.

6.4.1 Arithmetic vs Geometric Rates of Return

There are two commonly quoted measures of average return: the geometric and the arithmetic mean. These rarely agree with each other. Consider a two period example: $P_0 = \$100$, $R_1 = -50\%$ and $R_2 = +100\%$. In this case, the arithmetic average is calculated as $(100-50)/2 = 25\%$, while the geometric average is calculated as: $[(1+R_1)(1+R_2)]^{1/2} - 1 = 0\%$. Well, did you make money over the two periods, or not? No, you didn't, so the geometric average is closer to investment experience. On the other hand, suppose R_1 and R_2 were statistically representative of future returns. Then next year, you have a 50% shot at getting \$200 or a 50% shot at \$50. Your expected one year return is $(1/2)[(200/100)-1] + (1/2)[(50/100)-1] = 25\%$. Since most investors have a multiple year horizon, the geometric return is useful for evaluating how much their investment will

grow over the long-term. However, in many statistical models, the arithmetic rate of return is employed. For mathematical tractability, we assume a single period investor horizon.

6.4.2 Expected Return on a Portfolio

The Expected Return on a Portfolio is simply the weighted average of the expected returns of the individual securities in the given portfolio.

$$R_p = W_A R_A + W_B R_B + \dots W_n R_n$$

$$\text{or} \quad R_p = \sum_{i=1}^n W_i R_i$$

Where R_p = Expected Rate of Return in a Portfolio

W_i = Proportion of total investment invested in i^{th} asset

R_i = Expected Rate of return as i^{th} Security

n = number of securities in a given portfolio

Suppose your Expected Rate of Return from Lakshmi Mills (LML) stocks is 20% during a given holding period and the same rate of return-. in case of Khandri Mills (KM) scrip is, say 16% and your are interest: in putting you total investment equally in both these securities, then Expected Rate of Return from the Two-Asset Portfolio is

$$W_{LML} = 0.50 \quad R_{LML} = 0.20$$

$$W_{KM} = 0.50 \quad R_{KM} = 0.16$$

$$R_p = (W_{LML}) (R_{LML}) + (W_{KM}) (R_{KM})$$

$$= (0.50 \times 0.20) + (0.50 \times 0.16)$$

$$= 0.10 + 0.08$$

$$= 0.18$$

$$\text{or} \quad R_p = 18\%$$

Suppose you are interested in including the Aravind Mills scrip also into your portfolio, by partly selling of your earlier investment in Khandri Mills say about 20% of total investment and if your expected rate of return from Aravind Mills in 22 percent during the same said holding period, then the return from the 3- asset portfolio would be:

$$R_p = [0.50 \times 0.20] + [0.30 \times 0.16] + [0.20 \times 0.22]$$

$$= 0.10 + 0.048 + 0.044$$

$$= 0.192 \text{ or } 19.2\%$$

Using the same logic the rate of return on a portfolio with assets wherein short and long positions could also be calculated.

6.4.3 Short and Long Positions

Short selling and long buying are certain trading activities that active stock holders (speculators) used to perform on the list of forward securities. These practices are allowed by most stock exchanges. In India, these activities are often called as 'Badla' transactions. Basically, short selling refers to that trading activity wherein the speculator sells a 'security without currently possessing it. Similarly, the long buy refers to the

contract of buying a security without any real intention to take the delivery of it. These contracts are undertaken with the information to the investors' brokerage firm. Suppose an investor believes that the stock price of ACC falls from the current level of Rs.2500 and the price of Reliance Industries to raise from the current level of Rs. 250, he takes a short position on ACC and long position on RIL simultaneously. The speculator may order to 'short sell' 100 shares of ACC and using these proceeds for long buy' of 1000 shares of RIL. Suppose if the price changes are as expected within a settlement date? The positions are squared up to gain out of these transaction. If not, these positions are carried to the next settlement date by paying Badla charges to the stock exchange functionaries.

6.4.4 Portfolio Rate of Return in case of Short Selling and Long Buying

Illustration 1: X Y is a portfolio with two assets - one with short and another with long positions. Then the portfolio rate of return is as follows:

Solution: Let, weightages $X = -0.50$

$$Y = +1.50$$

Expected Rates of Return $X = 20\%$

$$Y = 25\%$$

$$R_p = W.R + W.R$$

$$\begin{aligned} R_p &= (0.50 \times 0.20) + (1.50 \times 0.25) (-0.10) + (0.375) \\ &= 0.275 \text{ or} \\ &= 27.5\% \end{aligned}$$

6.4.5 Portfolio Risk

Calculation of portfolio risk is not similar to weighted average of individual assets' total risk. Portfolio's risk is sometimes substantially different from individual assets risk. It is quite possible that the individual assets may be substantially risky with sizeable standard deviations and when combined may result in a portfolio which is absolutely riskless.

Illustration 2: The following data relates to the Annual Rates of Returns earned by TWO stocks, viz., M and W whose rates of return are perfectly negatively correlated to make it more meaningful, we can say that the stock M relates an agro based industry while stock W relates to construction industry.

Year	Stock M	Stock W
2001	40%	-10%
2002	-10%	40%
2003	35%	-5%
2004	-5%	35%
2005	15%	15%
Average Return	15%	15%
Standard Deviation	22.6%	22.6%

Solution:

Portfolio Rates of return and Risk on M and W

Year	Return on M	Return On W	Portfolio MW Return
2001	40%	-10%	$R_p = 0.5 \times 0.40 + 0.15 \times -0.10 = 0.15$ or 15%
2002	-10%	40%	$R_p = (0.5 \times -0.10) + (0.5 \times 0.40) = 0.15$ or 15%
2003	35%	-5%	$R_p = (0.5 \times 0.05) + (0.5 \times 0.35) = 0.15$ or 16%
004	-5%	35%	$R_p = (0.50 \times 0.15) = 0.15$ or 15%
2005	15%	15%	15%
Average	15%	15%	0%
S.D	22.6%	22.6%	

Both the two stocks are quite risky if they are held in isolation. But when they are combined to form a portfolio MW they are not risky at all. The reason for arriving at such a riskless portfolio is that the rate of returns on each of these individual stocks move counter cyclically to one another - when M's return falls, W's return rises. Statistically, such a relationship is called perfectly negative correlation. One conclusion that we can draw from this stage is that portfolios with negatively correlated stocks are likely to reduce the risk significantly.

Check Your Progress 2

What do you understand by short selling and long buying?

.....
.....

6.5 DISTRIBUTION OF RATES OF RETURN ON TWO PERFECTLY NEGATIVELY CORRELATED STOCKS

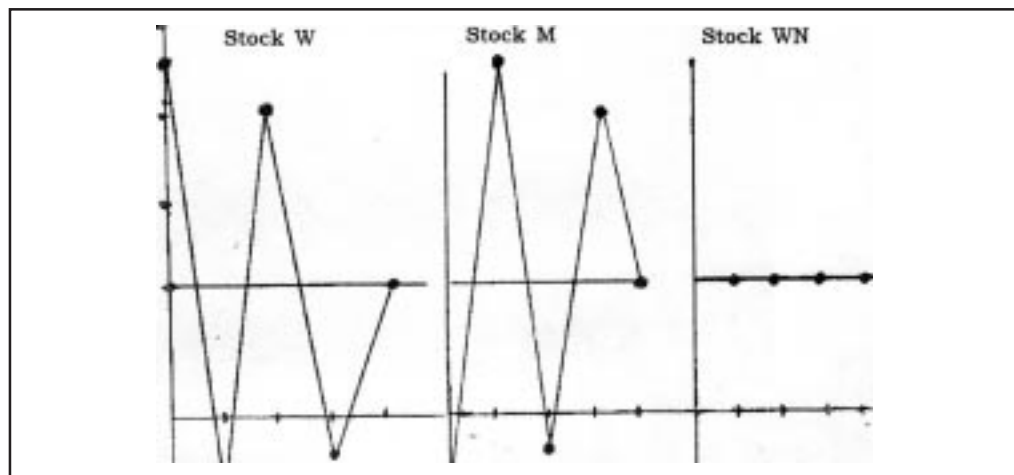


Figure 6.2

But in reality, we may not be able to find stocks with such a negative correlation. Many a time, stock prices move in the same direction instead of the opposite direction as seen in the earlier illustration. Although such movement in stock prices, may not result in perfect positive correlation between any two scrips, there is every possibility that any two stocks may move with +0.5 or +0.6 or +0.7 correlation. What would happen to the portfolio risk.

Illustration 3: The following information is provided to you. Compute portfolio return.

Year	Stock W	Stock Z
2002	40%	28%
2003	-10%	20%
2004	35%	41%
2005	-5%	-7%
2006	15%	3%
Average	15%	15%
Standard Deviation	22.6%	22.6%

Solution: The returns of above two scrips exhibit a correlation of 0.65, indicating positive movement in Stock Prices of W and Z. The Average and Standard Deviation of a portfolio consisting of both these assets equally would be as follows:

Year	Stock W	Stock Z	Portfolio WZ		
2002	40%	28%	$R_p = (0.5 \times 0.40)$	$+ (0.50 \times 0.28)$	$= 34\%$
2003	-10%	20%	$R_p = (0.5 \times -0.10)$	$+ (0.5 \times 0.20)$	$= 5\%$
2004	35%	41%	$R_p = (0.5 \times 0.35)$	$+ (0.5 \times 0.41)$	$= 38\%$
2005	-5%	17%	$R_p = (0.5 \times -0.05)$	$+ (0.5 \times 0.17)$	$= -11\%$
2006	15%	3%	$R_p = (0.5 \times 0.15)$	$+ (0.5 \times 0.03)$	$= 9\%$
Average Return:	15%	15%	15%		15%
Standard deviation	22.6%	22.6%	20.6%		

6.5.1 Sharpe's Single Index Market Model

Sharpe assumed that, for the sake of simplicity, the return on a security could be regarded as being linearly related to a single index like the market index. Theoretically, the market index should consist of all the securities trading on the market. However, a popular average can be treated as a surrogate for the market index. Acceptance of the idea of a market between individual securities, because any movements in securities could be attributed to movements in the single underlying factor being measured by the market index. The simplification of the Markowitz Model has come to be known as the Market Model or Single-Index Model (SIM).

In an attempt to capture the relative contribution of each stock towards portfolio risk, William Sharpe has developed a simple but elegant model called as 'Market Model'. His argument is like this. We appreciate that the portfolio risk declines as the number of stocks increases but to extent. That part of the risk which cannot be further reduced even when we add few more stocks into a portfolio is called systematic risk. That undiversifiable risk is attributed to the influence of systematic factors principally operated at a given market. If one includes all traded securities in a market in his portfolio, that portfolio reduces the risk to the extent of what market influences. In such a case, one can easily capture every individual stocks' contribution to portfolio risk by simply relating its returns with that of the market index. Such relationship is expected to give us the market sensitivity of the given scrip. This is exactly the relationship that William Sharpe has estimated with a simple regression equation considering the returns or market index, such as SENSEX, ET Index, NSE Index or the RBI Index as independent variable and returns on individual stocks as dependent.

$$R_{it} = \alpha + \beta_i R_{mt} + e_{it} \text{ Where}$$

R_{it} = Return on i th security during the holding period

R_{mt} = Return on a Market Index during the holding period

α = Constant term

β_{mt} = Market Beta or Market Sensitivity of a given stock

Since the regression coefficient (Beta) indicates the manner in which a security's return change systematically with the changes in market, this linear line is also called Characteristic Line. The slope of the line is called Beta. It has gained lot of popularity in security analysis as a measure of relative market risk. If Beta is 'one' for such a stock, it is said to have the risk exactly equal to that of the market. On the other hand, the stock with Beta greater than one indicates the aggressiveness of the stock in the market and less than one indicates the slow response in the price of that stock. The calculation of Beta for a given stock can be worked out as follows.

6.5.2 Beta Predicting

Beta, as commonly defined, represents how sensitive the return of an equity portfolio (or security) is to the return of the overall market. It can be measured by regressing the historical returns of a portfolio (or security) against the historical returns of an index; the resulting slope of this regression line would be the historical beta. This can be useful for attributing relative performance to various sources or for explaining active risk over a certain period of time.

Portfolio managers are also very interested in what the beta of a portfolio (or security) will be in the future, or what the realized beta will be. As one might expect, predicting the value of beta can be a complicated process. In the past, when returns were typically available no more frequently than monthly, historical betas were not very reliable predictors of realized betas; achieving statistical significance usually meant using returns from past periods that were no longer relevant. In the 1970s, Barra pioneered the use of multi-factor equity models to calculate, among other things, predicted betas that were based on statistically significant historical relationships between equity returns and a number of risk factors. Other vendors followed this lead with their own multi-factor models, with the belief that predicted betas calculated in this manner would be better predictors of realized betas than historical betas were.

Back to Basics: Since daily returns are now widely available, it is worth asking the question: Are multi-factor predicted betas better predictors of realized betas than historical betas which use daily returns? A related question, which probably should have been asked some time ago, is: How good are these predictors? We will try to address these questions below.

Using daily security returns going back to the end of 1998 and Barra-predicted betas for the same time period, we performed the following calculations for each month:

- For each security, we calculated the beta relative to the S&P 500 using the 20 business days' returns starting in that month (the realized beta).
- For each security, we obtained the Barra-predicted beta as of the beginning of that month.
- Using the data points for all these securities, we performed the regression:

$$\text{Realized Beta} = a + b \times \text{Predicted Beta} + e$$

We repeated this calculation by substituting a historical beta (calculated using trailing daily returns) for the predicted beta; we used trailing periods of 60, 120, 180, 240, 300, and 360 business days to calculate six different values of trailing historical betas. We then repeated all of these calculations using 60 business days' returns for the calculation of the realized beta.

Interpreting the Results: A perfect predictor would have regression results of $a = 0$, $b = 1$, correlation = 1, and MAE = 0. While these results are far from perfect, it is important to remember that they are for individual securities; predictions for portfolios can be expected to be far more reliable.

It is more useful to look at the results on a comparative basis. For each line, the shaded values of b , correlation, and MAE are the closest to ideal. We can see that all of the shaded numbers are associated with either the daily historical beta or the average of the predicted and historical beta. While we cannot conclude from this that daily historical betas are significantly better predictors of realized beta than Barra-predicted betas, it certainly raises the question of whether the Barra betas (or any other multi-factor betas) are the best predictors.

There are a few other interesting results worth noting:

- The “ b ” in the regression results for the predicted betas are greater than 1. This is not necessarily good or bad, but simply indicates that the predicted betas have less dispersion than the realized betas. This makes intuitive sense, since the predicted betas are based on longer-term factor relationships.
- The “ b ” in the regression results for the historical betas increases as the length of the trailing period increases. This indicates that the dispersion of historical betas decreases as the trailing period increases, which also makes intuitive sense.
- All of the prediction results are better for the 60-day realized betas than for the 20-day realized betas.
- The historical beta appears to have the largest relative advantage for trailing periods of 240-300 days (for both the 20-day and the 60-day realized betas).

Implications: As mentioned previously, we should not rush to draw any hard conclusions from these results. A brief study such as this has its limitations, not the least of which is the fact that it uses less than four years worth of data. However, the evidence presented above supports the following claim: *In recent years, a simple daily historical beta has been at least as good a predictor of short-term security betas as the predicted betas generated by a sophisticated multi-factor equity model.*

Since beta is such a primary feature of any equity factor model, this has implications for our investment process. It raises the question of how much we should rely on the numbers generated by multi-factor models for our risk controls. While these numbers are useful and should not be ignored, we can no longer claim that they are the best numbers available for this purpose. For risk-control purposes, the daily historical beta appears to be at least as important a measure as the multi-factor predicted beta.

Illustration 4: Mr. Soma owns a portfolio of two securities with the following expected returns, standard deviations, and weights:

Security	Expected Return	Standard Deviation	Weight
RNL	12%	15%	.40
SBI	15%	20%	.60

What are the maximum and minimum portfolio standard deviations for varying levels of correlation between two securities?

Solution:

$$\begin{aligned}\sigma_p &= [X_A^2 \sigma_A^2 + X_B^2 \sigma_B^2 + 2 X_A X_B r_{AB} \sigma_A \sigma_B]^{1/2} \\ \sigma_p &= [(.40)^2 (15)^2 + (.60)^2 (20)^2 + 2 (.60) (.40) (15) (20) r_{AB}]^{1/2} \\ &= [36 + 144 + (144) r_{AB}]^{1/2}\end{aligned}$$

The portfolio's standard deviation will be at a maximum when the correlation between securities RNL and SBI is + 1.0. That is:

$$\begin{aligned}\sigma_p &= [36 + 144 + (144 \times 1)]^{1/2} \\ &= 18\%\end{aligned}$$

The portfolio's standard deviation will be at a minimum when the correlation between securities RNL and SBI is -1.0. That is:

$$= [36 + 144 + (144 \times -1)]^{1/2} = 6\%$$

Illustration 5: RKV owned five securities at the beginning of the year in the following amounts and with the following current and expected end-of-year prices:

Security	Share Amount	Current Price	Expected Year-End Price
KRBL	100	Rs. 50	Rs.65
SBI	150	30	40
INY	75	20	25
RNL	100	25	32
I-Gate	125	40	47

What is the expected return on RKV's portfolio for the year?

Solution: The initial value of RKV's portfolio is:

$$\begin{aligned}&= \text{Rs.}50 \times 100 + (\text{Rs.}30 \times 150) + (\text{Rs.}20 \times 75) + (\text{Rs.}25 \times 100) + (\text{Rs.}40 \times 125) \\ &= \text{Rs. } 5000 + \text{Rs.}4500 + \text{Rs.}1500 + \text{Rs.}2500 + \text{Rs. } 5000 \\ &= \text{Rs. } 18,500\end{aligned}$$

The proportion that each security constitutes of RKV's initial portfolio is:

$$\begin{aligned}X_A &= (\text{Rs.}50 \times 100) / (\text{Rs.}18,500) = .27 \\ X_B &= (\text{Rs.}30 \times 150) / (\text{Rs.}18,500) = .24 \\ X_C &= (\text{Rs.}20 \times 75) / (\text{Rs.}18,500) = .08 \\ X_D &= (\text{Rs.}25 \times 100) / (\text{Rs.}18,500) = .14 \\ X_E &= (\text{Rs.}40 \times 125) / (\text{Rs.}18,500) = .27\end{aligned}$$

The expected returns on the portfolio securities are:

$$\begin{aligned}\sim R_A &= (\text{Rs. } 65 - \text{Rs. } 50) / \text{Rs.}50 + 30.0\% \\ \sim R_B &= (\text{Rs. } 40 - \text{Rs. } 30) / \text{Rs.}30 + 33.3\% \\ \sim R_A &= (\text{Rs. } 25 - \text{Rs. } 20) / \text{Rs.}20 + 25.0\%\end{aligned}$$

$$\sim R_A = (\text{Rs. } 32 - \text{Rs. } 25) / \text{Rs. } 25 + 28.0\%$$

$$\sim R_A = (\text{Rs. } 47 - \text{Rs. } 40) / \text{Rs. } 40 + 17.5\%$$

The expected return on a portfolio is given by:

$$\bar{R}_p = \sum_{i=1}^N (X_i \times R_x)$$

In the case of RKV's portfolios

$$\begin{aligned} \bar{R}_p &= (.27 \times 30.0\%) + (.24 \times 33.3\%) + (.08 \times 25.0\%) + (1.4 \times 28.0\%) + (.27 \times 17.5\%) \\ &= (0.81\%) + (7.992\%) + (2.0\%) + (3.92\%) + (4.725\%) \\ &= (19.447\%) \end{aligned}$$

Illustration 6: Calculate each stock's expected return, Using these individual security's expected returns, compute the portfolio's expected return.

Stock	Initial Investment Value	Expected End-of-Period Investment Value	Proportion of Portfolio's Initial Market Value
A	Rs. 5,000	Rs. 7000	20.0%
B	2,500	4,000	10.0
C	4,000	5,000	16.0
D	10,000	12,000	40.0
E	3,500	5,000	12.0

Solution:

Stock	Expected Return	Proportion of Portfolio's Initial Market Value
A	Rs. 7,000 / Rs. 5,000 = 40.00%	20.0%
B	Rs. 4,000 / Rs. 2,500 = 60.00%	10.0
C	Rs. 5,000 / Rs. 4,000 = 25.00%	16.0
D	Rs. 12,000 / Rs. 10,000 = 20.00%	40.0
E	Rs. 5,000 / Rs. 3,500 = 42.86%	12.0

The Portfolio's Expected return is given by:

$$\begin{aligned} \bar{R}_p &= \sum_{i=1}^N (X_i \times R_x) \\ &= (.20 \times 40.0\%) + (.10 \times 60.0\%) + (.16 \times 25.0\%) + (.40 \times 20.0\%) + (.14 \times 42.86\%) \\ &= 8 + 6 + 4 + 8 + 6.0004 \\ &= 32.000\% \end{aligned}$$

Check Your Progress 3

State whether the following statements are true or false:

1. A portfolio is efficient when it is expected to yield the highest return for the level of risk accepted.
2. Beta predicting shows that how sensitive the return of an equity portfolio or security is to the return of the overall market.
3. In Sharpe's single index market model, the slope of the line is called Beta.
4. To build an efficient portfolio, an expected return level is chosen, and assets are substituted until the portfolio combination with the smallest variance at the return level is found.
5. If we go on adding more and more stocks to a portfolio, the risk is bound to reduce, as the number of stocks in a portfolio increases.

6.6 MARKOWITZ MODEL: THE MEAN-VARIANCE CRITERION

Dr. Harry Markowitz is credited with developing the first modern portfolio analysis model since the basic elements of modern portfolio theory emanate from a series of propositions concerning rational investor behaviour set forth by Markowitz, then of the Rand Corporation, in 1952, and later in a more complete monograph sponsored by the Cowles Foundation. It was this work that has attracted everyone's perspective regarding portfolio management. Markowitz used mathematical programming and statistical analysis in order to arrange for the optimum allocation of assets within a portfolio. To reach this objective, Markowitz generated portfolios within a reward-risk context. In other words, he considered the variance in the expected returns from investments and their relationship to each other in constructing portfolios. In so directing the focus, Markowitz, and others following the same reasoning, recognized the function of portfolio management as one of composition, and not individual security selection - as it is more commonly practised. Decisions as to individual security additions to and deletions from an existing portfolio are then predicated on the effect such a maneuver has on the delicate diversification balance. In essence, Markowitz's model is a theoretical framework for the analysis of risk return choices. Decisions are based on the concept of efficient portfolios.

A portfolio is efficient when it is expected to yield the highest return for the level of risk accepted or, alternatively, the smallest portfolio risk for a specified level of expected return. To build an efficient portfolio, an expected return level is chosen, and assets are substituted until the portfolio combination with the smallest variance at return level is found. As this process is repeated for other expected returns, a set of efficient portfolios is generated.

6.6.1 Assumptions

The Markowitz model is based on several assumptions regarding investor behaviour:

- (i) Investors consider each investment alternative as being represented by a probability distribution of expected returns over some holding period.
- (ii) Investors maximize one period expected utility and possess utility curve, which demonstrates diminishing marginal utility of wealth.
- (iii) Individuals estimate risk on the basis of the variability of expected returns.

- (iv) Investors base decisions solely on expected return and variance (or standard deviation) of returns only.
- (v) For a given risk level, investors prefer high returns to lower returns. Similarly, for a given level of expected return, investor prefer less risk to more risk.

Under these assumptions, a single asset or portfolio of assets is considered to be "efficient" if no other asset or portfolio of assets offers higher expected return with the same (of lower) risk or lower risk with the same (or higher) expected return.

$$\sigma_p = W_C^2 \sigma_C^2 + (1 - W_C)^2 \sigma_E^2 + 2 [W_C (1 - W_C) \sigma_C \sigma_E r_{CE}]^{1/2}$$

$$E(R)_p = W_C E(R_C) + (1 - W_C) E(R_E)$$

Geographical representation of the Mean-Variance Criterion is presented in Figure 6.3, the vertical axis denoted expected return while the horizontal axis measures the standard deviation (or variance) of the returns. Given its expected return and standard deviation, any investment option can be represented by a point on such a plane and the set of all potential options can be enclosed by an area such as shown in Figure 6.3. The efficient, given by the arc AB, is a boundary of the attainable set. In Figure 6.3, the shaded area represents the attainable set of portfolio considerations, with their own risks and expected returns. (Two different portfolios may have the same expected return and risk). Any point inside the shaded area is no as efficient as a corresponding point on the efficient frontier - the arc AB.

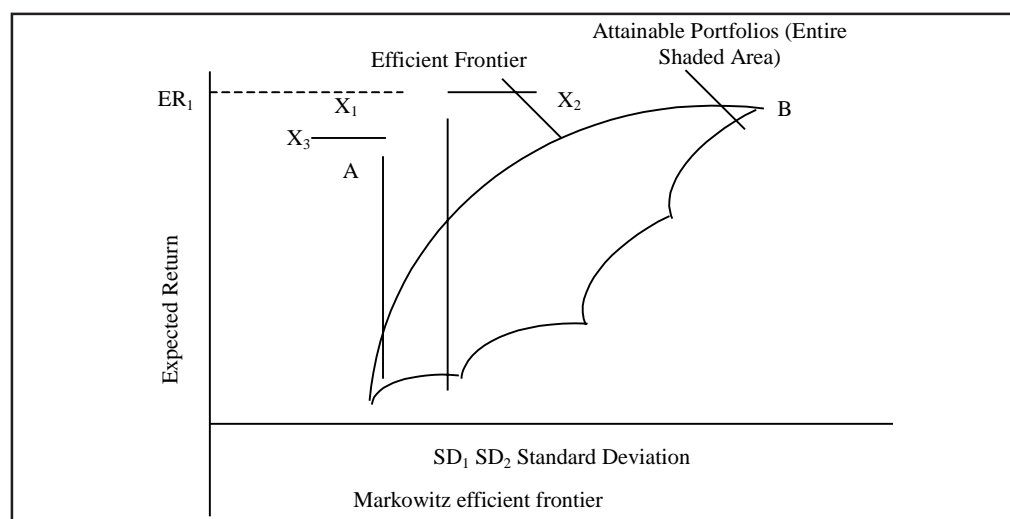


Figure 6.3

Illustration 7: How many inputs are needed for a portfolio analysis involving 75 securities if covariances are computed using (a) the Markowitz approach and (b) the Sharpe index model?

Solution: Markowitz: $N(N + 3)/2 = 73(75 + 3) + 2 = 227$

Illustration 8: The policy committee of CDME recently used reports from various security analysts to develop inputs for the single - index model. Output derived from the single-index model consisted of the following efficient portfolios:

Portfolio	Expected Return E(R)	Standard Deviation
1	8%	3%
2	10%	6%
3	13%	8%
4	17%	13%
5	20%	18%

- (a) If the prevailing risk-free rate is 6% which portfolio is the best?
- (b) If a SD of 12% were acceptable, what would the expected portfolio return be and how would CDME Finance achieve it?
- (c) Assume that the policy committee would like to earn an expected 10% with a SD of 4%. Is this possible?

Solution:

Portfolio	$[E(R) - T] / \sigma$
1	$(8 - 6) / 3 = 0.67$
2	$(10 - 6) / 6 = 0.67$
3	$(13 - 6) / 8 = 0.875$
4	$(17 - 6) / 13 = 0.846$
5	$(20 - 6) / 18 = 0.77$

Portfolio 3 is the optimal portfolio

(B) $E(R) = 6\% + 12\% (0.875) = 16.5\%$

Borrow Re. 0.50 for each Re. 1.00 equity.

$$\sigma_p = 1.5 (8\%) = 12\%$$

(C) A standard deviation of 4% results in an expected return of only 9.5%:

$$9.5\% = 6\% + 4\% (0.875)$$

Illustration 9: The following regression statistics were generated using the market model and a broad equity index:

Security	σ_i	σ	r_{it}
DH WELDING	-0.21	14.7%	0.48
DEF	0.15	6.3%	0.25
GHI	0.01	11.3%	0.51
JKL	0.20	5.2%	0.95
INDEX	0.00	4.3%	1.00

Historical correlation between i and l.

- (a) Calculate an estimate of β for each.
- (b) Do you think that the market model betas during next five-year period will be the same, higher, or lower?
- (c) Assuming that the index used is the market portfolio, and the return on market portfolio is 7%; and that risk-free rate is 9.0%, calculate the equilibrium expected return on each.
- (d) Calculate the beta of a portfolio consisting of an equal investment in each security.

Solution:

(a)

Security	Beta
DH WELDING	$(14.7 + 4.3) (0.48) = 1.64$
DEF	$(6.3 + 4.3) (0.25) = 0.37$
GHI	$(11.3 + 4.3)(0.51) = 1.34$
JKL	$(5.2 + 4.3) (0.95) = 1.15$
INDEX	$(4.3 + 4.3) (1.00) = 1.00$

- (b) Beta estimate smaller than 1.0 will probably increase towards 1.0. Beta estimates larger than 1.0 will probably decrease towards 1.0.

(c)

Security	E(R)
DH WELDING	20.48 = 9 + 1.64 (7)
DEF	11.59 = 9 + 0.37 (7)
GHI	18.38 = 9 + 1.34 (7)
JKL	17.46 = 9 + 5.2(7/4.3)
Index	16.00 = 9 + 4.3 (7/4.3)

(d) $\beta_{pm} = 0.25(1.64) + 0.25(0.37) + 0.25(1.34) + 0.25(1.15) = 1.125$

Illustration 10: Mr Fool Vijay provides you the following information. You are required to calculate the optimum portfolio in choosing among the following securities and assuming the risk-free return is = 8% and variance in the market index (σ_m^2) = 12%?

Security	Expected Return	Beta	Security's unsystematic risk
No.i	\bar{R}_i	β_{im}	σ_{ei}^2
SBI	20	1.0	40
RBL	18	2.5	35
ITC	12	1.5	30
IDBI	16	1.0	35
ICICI	14	0.8	25
MRPL	10	1.2	15
CNBC	17	1.6	30
NDTV	15	2.0	35

Solution: Comparing the ratio of excess return to b to the cut-off rate, C.

Security	$(\tilde{R}_{it} - T)/\beta_{im}$	$\frac{(\tilde{R}_{it} - T)/\beta_{im}}{\sigma_{ei}^2}$	$\frac{\beta_{im}^2}{\sigma_{ei}^2}$	$\sum_{i=1}^i \frac{(\tilde{R}_{it} - T)/\beta_{im}}{\sigma_{ei}^2}$	$\sum_{i=1}^i \frac{\beta_{im}^2}{\sigma_{ei}^2} \mathbf{0.025}$
SBI	12.00	0.300	.025	0.300	0.025
RBL	8.00	0.229	.029	0.529	0.054
ITC	7.50	0.179	0.26	0.708	0.080
IDBI	5.63	0.480	.085	1.188	0.165
ICICI	4.00	0.714	.179	1.902	0.344
MRPL	3.50	0.400	.114	2.302	0.458
CNBC	2.67	0.200	.064	2.502	0.522
NDTV	1.67	0.160	.026	2.662	0.618

Possible cut-off rate C

$$C_i = \frac{\sigma_m^2 \sum_{i=1}^i \frac{(R_i - T)\beta_{im}}{\sigma_{ei}^2}}{1 + \sigma_m^2 \sum_{i=1}^i \frac{\beta_{im}^2}{\sigma_{ei}^2}}$$

SBI	2.769	1
RBL	3.852	2
ITC	4.414	3
IDBI	4.836	4
ICICI	4.481	5
MRPL	4.276	6
CNBC	4.155	7
NDTV	3.814	8

The value of cut-off rate, C is 4.836 and equal to G cut off rate. Finding the percentage of each security:

$$Z_1 = \left\{ \frac{\beta_{im} - R_i - T}{\sigma_{ei}^2 \beta_{im}} \right\}$$

$$Z_1 = \frac{1}{40} (12 - 4.836) = 0.1791$$

$$Z_3 = \frac{1}{35} (8 - 4.836) = 0.0904$$

$$Z_4 = \frac{0.8}{25} (5.63 - 4.836) = 0.0423$$

$$\sum_{i=1}^4 Z_i = 0.3971$$

Diving each Z_i by the sum of Z_i we get the fund to be invested in each security. In A = 45.10%; in D = 22.77% ; in E = 21.48% ; and in G = 10.65%.

6.7 LET US SUM UP

In this lesson we discussed about the Optimal portfolio: selection & problems; All of us have our own visions of what a better world would look like. The efficient frontier is, perhaps, a vision of a better world to which we could all subscribe. Everyone could get closer to what they value most. By its nature, our society is constantly generating new alternatives. If ideas were evaluated on their merits, we could push the efficient frontier ever higher, and reach it more often. The CAPM is a classical model in finance. It is an equilibrium argument that, if true, answers most important investment questions. It tells us where to invest, how to invest and what discount rate to use for project cash flows. Not only that, it is a disarmingly simple model. The expected return of a security depends upon a simple statistic: b. The relationship between risk and return is linear. Calculation of portfolio risk is trivial. At the same time, the CAPM is revolutionary. It tells us that the variance of a project is NOT a factor in determining the appropriate, risk-adjusted discount rate. It turns financial research from roll-up-your-sleeves fundamental analysis into a statistics problem. In short, the CAPM turned Wall Street on its head.

Efficient Frontier: Meaning & Construction and investors utility; Efficient frontier (i) risk-free and (ii) risky lending and borrowing, leveraged portfolio; market portfolio; capital market line; CAMP; security market line; characteristic line. Concept of a market portfolio is discussed in theoretical terms only. For investment purposes, a true market portfolio would need to include every conceivable asset. As such, the market for such a portfolio would be the world market. The market portfolio concept is important in a

variety of financial theories, including Modern Portfolio Theory (MPT). According to the MPT, investors should concentrate on choosing portfolios based on overall risk-reward concepts, rather than focusing on the attractiveness of individual securities.

6.8 LESSON END ACTIVITY

1. You are provided Rs 150,000. Construct a optimum Portfolio by using Debt market, Equity market and Mutual Fund, Gold investment.
2. Study on relevance of CAPM model in BSE and NSE.
3. Study on Efficient frontier in Indian Market.

6.9 KEYWORDS

Traditional Portfolio analysis: It recognizes the key importance of risk and return to the investor traditional approaches which really upon intuition and insight.

Portfolio Management: 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 vs. performance.

Diversification: Diversification is a risk-management technique that mixes a wide variety of investments within a portfolio in order to minimize the impact that any one security will have on the overall performance of the portfolio. Diversification lowers the risk of your portfolio.

Rates of Return: The investor return is a measure of the growth in wealth resulting from that investment.

Expected Return on a Portfolio: The Expected Return on a Portfolio is simply the weighted average the expected returns of the individual securities in the given portfolio.

Short and Long positions: Short selling and long buying are certain trading activities that active stock holders (speculators) used to perform on the list of forward securities.

Sharpe's single index market model: Sharpe assumed that, for the sake of simplicity, the return on a security could be regarded as being linearly related to a single index like the market index.

Beta predicting: Beta, as commonly defined, represents how sensitive the return of an equity portfolio (or security) is to the return of the overall market.

Markowitz Model: Dr. Harry Markowitz is credited with developing the first modern portfolio analysis model since the basic elements of modern portfolio theory emanate from a series of propositions concerning rational investor behaviour.

6.10 QUESTIONS FOR DISCUSSION

1. Define Optimal portfolio.
2. Define Efficient Frontier.
3. What are the benefit or utility of Efficient Frontier to investor?
4. Write a brief note on CAPM.
5. What is leveraged portfolio?

6. Explain briefly security market line.
7. Define Characteristic line.
8. What is Capital market line relevance in modern portfolio management?
9. Study on Efficient frontier relevance in Indian secondary market.

Check Your Progress: Model Answers

CYP 1

Portfolio selection process entails four basic steps:

Step 1: Identifying the assets to be considered for portfolio construction.

Step 2: Generating the necessary input data to portfolio selection; this involves estimating the expected returns, variances and covariance's for all the assets considered.

Step 3: Delineating the efficient portfolio.

Step 4: Given an investor's risk tolerance level, selecting the optimal portfolio in terms of: (a) the assets to be held; and (b) the proportion of available funds to be allocated to each.

CYP 2

Basically, short selling refers to that trading activity wherein the speculator sells a security without currently possessing it. Similarly, the long buy refers to the contract of buying a security without any real intention to take the delivery of it. These contracts are undertaken with the information to the investors' brokerage firm.

CYP 3

1. T, 2. T, 3. T, 4. T, 5. T.

6.11 SUGGESTED READINGS

Sudhindra Bhat, *Security Analysis and Portfolio Management*, Excel Books, Delhi.

Preeti Singh, *Security Analysis and Portfolio Management*.

V.A. Avadhani, *Investment Management*.

M.Y. Khan, *Financial Services*.

V.K. Bhalla, *Financial Services*.

G.S. Batra, *Financial Services and Markets*.

Mahana Rao, *Financial Services, Cases and Strategies*.

L. M. Bhole, *Financial Markets and Services*.

UNIT III

LESSON

7

MERCHANT BANKING

CONTENTS

- 7.0 Aims and Objectives
- 7.1 Introduction
- 7.2 Meaning
- 7.3 Evolution of Merchant Banking
- 7.4 Scope of Merchant Banking
- 7.5 Organisation and Pattern of Management
 - 7.5.1 Merchant Banking Organisation in India
 - 7.5.2 Regulation of Merchant Banks
 - 7.5.3 Merchant Banks in India
- 7.6 Role of Merchant Banker
- 7.7 Let us Sum up
- 7.8 Lesson End Activity
- 7.9 Keywords
- 7.10 Questions for Discussion
- 7.11 Suggested Readings

7.0 AIMS AND OBJECTIVES

After studying this lesson, you should be able to:

- Understand the concept of merchant banking
- Distinguish between the merchant banks and investment banks
- Learn about the functions of the merchant banks
- Know about merchant banking organization and pattern of management
- Have knowledge about the regulation of merchant banks

7.1 INTRODUCTION

Merchant Banking, as the term has evolved in Europe from the 18th century to today, pertained to an individual or a banking house whose primary function was to facilitate the business process between a product and the financial requirements for its development. Merchant banking services span from the earliest negotiations from a transaction to its actual consummation between buyer and seller.

7.2 MEANING

The definition of merchant banking has changed in the last few years. The great merchant banking families dealt in everything from underwriting bonds to originating foreign loans. The modern merchant banks, however, tend to advise corporations and wealthy individuals on how to use their money. The advice varies from counsel on M&A to recommendation on the type of credit needed. The job of generating loans and initiating other complex financial transactions has been taken over by investment banks and private equity firms.

7.3 EVOLUTION OF MERCHANT BANKING

During the 20th century, however, European merchant banks expanded their services. They became increasingly involved in the actual running of the business for which the transaction was conducted. Today, merchant banks actually own and run businesses for their own account, and that of others.

Since the 18th century, the term merchant banker has, therefore, been considerably broadened to include a composite of modern day skills. These skills include those inherent in an entrepreneur, a management advisor, a commercial and/or investment banker plus that of a transaction broker. Today a merchant banker is who has the ability to merchandise — that is, create or expand a need — and fulfill capital requirements. The modern European merchant bank, in many ways, reflects the early activities and breadth of services of the colonial trading companies.

Merchant Banks and Investment Banks

Merchant banks and investment banks in their purest forms, are different kinds of financial institutions that perform different services. In practice, the fine lines that separate the functions of merchant banks and investment banks tend to blur.

A merchant bank is a bank that deals mostly in (but is not limited to) international finance, long-term loans for companies and underwriting. Merchant banks do not provide regular banking services to the general public. Their knowledge in international finances makes merchant banks specialists in dealing with multinational corporations.

An Investment bank is a financial intermediary that performs a variety of services. This includes underwriting, acting as an intermediary between an issuer of securities and the investing public, facilitating mergers and other corporate reorganizations, and also acting as a broker for institutional clients. Pure investment banks raise funds for businesses and some governments by registering and issuing debt or equity and selling it on a market.

7.4 SCOPE OF MERCHANT BANKING

Traditionally, investment banks only participated in underwriting and selling securities in large blocks. Investment banks facilitate mergers and acquisitions through share sales and provide research and financial consulting to companies. Traditionally, investment banks did not deal with the general public.

Traditional merchant banks primarily perform international financing activities such as foreign corporate investing, foreign real estate investment, trade finance and international transaction facilitation. Some of the activities that a pure merchant bank is involved in may include issuing letters of credit, transferring funds internationally, trade consulting and co-investment in projects involving trade of one form or another.

The current offerings of investment banks and merchant banks vary by the institution offering the services, but there are a few characteristics that most companies that offer both investment and merchant banking share.

As a general rule, investment banks focus on initial public offerings (IPOs) and large public and private share offerings. Merchant banks tend to operate on small-scale companies and offer creative equity financing, bridge financing, mezzanine financing and a number of corporate credit products. While investment banks tend to focus on larger companies, merchant banks offer their services to companies that are too big for venture capital firms to serve properly, but are still too small to make a compelling public share offering on a large exchange. In order to bridge the gap between venture capital and a public offering, larger merchant banks tend to privately place equity with other financial institutions, often taking on large portions of ownership in companies that are believed to have strong growth potential.

Merchant banks still offer trade financing products to their clients. Investment banks rarely offer trade financing because most investment banking clients have already outgrown the need for trade financing and the various credit products linked to it.

Check Your Progress 1

What do you understand by merchant banking?

.....
.....

7.5 ORGANISATION AND PATTERN OF MANAGEMENT

7.5.1 Merchant Banking Organisation in India

Merchant Banking services are provided by the following organizations in India:

- (a) Indian commercial banks, such as the State Bank of India, Canara Bank, Bank of Baroda have floated wholly owned subsidiaries, namely State Bank of India Capital Markets Ltd., (SBICAP), Canbank Financial Services Ltd. (Canfina), Bank of Baroda Fiscal Services Ltd. (BOB Fiscal) respectively for carrying out merchant banking activities.
- (b) Most of the foreign banks are offering merchant banking services.
- (c) All India financial institutions, such as Industrial Credit and Investment Corporation of India (ICICI), International Finance Corporation (IFC), and Industrial Development Bank of India (IDBI) have also entered in this field.
- (d) Private consultancy firms, such as DSP Financial consultants, Credit Capital Finance Corporation Ltd., J.M. Financial and Investment services Ltd.
- (e) Technical consultancy organizations.
- (f) Professional merchant banking houses, such as Visual meteorological conditions (VMC) Project Technologies are also slowly coming up in India.

7.5.2 Regulation of Merchant Banks

The merchant bankers have to be authorized by SEBI. They have to follow the stipulated capital adequacy norms. In addition, they have to abide by a code of conduct which specify a high degree of responsibility towards investors in respect of pricing and premium fixation of issues and disclosures in the prospectus or offer letter for issues.

At present, merchant banks in India are subject to supervision by two types of authorities.

1. The Reserve Bank of India (RBI) supervises those merchant banks which are subsidiaries or are affiliates of commercial banks. If the merchant banks were to raise deposits, they would have to follow the guidelines issued by the RBI.
2. Since the beginning of 1993, the merchant banking has been statutorily brought under the regulatory framework of the Securities Exchange Board of India (SEBI) to ensure greater transparency in their working and make them accountable.

7.5.3 Merchant Banks in India

State Bank of India: State Bank of India's Merchant Banking Group is strongly positioned to offer perfect financial solutions to business. They specialize in the arrangement of various forms of foreign currency credits for corporate. They provide the resources, convenience and services to meet the needs by arranging foreign currency credits through:

- Commercial loans
- Syndicated loans
- Lines of Credit from Foreign Banks and Financial Institutions
- FCNR loans
- Loans from Export Credit Agencies
- Financing of Imports

They are internationally the most Preferred Bank by Export Credit Agencies for Guarantees in case of the Indian Clients or Projects.

State Bank of India being an Indian entity has no India exposure ceiling. Their primary focus is on Indian clients. State Bank of India's seasoned team of professionals provides with insightful credit Information and helps to maximize the value from the transaction. Their products and services include:

1. Arranging External Commercial Borrowings (ECB)
2. Arranging and participating in international loan syndication
3. Loans backed by Export Credit Agencies
4. Foreign currency loans under the FCNR (B) scheme
5. Import Finance for Indian corporates

Canara Bank: It is also one of the leading Merchant Bankers in India, offering specialized services to banks, state owned corporations, local statutory bodies and corporate sector.

Check Your Progress 2

Choose the correct option:

1. The merchant banking organizations in operation in India are:
 - (a) Indian commercial banks
 - (b) All India Financial Institutions
 - (c) Foreign banks operating in India
 - (d) All of the above

Contd...

2. Merchant banking in India operates under the regulatory framework of:
 - (a) Reserve Bank of India
 - (b) IRDA
 - (c) SEBI
 - (d) None of the above
3. The Reserve Bank of India (RBI) supervises those merchant banks which are subsidiaries or are affiliates of:
 - (a) Commercial banks
 - (b) Development Financial Institutions
 - (c) Regional Rural Banks
 - (d) None of the above
4. Merchant bankers acting as sponsors of the issue undertake the tasks of:
 - (a) preparing prospectus
 - (b) getting approvals from SEBI
 - (c) engaging underwriters and brokers
 - (d) all of the above

7.6 ROLE OF MERCHANT BANKER

Merchant bankers help companies to raise finance by way of fixed deposits from the public. For this purpose, they not only provide required guidance but also act as brokers for mobilization of public deposits. Merchant banking is basically a service banking, concerned with providing non-fund based services of arranging funds rather than providing them. The merchant banker merely acts as an intermediary, whose main job is to transfer capital from those who own it to those who need it. With the increase in the complexities and requirements of modern business, the role of a merchant banker has undergone a substantial change. The merchant banker now acts as an institution which understands the requirements of the entrepreneur promoters on the one hand and financial institutions, banks, stock-exchange and money markets on the other.

The functions of a merchant banker can be summarized as follows:

1. **Project counseling:** A merchant banker helps an entrepreneur in conception of idea, identification of projects, preparation of projects, feasibility reports, fixing locations, obtaining money, sanctions/approvals from State and Central Government departments.
2. **Sponsor of issue:** Merchant banker act as sponsor of issues rather than sources of finance. They prepare prospectus, get the approval from Securities and Exchange Board of India (SEBI), and engage underwriters, brokers for issue.
3. **Credit syndication:** Merchant bankers undertake preparation of project files, loan applications for financial assistance on behalf of promoters from different financial institutions for meeting long-term as well as working capital requirements of their clients.
4. **Servicing of issues:** Merchant bankers keep register of share-holders and debentures holders of their clients-companies-act as paying agents for the dividends,

debentures interest. They also arrange for safe custody of securities on behalf of their clients.

5. **Investment management:** Merchant bankers render advice in matters pertaining to investment decisions, effects of taxation and inflation on gilt edged and other securities. They also undertake the functions of buying and selling securities for their client companies.
6. **Arrangement for fixed deposits:** Merchant bankers help companies to raise finance by way of fixed deposits from the public. For this purpose, they not only provide required guidance but also act as brokers for mobilization of public deposits.
7. **Other specialist activities:** These include:
 - (a) Corporate counseling for financial institutions, rehabilitation and reconstruction of old/ailing or sick industrial units.
 - (b) Services to Non Resident Indians for suitable investment opportunity in India.
 - (c) Assistance in negotiations of foreign collaboration.
 - (d) Arranging technology, finance and risk/venture capital.

7.7 LET US SUM UP

In venture capital, the focus is on a narrow market segment, namely, the financing of new start-up projects and expansion projects where the entrepreneur advances into new stages in the production and distribution process.

In India, venture capital is of fairly recent origin. In November 1988, the Government of India announced the venture capital guidelines, wherein the institutions conforming to the guidelines were entitled to tax relief on capital gains under the Income Tax Act.

The venture capital industry has four players: entrepreneurs, investors, investment bankers and venture capitalists.

The venture capitalists perform the following functions. (a) Finance new and rapidly growing companies (b) Purchase equity securities (c) Assist in the development of new products or services (d) Add value to the company through active participation and (e) Take higher risks with the expectation of higher rewards.

The various disinvestment options available to the venture capitalist are: Buy-back by the promoters, Sale to another venture capitalist, Initial Public Offering, Acquisition by another company and Sale in the over-the-counter market.

Merchant banking is a service banking, concerned with providing non-fund based services of arranging funds rather than providing them.

7.8 LESSON END ACTIVITY

Write a study note on the role and functions of merchant bankers.

7.9 KEYWORDS

Seed Money: Money used or needed to set up a new business or enterprise.

Mezzanine Level: It is the stage of a company's development just prior to its going public.

Private Equity: Equity capital that is made available to companies or investors, but not quoted on a stock market. The funds raised through private equity can be used to develop

new products and technologies, to expand working capital, to make acquisitions, or to strengthen a company's balance sheet.

Angel Investor: An individual who invests his or her own money in a private company, which is typically a start-up. An angel investor is not an employee or member of a bank, venture capital firm or other financial institution that normally makes such investments.

Sponsor of issue: Merchant banker act as sponsor of issues rather than sources of finance.

Credit syndication: Merchant bankers undertake preparation of project files, loan applications for financial assistance on behalf of promoters from different financial institutions for meeting long-term as well as working capital requirements of their clients.

Investment management: Merchant bankers render advice in matters pertaining to investment decisions, effects of taxation and inflation on gilt edged and other securities.

7.10 QUESTIONS FOR DISCUSSION

1. Explain the development of 'Merchant banking' business in India.
2. What functions are performed by a merchant banker?
3. Distinguish between Merchant banking and Investment banking.
4. What are the various disinvestment options available to the venture capitalist? Discuss any one in detail.

Check Your Progress: Model Answers

CYP 1

A merchant bank is a bank that deals mostly in (but is not limited to) international finance, long-term loans for companies and underwriting. Merchant banks do not provide regular banking services to the general public. Their knowledge in international finances makes merchant banks specialists in dealing with multinational corporations.

CYP 2

1. d, 2. c, 3. a, 4. d.

7.11 SUGGESTED READINGS

Sudhindra Bhat, *Security Analysis and Portfolio Management*, Excel Books, Delhi.

Preeti Singh, *Security Analysis and Portfolio Management*.

V.A. Avadhani, *Investment Management*.

M.Y. Khan, *Financial Services*.

V.K. Bhalla, *Financial Services*.

G.S. Batra, *Financial Services and Markets*.

Mahana Rao, *Financial Services, Cases and Strategies*.

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LESSON

8

LEASE FINANCING

CONTENTS

- 8.0 Aims and Objectives
- 8.1 Introduction
- 8.2 Meaning of Lease Financing
 - 8.2.1 Definitions of Leasing
- 8.3 Types of Lease
 - 8.3.1 Financial Lease
 - 8.3.2 Operating Lease
- 8.4 Advantages of Leasing
 - 8.4.1 Advantages to the Lessee
 - 8.4.2 Advantages to the Lessor
- 8.5 Disadvantages of Leasing
- 8.6 Factors Influencing Lease
- 8.7 Financial Evaluation of Leasing
- 8.8 Let us Sum up
- 8.9 Lesson End Activity
- 8.10 Keywords
- 8.11 Questions for Discussion
- 8.12 Suggested Readings

8.0 AIMS AND OBJECTIVES

After studying this lesson, you should be able to:

- Understand the nature, meaning, scope and features of lease financing
- Learn about different kinds of lease
- Know about the factors influencing lease
- Have an idea about the methods of evaluation of leasing
- Explain the role and importance of lease financing in economic development of a country

8.1 INTRODUCTION

Lease financing denotes procurement of assets through lease. The subject of leasing falls in the category of finance. Leasing has grown as a big industry in the USA and UK and spread to other countries during the present century. In India, the concept was pioneered in 1973 when the First Leasing Company was set up in Madras and the eighties have seen a rapid growth of this business. Lease as a concept involves a contract whereby the ownership, financing and risk taking of any equipment or asset are separated and shared by two or more parties. Thus, the lessor may finance and lessee may accept the risk through the use of it while a third party may own it. Alternatively the lessor may finance and own it while the lessee enjoys the use of it and bears the risk. There are various combinations in which the above characteristics are shared by the lessor and lessee.

8.2 MEANING OF LEASE FINANCING

A lease transaction is a commercial arrangement whereby an equipment owner or Manufacturer conveys to the equipment user the right to use the equipment in return for a rental. In other words, lease is a contract between the owner of an asset (the lessor) and its user (the lessee) for the right to use the asset during a specified period in return for a mutually agreed periodic payment (the lease rentals). The important feature of a lease contract is separation of the ownership of the asset from its usage. Lease financing is based on the observation made by Donald B. Grant: “Why own a cow when the milk is so cheap? All you really need is milk and not the cow.”

Lease is the method of acquiring the right to use equipment or real property for a consideration. Essentially, it involves the separation of the economic usage and the ownership of the assets. It is a sort of contractual agreement between the two parties whereby one acquires the right to use the asset called the “lessee” and the other who allows the former the right to use its owned property is called the “lessor”.

A lease can be defined as an agreement whereby the lessor conveys to the lessee in return for a payment or series of payments the right to use an asset for an agreed period of time. Figure 1 illustrates the process.

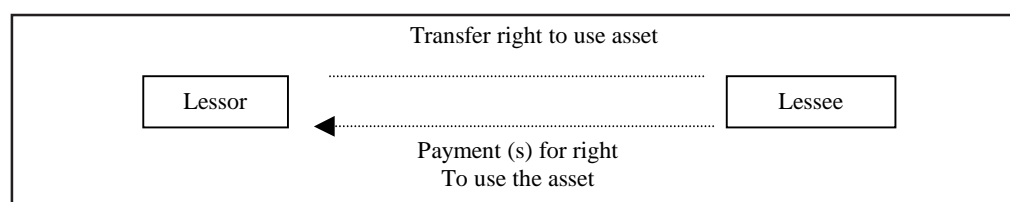


Figure 8.1: Basics of Leasing

The lease must therefore have the following three basic characteristics:

1. A contract of commercial nature between the lessee and the lessor.
2. The contract should provide for periodic payment of rentals for using the assets for a fixed term by the lessee.
3. On expiry of the lease term the hirer should return the asset to the owner or dispose it in the manner as desired by the owner.

8.2.1 Definitions of Leasing

Over the years many definitions of leasing have emerged to take care of the different needs. These definitions focus on the legal, marketing, accounting and economic aspects

of the leasing transactions. There is generally no accepted definition of leasing within the country and outside the country.

“A contract for an exclusive possession of property (usually but not necessarily land or building) for a determinate period or at will. The person making the grant is called the lessor and the person receiving the grant is called the lessee. Two important requirements for a lease are that the lessee has the exclusive possession and the lessor’s terms of interest in property are longer than the terms of the lease (a grant involving an equal term or period would comprise a conveyance or assignment, at a lease)”

Britannia Vol. VI, 13th edition

“A lease is a contract between the lessor and the lessee for the hire of a specific asset selected from a manufacturer or vendor of such assets by the lessee. The lessor retains the ownership of the asset. The lessee has the possession and the use of the asset on payment of certain pre-specified over a period of time.”

Equipment Leasing Association U.K.

“Lease Financing is a recent evolution in the Indian scene whereby the asset required by the user Company is purchased by the financing company and let on lease over a period on terms and rentals mutually agreed between them. Various courses are possible at the end of the lease tenure:

1. The lessee may surrender the assets to the lessor.
2. The lessee may renew the lease on a perpetual basis or for a specific period.
3. The lessor may take the asset from the lessee and sell it to the third party.
4. The lessor may sell the asset to the lessee.”

Equipment Leasing Association, India

“Lease is an agreement whereby the lessor conveys to the lessee, in return for a rent, the right to use the asset for a agreed period of time.”

Institute of Chartered Accountants of India

“An agreement whereby the lessor conveys to the lessee in return for rent the right to use an asset for an agreed period of time.”

International Accounting Standard (IAS-17)

“Leasing is an agreement that provides a firm the use of control over assets without receiving title to them. A lease is a written agreement allowing the use of the assets for a specified period of time. The lease is signed both by the owner of the asset, called the lessor and the use called the lessee.”

John Hampton (1984)

Essentially, lease is a contract between two parties – lessor and the lessee. The above definitions of leasing help us in arriving at the following features of leasing:

1. A lease is a contract between the lessor (owner of asset) and user of asset (lessee).
2. The asset may be of any type - either tangible or intangible.
3. The title of ownership is retained by the lessor.
4. The asset is used by the lessee only.
5. The lessor promises to grant the lease rights to the lessee.
6. The consideration from the side of lessee is payment of rentals over the terms of lease.
7. There contract between lessor and lessee is well documented.

Figure 8.2 presents the general model of leasing

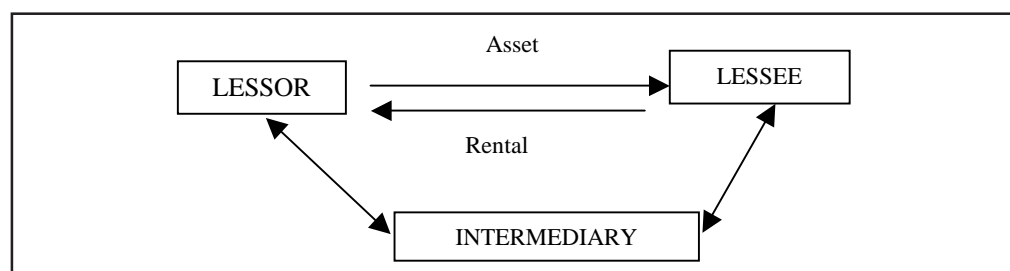


Figure 8.2: Model of Leasing in General

8.3 TYPES OF LEASE

Leasing can be broadly classified into the following two broad categories as illustrated in Figure 8.3:

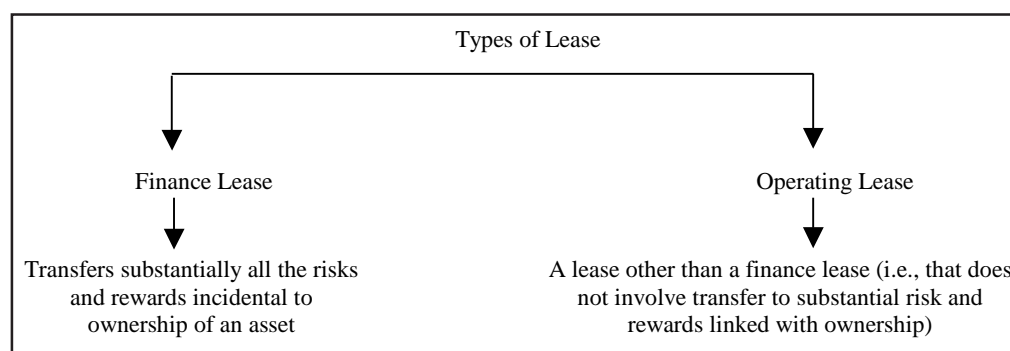


Figure 8.3: Types of Leasing

Whether the lease is a finance lease or an operating lease depends on the substance of the transaction rather than where it is from.

Examples of situations which would normally lead to a lease being classified as a finance lease are:

- the lessor transfers ownership of the asset to the lessee by the end of the lease term;
- the lessee has the option to purchase the asset at a price which is expected to be sufficiently lower than the fair value at the date the option becomes exercisable such that, at the inception of the lease, it is reasonably certain that the option will be exercised;
- the lease term is for the major part of the economic life of the asset even if title is not transferred;
- At the inception of the lease the present value of the minimum lease payments amounts to at least substantially all the fair value of the leased asset; and
- The leased asset is of a specialized nature such that only the lessee can use it without major modification being made.

Further, the fulfillment of following conditions (whether individually or in combination) could also lead to a lease being classified as a finance lease:

- if the lessee can cancel the lease, the lessor's losses associated with the cancellation are borne by the lessee;

- (b) gains or losses from the fluctuation in the fair value of the residual fall to the lessee, e.g., in the form of a rent rebate equaling most of the sales proceeds at the end of the lease; and
- (c) the lessee can continue the lease for a secondary period at a rent which is substantially lower than market rent.

The two types of lease are now explained in detail.

8.3.1 Financial Lease

Financial lease is a long-term lease between two parties that is non-cancelable prior to the expiration date. It is a source of long term funds and serves as an alternative to long term debt financing. The lease agreement provides that the lease will cover the service life of the asset. The lessee is usually responsible for maintenance, insurance and taxes.

Following are the important characteristics of a financial lease:

1. A financial lease imposes fixed obligations upon the lessee. The lessee is required to make periodic payments that are not cancelable as rental to the lessor. The rental payable varies according to the residual or depreciated value of the equipment in inverse proportion to the value of the assets leased.
2. In a financial lease, the lessee is responsible for all costs related to the service of the equipment, insurance and the maintenance costs.
3. Financial lease terminate on the stipulated date. On completion of the lease period, market purchase price is negotiated between the lessee and the lessor and a secondary lease may be contemplated.
4. The economic life of the asset forms the basis for deciding the lease period. The period which usually ranges from one year to 20 years, should be less than the economic life of the asset. The lessee is obliged to fulfill the entire obligation during this period.
5. Financial lease is made under a written agreement that the lease will cover the service life of the asset. In case the asset has indefinite life the service life of the asset will form the basis of the lease period.
6. The terms of the financial lease are such that it is profitable both to the lessee as well as the lessor. The rental payments exceed the present value of the investment made by the lessor. For the lessee, lease is cheaper than the purchase or borrowing decision.
7. In the financial lease, the lessor makes the full payment for the equipment chosen by the lessee. The lessor arranges the funding of the equipment invoices it and delivers it to the lessee. The lessor allows the continuous use of asset during the lease period without the transfer of ownership.
8. The terms of the financial lease are such that they cannot confer upon the lessee the option to purchase the equipment.
9. Financial lease offers to the lessee the alternative to long-term financing. The terms of the financial lease are enforceable in the court of law. In India, all the lease companies are presently offering financial lease only.

8.3.2 Operating Lease

An operating lease can be defined as a lease that is not a financial lease. This lease is not very popular in India. Typewriters, computers, vehicles, copiers, furniture's, office appliances, office automation products, etc. are examples of assets that are commonly leased under operating lease arrangements. An operating lease has the following features:

1. It is a short-term lease, the lease period being significantly less than the useful life of the equipment.
2. The lease can be cancelled at short notice by the lessee prior to expiration. It is cancelable at the option of either the owner or user after giving stipulated notice.
3. The lessor provides for maintenance, repairs, insurance, and taxes.
4. The lease is not fully amortized. The lease rentals payable during the lease period are not sufficient to cover fully the cost of the equipment along with an acceptable return thereon.
5. Operating Lease generally involve high rentals.

Table 8.1 presents the distinction between operating and financial lease.

Table 8.1: Distinction between Operating and Finance Lease

Finance Lease	Operating Lease
1. Financial lease is a long term lease between two parties that is non-cancelable prior to the expiration date.	1. Operating lease is defined as “a lease other than finance lease”.
2. The cost of asset is recovered by lessor from a single lease	2. The cost of the asset is not recovered by the lessor from a single lease.
3. The lease term ranges from medium-term to long-term. The leasing contract covers essentially the expected useful life of the asset.	3. The lease term is not for the duration of economic life of the asset. It ranges from short-term to intermediate term
4. The type of assets dealt with under this is special purpose assets such as land, plant and machinery equipment, etc.	4. The types of assets dealt with under this base are “General Purpose”.
5. The lessee is responsible for repairs and maintenance and the expenses are born by him.	5. The lessor is responsible for repairs and maintenance and other support services to the lessee.
6. Risks of obsolescence are borne by the lessee.	6. The risks of obsolescence are born by the lessor.
7. Financial lease is more or less fully amortized and non-cancellable in nature.	7. Operating lease is generally cancelable either by owner or by lessee. These leases do not fully amortize the original cost of the asset.
8. Lease term form a major part of assets useful life.	8. Lease term do not form a major part of assets useful life.
9. Ownership is transferred by the end of lease term.	9. Ownership is not transferred by the end of lease term.

Check Your Progress 1

Define the following:

1. Financial Lease

.....
.....

2. Operating Lease

.....
.....

8.4 ADVANTAGES OF LEASING

Leasing is beneficial both to the lessee as well as to the lessor. The main benefit of leasing is the separation of ownership and the economic use of an asset. The benefits to the lessee and the lessor are discussed separately.

8.4.1 Advantages to the Lessee

Leasing helps the lessee to acquire the asset for economic use without incurring the costs associated with the ownership of the asset. The main advantages to the lessee are:

1. **100% financing.** The cost of the asset is completely financed by the leasing company. The down payments demanded by the lessor are not as large as in case of the borrowings. The lessee can thus use the free reserves in any other more productive way as it deems fit for the organization.
2. **Flexibility and Convenience in payment of the lease rentals.** The rental pattern of the lease is structured in consultation with the lessee so as to accommodate the cash flow situation of the lessee and make the payments convenient for the lessee. Since, the lease rentals are known in advance, the lessee knows the outflow and thus planning the finances is easier.
3. **Mobilization of scarce financial resources.** Leasing as a method of financing the purchase of the equipment, has a competitive advantage in mobilizing the scarce financial resources for providing cheaper finance to business enterprises to meet the cost of the project.
4. **Procedural Convenience.** Lease finance is free from the complex procedures, compliance to covenants and the regulations as involved in procuring the finance from the financial institutions. The request of the lessee is generally processed at a much faster rate, than the request of the finance seeker.
5. **Avoidance of inflationary impact.** Leasing acts as a hedge against inflation. The lessee pays at the current prices of the equipment for tomorrow's cost in depreciated currency, which makes the equipment costly.
6. **Conservation of Working Capital.** As leasing involves no down payment, it does not put any burden on the company's cash resources and thus provides a way for conserving the working capital.
7. **Tax savings.** Lease rentals fall into the category of the operating expenses and are tax deductible. Leasing may result in large rental deductions from the taxable income in the early years of the lease.

8. **Avoidance of bankruptcy risk.** Since lease does not amount to debt, there is no risk of bankruptcy due to the failure to pay the rentals on time.
9. **Cost Reduction in equipments.** The growth of leasing is largely attributed to the fact that the cost of the equipment is reduced to the extent of the profit margin of the intermediary involved in the transaction. In many cases, the manufacturers of the equipment have themselves opened a lease-financing arm to make the equipment more affordable.
10. **Salvage value of the equipment.** Since the lessor remains the owner of the leased property, the disposal of obsolete and used equipment is the responsibility of the lessor.
11. **Piecemeal Financing Device.** Lease financing is a less costly and more convenient piecemeal financing device particularly in circumstances when the firm is expanding by adding relatively small amounts of fixed assets at regular interval, the firm will have to locate a series of funds.
12. **Convenience in preparation of Budgets.** Leasing is favored by the finance managers due to the certainty in the rentals and the length of the life of the assets. This helps in simplifying the future cash flows and accuracy as regards the capital costs of the assets.

8.4.2 Advantages to the Lessor

The most important advantage to the lessor is that of the tax relief. The tax relief permits the lessor to reduce the cost of the asset and the benefit is passed on to the lessee in form of lower rental. In addition, other more frequently cited advantages to the lessor are:

- Economies of scale
- Convenience in marketing of the product,
- Certain Sales
- Wider distribution network
- Channel servicing outlets
- Better and long term relationship with the clients.

8.5 DISADVANTAGES OF LEASING

Some of the important disadvantages of leasing are as follows:

1. **Deprivation of equipment:** An important disadvantage of the lease is that the lessee does not become the owner of the asset unless the lease contract has a purchase option.
2. **Probability of default:** In case of default, the lessee as per the compliance with the terms and the conditions of the contract carry the risk of termination of the lease and giving lessor the right to take over the property at its own will. In addition, the lessee is required to pay the damages to the lessor.
3. **Lack of freedom to make changes:** The lessee is not permitted to make the changes to the leased asset without the formal permission of the lessor.
4. **High interest costs:** The cost of leasing is generally higher than that of debt. The lessor charges not only for the interest costs, but also for the inventory costs, overhead costs, and the risk of obsolescence.

5. ***Certain concessions not available:*** Certain concessions available on debt funding as subsidized interest rates and other benefits on setting up units in the backward areas are not available in case of leased equipments.
6. ***High Cost for terminating lease agreements:*** The lessee, especially in a finance lease will not be able to terminate the lease without paying a stiff penalty for the same. This reduces the flexibility of the firm in changing the line of operation.

8.6 FACTORS INFLUENCING LEASE

Legal Aspects

As there is no separate statute for equipment leasing in India, the provisions relating to bailment in the Indian contract Act govern equipment leasing agreements as well.

Section 148 of the Indian Contract Act defines bailment as: purpose, upon a contract that they shall, when the purpose is accomplished, be returned or otherwise disposed off according to the directions of the person delivering them. The person delivering the goods is called the “bailor” and the person to whom they are delivered is called the “bailee.”

Since an equipment lease transaction is regarded as a contract of bailment, the obligation of the lessor and the lessees are similar to those of the bailor and bailee (other than those expressly specified in the lease contract) as defined by the provisions of Sections 150 and 168 of the India Contract Act.

Essentially these provisions have the following implications for the lessor and the lessee: (i) The lessor has the duty to deliver the asset to the lessee, to legally authorize the lessee to use asset, and to leave the asset in peaceful possession of the lessee during the currency of the agreement. (ii) The lessee has the obligation to pay the lease rentals as specified in the lease agreement, to protect the lessor’s title, to take reasonable care of the asset and to return the leased asset on the expiry of the lease period.

When a firm needs an asset for a short period, leasing makes sense. Buying an asset to resell after use is time consuming, inconvenient and more expensive.

Check Your Progress 2

1. State whether the following statements are true or false:
 - (a) Risks of obsolescence are borne by the lessee under operating lease.
 - (b) Financial lease offers to the lessee the alternative to long term financing.
 - (c) Operating lease is a short-term lease, the lease period being significantly less than the useful life of the equipment.
 - (d) In the financial lease, the lessor makes the full payment for the equipment chosen by the lessee.
2. Fill in the blanks:
 - (a) A lease can be defined as an agreement whereby the conveys to the, in return for a payment or series of payments, the right to use a for an agreed period of time.
 - (b) The title of ownership is retained by the
 - (c) The lessee may renew the lease on a or for a
 - (d) The assets being leased may be or

8.7 FINANCIAL EVALUATION OF LEASING

A number of attempts have been made by researchers in suggesting techniques for lease or buy decisions with the objective that the owners of the corporate entity, purchasing or hiring on lease the assets are benefited. The lease versus purchase decision requires a standard capital budgeting type of analysis, as well as an analysis of two alternative “packages” of financing. Two models are used to evaluate the lease versus purchase decision.

1. The first model computes the net present value of the purchase option which can be defined as follows:

$$NPV (P) = \sum_{t=1}^n \frac{ACF_t}{(1+K)^t} - IO$$

Where ACF_t = the annual after-tax cash flow resulting from the purchase in period t ,

K = the firm's cost of capital applicable to the project being analyzed and the particular mix of financing used to acquire the project,

IO = the initial cash outlay required to purchase the asset in period zero (now),

n = the productive life of the project

2. In the second model a net advantage to lease (NAL) over purchase equation is used which indicates the more favorable (least expensive) method of financing. The equation used to arrive at NAL is as follows:

$$NAL = \sum_{t=1}^n \frac{O_t(1-t) - R_t(1-T) - TL_t - TD_t}{(1+r)^t} - \frac{V_n}{(1+K_s)^N} + IO$$

Where O_t = any operating cash flows incurred in period t which are incurred only where the asset is purchased. Most often this consists of maintenance expenses and insurance that would be paid by the lessor.

R_t = the annual rental for period t .

T = the marginal tax rate on corporate income.

I_T = the tax deductible interest expense foregone in period t if the lease option is adopted. This level of interest expense was set equal to that which would have been paid on a loan equal to the full purchase price of the asset.

D_t = depreciation expense in period t for the asset.

V_n = the after-tax salvage value of the asset expected in year n .

K_s = the discount rate used to find the present value of V_n . This rate should reflect the risk inherent in the estimated V_n . For simplicity, the after-tax cost of capital is often used as a proxy for this rate.

IO = the purchase price of the asset which is not paid by the firm in the event the asset is leased.

r = the before-tax rate of interest on borrowed funds. This rate is used to discount the relatively certain after-tax cash flow savings accruing through leasing the asset.

If NAL were positive, there would be a positive cost advantage to lease financing. If NAL were negative, then purchasing the asset and financing with a debt plus equity package would be the preferred alternative. However, the decision to lease or purchase the asset in accordance with the value of NAL will be made in only two circumstances:

- (a) If NPV (P) were positive, then the asset should be acquired through the preferred financing method as indicated by NAL.
- (b) If NPV (P) were negative, then the asset's services should be acquired via the lease alternative only if NAL is positive and greater in absolute value than NPV (P). That is, the asset should be leased only if the cost advantage of leasing (NAL) is great enough to offset the negative NPV (P). In effect, if a positive NAL were to more than offset a negative NPV(P), then the net present value through lease would be

Problem 1: Hypothetical Ltd. is planning to have an access to a machine for a period of 5 years. The company can either have an access through the leasing arrangement or it can borrow money at 14% to buy the machine. The company is in 50% tax bracket.

In case of leasing, the company will be required to pay annual year-end lease rent of Rs. 1,20,000 for 5 years. All maintenance, insurance and other costs are to be borne by the lessee.

In case of purchasing the machine (which costs Rs. 3,43,300), the company would have to repay 14% five years loan in 5 equal annual instalments, each instalment becoming due at the end of each year. Machine would be depreciated on a straight line basis, with no salvage value. Advise the company which option it should go for, assuming lease rents are paid at the end of the year.

Solution:

PV of Cash Outflow under Lease Alternative

Year end	Lease payment after tax (1 - 0.5)	PV Factor at after tax cost of debt 7%	Total PV of Lease Payment (Rs.)
1-5	Rs. 60,000	r,1002	2,42,012

Determination of Interest & Principal components of Loan Installment

Year end	Loan Installment (Rs.)*	Loan at the beginning of the year	Payment		Principal outstanding at the end of the year
			Interest on Loan	Principal Re-payment	
1.	1,00,000	3,43,000	48,020	51,980	2,91,020
2.	1,00,000	2,91,020	40,743	59,257	2,31,763
3.	1,00,000	2,31,763	32,447	67,553	1,64,210
4.	1,00,000	1,64,210	22,989	77,011	87,199
5.	1,00,000	87,199	12,208	74,991	—

*Determination of Loan Installments:

$$\frac{\text{Amount of Loan}}{\text{PV factor of annuity of Rs. 1 for 5 year at 14\% Rate of interest}} = \frac{\text{Rs. 3,43,300}}{3.433} = \text{Rs. 1,00,000}$$

PV of After Tax Cash Outflows under purchase option

Year end	Loan Installment (Rs.)	Tax Advantage on interest	Tax Advantage on Dep.	Net Cash Outflow	PV factor at 7%	PV of being alternative
1	1,00,000	24,101	34,330	41,660	0.9346	38,932.46
2	1,00,000	20,372	34,330	45,298	0.8734	39,543.18
3	1,00,000	16,224	34,330	49,446	0.8163	40,341.54
4	1,00,000	11,495	34,330	54,175	0.7629	41,330.10
5	1,00,000	6,104	34,330	59,566	0.7130	42,470.55
						2,02,662.12

Recommendation: Since PV of cash outflow for buying is lower than the leasing alternative. The company should borrow money and purchase the machine.

Problem 2: Diligend Ltd. is considering the lease of an equipment which has a purchase price of Rs. 3,50,000. The equipment has an estimated economic life of 5 years with a salvage value zero. As per the income-tax rules, a written down depreciation @ 25% is allowed. The lease rentals per year are Rs. 1,20,000. Assume that the company's corporate tax rate is 50%. If the before-tax rate of borrowing for the company is 16%, should the company lease the equipment?

Note: Present value of Re. 1 for 5 years are:

Year	1	2	3	4	5
PV @ 8%	0.9259	0.8573	0.7938	0.7350	0.6806
PV @ 16%	0.8621	0.7432	0.6407	0.5523	0.4761

Solution:

Lease v. Purchase Decision

In case of decision of lease

Year	1	2	3	4	5	6
Purchase price avoided		3,50,000				
Lost dep. tax shield*		-43,750	-32,813	-24,610	-18,457	-13,843
After tax lease rentals		-60,000	-60,000	-60,000	-60,000	-60,000
Net cash flows	3,50,000	-1,03,750	-92,813	-84,610	-78,457	-73,843
PV factor @ 8%		-96,062	-79,569	-67,163	-57,666	-50,258
Total present value		-3,50,718				
Net Present Value						

Since Total Cash Outflow in case of lease is Rs. 3,50,718 whereas in case of purchase Rs. 3,50,000 is the outflow, it is advisable to purchase the asset.

8.8 LET US SUM UP

A lease can be defined as an agreement whereby the lessor conveys to the lessee in return for a payment or series of payments the right to use an asset for an agreed period of time. Leasing can be broadly classified into the following two broad categories: Financial Lease and Operating Lease. Leasing is beneficial both to the lessee as well as to the lessor. The main benefit of leasing is the separation of ownership and the economic use of an asset. There is no separate statute for equipment leasing in India. Thus, the provisions

relating to bailment in the Indian contract Act govern equipment leasing agreements as well. The lease versus purchase decision requires a standard capital budgeting type of analysis, as well as an analysis of two alternative “packages” of financing.

8.9 LESSON END ACTIVITY

Write a study note on the role and importance of lease financing in economic development of a country.

8.10 KEYWORDS

Lessor: He is the owner of the property that is being leased.

Closed End Leasing: It is a contract based system governed by law that allows a person to use the property for a fixed term and the right to buy that property for the agreed residual value when the term expires.

Ownership: It is the state or fact of exclusive rights and control over property, which may be an object, land/real estate, intellectual property or some other kind of property.

Sublease: It is also known as **sandwich lease** and is a name given to an arrangement in which the lessee in a lease assigns the lease to a third party, thereby making the old lessee the sublessor, and the new lessee the sublessee, or subtenant.

8.11 QUESTIONS FOR DISCUSSION

1. Define leasing. What are the different types of lease agreements?
2. Discuss the advantages and disadvantages associated with leasing arrangement over the outright purchase of the asset.
3. Explain, with illustration, the financial evaluation done in case of leasing.
4. Distinguish between an operating lease and financial lease.
5. Discuss the advantages of leasing to the lessor and lessee.
6. Write a note on the Legal aspects of leasing.
7. Discuss the three basic characteristics of leasing.
8. Discuss the important characteristics of operating and financial lease.
9. Mention the situations which would normally lead to a lease being classified as finance lease.
10. Explain the following terms:
 - (a) Lessor
 - (b) Lessee
 - (c) Characteristics of Lease
 - (d) Operating Lease
 - (e) Financial Lease
11. ‘Flexibility and Convenience in payment of the lease rentals is an important advantage to the lessee.’ Comment.
12. ‘There is a lot of procedural convenience involved in Leasing.’ Comment.

Check Your Progress: Model Answers

CYP 1

1. Financial lease is a long-term lease between two parties that is non-cancelable prior to the expiration date. It is a source of long term funds and serves as an alternative to long term debt financing.
2. An operating lease can be defined as a lease that is not a financial lease. This lease is not very popular in India.

CYP 2

1. (a) F, (b) T, (c) T, (d) T.
2. (a) lessor, lessee, asset; (b) lessor; (c) perpetual basis, specific period; (d) tangible, intangible.

8.12 SUGGESTED READINGS

Sudhindra Bhat, *Security Analysis and Portfolio Management*, Excel Books, Delhi.

Preeti Singh, *Security Analysis and Portfolio Management*.

V.A. Avadhani, *Investment Management*.

M.Y. Khan, *Financial Services*.

V.K. Bhalla, *Financial Services*.

G.S. Batra, *Financial Services and Markets*.

Mahana Rao, *Financial Services, Cases and Strategies*.

L. M. Bhole, *Financial Markets and Services*.

LESSON

9

HIRE PURCHASE

CONTENTS

- 9.0 Aims and Objectives
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 - 9.7 Let us Sum up
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9.0 AIMS AND OBJECTIVES

After studying this lesson, you should be able to:

- Understand the conceptual framework of hire purchase finance
- Learn about the legal aspects relating to hire purchase finance
- Know about the accounting, reporting and taxation aspects
- Describe the features of consumer credit

9.1 INTRODUCTION

A very important feature of the present day business is that the price of the goods purchased and sold is settled in installments. This helps the buyer of the goods to defer the payments on goods purchased by him. However, he is required to pay interest on amount of goods purchased to avail of such a arrangement. The transactions of such nature are divided into two categories:

- Hire purchase transactions
- Installment sale transactions

In India, hire purchase finance is governed by the Hire Purchase Act, 1972. Under this act,

- (i) **“hire”** means the sum payable periodically by the hirer under the hire purchase agreement.
- (ii) **“hire purchase agreement”** means an agreement under which goods are let on hire and under which the hirer has an option to purchase them in accordance with the terms of the agreement and includes an agreement under which:
 - (a) possession of goods is delivered by the owner thereof to a person on condition that such person pays the agreed amount in periodical installments,
 - (b) the property in the goods is to pass to such person on the payment of the last of such installments, and
 - (c) such person has a right to terminate the agreement at any time before the property so passes.
- (iii) **“hire purchase price”** means the total sum payable by the hirer under a hire purchase agreement in order to complete the purchase of or the acquisition of property in the good to which the agreement relates and includes the sum so payable by the hirer under hire purchase agreement by way of deposit or other initial payment, or credited or to be credited to him under such agreement on account of any such deposit or payment, whether such sum is to be or has to be paid to that owner or to any other person or is to be or has been discharged by payment of money or by transfer or delivery of goods or by any other means; but does not include any sum payable as a penalty or as compensation or damages for a breach of the agreement;
- (iv) **“hirer”** means the person who obtains or has obtained possession of goods from an owner under a hire purchase agreement, and includes a person to whom the hirer’s rights or liabilities under the agreement have passed by agreement or by operation of law;

- (v) **“owner”** means the person who lets or has let, delivers or has delivered possession of goods, to a hirer under a hire purchase agreement and includes a person to whom the owner’s property in the goods or any of the owner’s right or liabilities under the agreement has passed by assignment or by operation of law.

Hire Purchase Price = Total of installments (including down payment) = Cash Price + Interest

Check Your Progress 1

Define the following:

1. Hire purchase price

.....
.....

2. Hirer

.....
.....

9.2 HIRE PURCHASE VS INSTALLMENT SALE

1. In case of hire purchase sale, the ownership of goods is transferred to the buyer only after the last installment has been paid. Under installment sale, the goods become the property of the buyer as soon as they are delivered.
2. Goods may be repossessed by the seller in case of breach of hire purchase agreement by the buyer. Only suit can be filed against the buyer by the seller of the goods in case of Installment sale.
3. The buyer stands in the position of a hirer and each installment paid is treated as hire charges for goods used under hire purchase sale. However, in installment sale, the buyer stands in the position of the owner of the goods, the installments being paid by him for the sum borrowed.
4. The hire purchaser can terminate the contract at any time at his will after paying termination charges. In installment sale, the buyer is under an obligation to make the full payment and cannot terminate the contract at his own will.
5. Repairs and maintenance is the responsibility of the seller who stands in the position of the owner till all the hire purchase installments are paid. Purchaser, being the owner in case of installment sale, is responsible for all repair and maintenance charges.

9.3 GROWTH OF HIRE PURCHASE IN INDIA

The British concept of hire-purchase has, however, been there in India for more than 6 decades. The first hire-purchase company is believed to be Commercial Credit Corporation, successor to Auto Supply Company. While this company was based in Madras, Motor and General Finance and Instalment Supply Company were set up in North India. These companies were set up in the 1920s and 1930s.

Development of Hire-purchase took two forms: consumer durables and automobiles.

Consumer durables hire-purchase was promoted by the dealers in the respective equipment. Thus, Singer Sewing Machine company, or Murphy radio dealers would provide instalment facilities on hire-purchase basis to the customers of their products.

The other side developed very fast - hire-purchase of commercial vehicles. The dealers in commercial vehicles as well as pure financing companies sprang up. The value of the asset being good and repossession being easy, this branch of financing activity flourished fast, although until recently, most of automobile financing business was in hands of family-owned businesses.

9.3.1 Leasing and Hire-purchase: A Vanishing Distinction

Essentially, asset-based financing in India particularly by non-banking financial companies is split in two documentation modes - lease and hire-purchase. These two are technically different instruments, but in essence, there is not much that differs between the two, except for the caption.

In spite of the substantive similarity, historically, there has been a diametric separation between these two forms. The assets usually subject matter of hire-purchase have been different from those generally leased out. Leasing has been used mostly for plant and machinery, while hire-purchase has commonly been used for vehicles. Even the players have been different.

The reasons for this diametric distinction are more historical than logical. Hire-purchase, essentially a British form, entered India during the Colonial era, and thrived as almost the only form of external finance available for commercial vehicles. For the financiers, as witnessed World-over, commercial vehicles was the natural choice for several asset-features he loves: lasting value, ready secondary market, self-paying feature, etc. Hence, the industry of hire-purchase became synonymous with truck-financing. Besides, the motor vehicles laws gave the surest legal protection any law could give to a financier: the financier would not have to carry any of the operational risks of a motor vehicle, and yet, any transfer of the vehicle would not be possible without the financier's assent.

9.3.2 Hire Purchase in India

The purchase and sale transactions relating to hire purchase is governed by the Hire Purchase Act 1972. The provisions of the Act were later amended in 1989. The provisions of the Act are in accordance with the general law governing the contract between two parties. In the absence of any specific law, the hire purchase arrangements are governed by the provisions of Indian Contract Act and Sale of Goods Act.

The Hire Purchase Act contains provisions as regards:

1. the format and contents of hire purchase agreement.
2. warrants and conditions underlying the hire purchase agreement.
3. maximum limit on hire purchase charges.
4. rights and obligations of the hirer and the owner of the goods.

The Hire Purchase arrangement has two key aspects:

1. Bailment of goods governed by the Contract Act.
2. Sale of goods governed by the Sale of Goods Act.

9.3.3 Contents of Hire Purchase Agreement

According to the Act, every hire purchase agreement shall state:

1. the hire purchase price of the goods to which the agreement relates.
2. the cash price of the goods.

3. the date on which the agreement shall be deemed to have commenced.
4. the number of installments, the amount of each installment, the date of payment, the mode of payment, the person to whom the amount is payable and the place where it is payable.
5. the goods to which the agreement relates.

9.3.4 Right of Hirer (buyer of goods) to Purchase

The hirer may at any time, after giving a notice of 14 days in writing, complete the purchase of goods by paying the hire purchase price or the balance due thereof to the owner of the goods.

9.3.5 Right of Hirer to Terminate

The hirer has an option to terminate the contract at any time during its continuance after giving a notice of 14 days and returning the goods to the owner. Payments made by the hirer prior to termination of the contract are treated as the hire charges for using the goods and are forfeited by the owner of the goods.

9.3.6 Obligation of Hirer

The hire purchaser is required to take such care of goods under his possession as any prudent person does in his own case. He cannot destroy, damage, pledge or sell such goods.

9.4 RBI GUIDELINES

As per RBI guidelines the hire purchaser generally makes a down payment on signing the agreement and the balance amount is paid in monthly / quarterly/ six monthly/ yearly installments for a specified period. Installments include interest on outstanding balance. The interest charged is generally higher than that payable on a loan or any other advances since it includes a charge to cover risk that the hirer may return the goods in a damaged condition. However, the vendor does not calculate the interest separately in case of hire purchase transactions of small value. Rather the difference between the Hire Purchase Price and Cash Price is treated as 'profit'. In case of hire purchase transactions of high value, interest element is calculated separately by the hire vendor.

The accounting for hire purchase transactions largely depends upon the 'sales value' of the goods under consideration. If the goods have substantial sales value, the following methods for accounting may be employed:

1. Cash Price Method
2. Interest Suspense Method

If the goods have small sales value, the following accounting methods may be employed:

1. Hire Purchase Trading A/c or Debtors Method
2. Stock and Debtors Method

9.4.1 Calculation of Interest and Cash Price

Illustration 1: From the following information, calculate the total amount of interest and interest included in each installment. Cash Price is Rs 3,00,000. Down payment Rs 1, 00,000 + 3 annual installments of Rs 80,000 each. The rate of interest is 10% p.a.

Table showing Calculation of Interest

Particulars	Total	Interest included in each installment	Cash price included in each installment
Cash price - Down payment	3,00,000 (1,00,000)		
Balance due + Interest @10%	2,00,000 20,000		
- 1 st Installment	2,20,000 80,000	20,000	60,000
Balance due + Interest @10%	1,40,000 14,000		
- 2 nd Installment	1,54,000 80,000	14,000	66,000
Balance due + Interest @10%	74,000 6,000		
- 3 rd Installment	80,000 80,000	6,000	74,000
Balance due	0		
Total		40,000	3,00,000

Illustration 2: From the following information, calculate the total amount of interest and interest included in each installment. Cash price is Rs 5,00,000. Down payment is Rs 2,00,000 + 4 equal annual installments of Rs 90,000 each, first to commence at the end of 12 months from the date of down payment.

Total Interest = (2,00,000 + 90,000 × 4) – 5,00,000 = Rs 60,000

Hire purchase price	Rs 5, 60,000
- Down payment	Rs 2, 00,000
HPP outstanding after down payment	Rs 3, 60,000
- 1 st installment	Rs 90,000
HPP outstanding after 1 st installment	Rs 2, 70,000
- 2 nd installment	Rs 90,000
HPP outstanding after 2 nd installment	Rs 1, 80,000
- 3 rd installment	Rs 90,000
HPP outstanding after 3 rd installment	Rs 90,000
- 4 th installment	Rs 90,000
HPP outstanding after 4 th installment	Nil

The interest is calculated in proportion of HPP outstanding after making payment of each installment i.e. 3, 60,000: 2, 70,000: 1, 80,000: 90,000 or 4: 3: 2: 1.

Interest included in 1st installment = $60,000 \times \frac{4}{10} = \text{Rs. } 24,000$

Interest included in 2nd installment = $60,000 \times \frac{3}{10} = \text{Rs. } 18,000$

Interest included in 3rd installment = $60,000 \times \frac{2}{10} = \text{Rs. } 12,000$

Interest included in 4th installment = $60,000 \times \frac{1}{10} = \text{Rs. } 6,000$

Illustration 3: From the following information, calculate the total amount of interest and interest included in each installment. Down payment is Rs 1,20,000. Rs 1, 00,000 is to be paid at the end of first year, Rs 90,000 at the end of second year and Rs 77,000 at the end of third year. Interest is payable at the rate of 10% p.a.

$$\text{Ratio of interest} = \frac{\text{Rate of interest}}{100 + \text{rate}} = \frac{10}{110} = 1/11$$

Table showing Calculation of Interest and Cash Price

Installment	Amount due	Interest accrued	Cash price included
3 rd	77,000	77,000 X 1 / 11 = 7,000	70,000
2 nd	90,000 + 70,000	1, 60,000 X 1 / 11 = 14,545	75,455
1 st	1,00,000 + 75,455 + 70,000	2, 45,455 X 1 / 11 = 22,314	77,686
Down payment	1, 20,000	-	1,20,000
Total			3,43,141

Illustration 4: From the following information, calculate the amount of cash price. Hire Purchase Price (HPP) is Rs 1, 00,000. the down payment is Rs 40,000 and Rs 20,000 is to be paid at the end of three successive years. Interest is payable @ 10% p.a. the present value table shows that $PVAF_{10\%} = 2.487$.

$$\begin{aligned}\text{Cash price} &= \text{Down payment} + PVAF \times \text{amount of installment} \\ &= \text{Rs } 40,000 + \text{Rs } 20,000 \times 2.487 = \text{Rs } 89,740.\end{aligned}$$

Illustration 5: From the following information, calculate the amount of cash price. The hire purchase price is Rs 2, 00,000. The down payment is Rs 80,000 and installments of Rs 50,000, Rs 40,000 and Rs 30,000 are to be paid at the end of 1st, 2nd and 3rd years respectively. The relevant present value factors for 1, 2 and 3 years are: 0.909, 0.826 and 0.751.

$$\begin{aligned}\text{Cash price} &= \text{Rs } 80,000 + \text{Rs } 50,000 \times 0.909 + \text{Rs } 40,000 \times 0.826 + \text{Rs } 30,000 \times 0.751 \\ &= \text{Rs } 1, 81,020.\end{aligned}$$

9.4.2 Accounting Entries

In the Books of 'Hire Purchaser': The buyer of the goods debits the asset account with the cash price of the asset and interest account with the amount equal to the difference between the hire purchase price and the cash price. The hire vendor's account is credited with the hire purchase price of the asset. On making the down payment, the buyer debits the hire vendor's account and credits bank account with the amount of down payment. At the end of the financial year, the entry for depreciation (if any) is passed in the books of the hire purchaser. Also the transfer entries in respect of depreciation and annual interest are made to the Profit and Loss Account.

In the Books of 'Hire Vendor': The accounting treatment in the books of the hire vendor is classified as follows:

1. In case of goods of high value

- Hire purchase sale account is credited with the cash price
- It is assumed that the sale accrues in the year of contract
- A distinction is made between profit on sale and interest earned on hire purchase

- (d) The interest income is spread proportionately over the years during which the installments are paid.

2. ***In case of goods of small value***

- (a) No distinction is made between the profit and interest element.

Rather the difference between the cash price and the hire purchase price is treated as profit.

- (b) The supply of goods is not treated as a sale in the year in which the contract is entered into. Rather the sale revenue is spread over the years when the installments are received.

9.5 TAXATION

Hire purchase arrangements offer tax incentives to both the hirer (i.e., the purchaser of goods) as well the finance company (i.e., the seller of goods).

9.5.1 Income Tax

For Hire Purchaser: According to a circular issued by the Central Board of Direct Taxes and a number of court rulings, the hire purchaser is entitled to the following tax benefits:

1. ***Tax shield on 'depreciation':*** This is calculated on the cash price of the goods.
2. ***Tax shield on 'consideration for hire':*** It is the difference between the cash price and the hire purchase price and is also referred to as the finance charge. The total finance charge is spread over the entire life of the agreement by using any of the following methods: (a) equal distribution, (b) sum of years digits method, (c) rate of return method. The hire purchaser can claim deduction in respect of such charge each year over the life of the agreement.

For Hire Vendor: The 'consideration for hire' is treated as an income for the seller of the goods and is taxable under the head 'profits and gains of business' in case hire purchase constitutes the main business activity of the hire vendor or else under the head 'income from other sources'. Normal deduction (except depreciation) is allowed while computing the tax liability.

9.5.2 Sales Tax

- (i) ***Treatment of hire purchase as sale for determination of sales tax liability:***
The sales tax becomes payable once the goods are delivered by the owner to the hirer. This is to say that the hire purchase arrangement is deemed to be a sale on delivery of goods and not when the title gets transferred. The tax is payable on full amount irrespective of the fact whether the owner gets the full payment or not.
- (ii) ***Rate of sales tax:*** The rates applicable vary from state to state and there is no uniformity even amongst the goods to be taxed.
- (iii) ***Interest tax:*** The hire purchase finance companies are required to pay the Interest tax under the Interest Tax Act, 1974. Herein the tax is payable on net interest earned (i.e. total interest – bad debts for the previous year) at the rate of 7 percent per annum. This is treated as a tax deductible expense for the purpose of determining tax liability under the Income Tax Act.

Check Your Progress 2

Fill in the blanks:

- (a) The hire purchaser can terminate the contract at any time at his will after paying charges.
- (b) Repairs and maintenance is the responsibility of the who stands in the position of the till all the hire purchase installments are paid.
- (c) Under installment sale, the goods become the of the buyer as soon as they are
- (d) Payments made by the hirer prior to termination of the contract are treated as for using the goods.

9.6 SOURCES OF FINANCE

Consumer credit also termed as 'Installment Credit', has seen a boom in the recent years with a large increase in the disposable income of the household sector of the economy. Consumer credit includes all asset based financial plans wherein the consumers (largely individuals) acquire durable consumer goods. A number of installment credit arrangements are in common use:

- (i) **Hire Purchase:** Herein the goods are delivered to the customer on hire but the title gets transferred only after all the hire purchase installments have been paid and the consumer opts to purchase the goods. This is to say that the customer may or may not exercise the option to purchase the goods.
- (ii) **Credit Sale:** Herein the purchase price of the product is paid in installments. There is no loan as such; rather an agreement is entered into between the buyer and the seller to make payments over a period of time in form of installments. The title of the goods is passed on to the consumer on the payment of first installment.
- (iii) **Conditional Sale:** Here the goods are sold by the seller on the condition that the title on the goods would be passed on to the buyer only after he has paid the last and final installment. Also the customer is under an obligation to make the full payment and cannot terminate the contract at his own will. The goods so purchased are financed by some finance company.

9.6.1 Parties to the Transaction

- 1. **Bipartite Arrangement:** Herein two parties are involved namely the customer/ consumer/ borrower and the seller/ financier.
- 2. **Tripartite Arrangement:** Herein three parties are involved i.e. the seller/ vendor, the customer and the financier. Herein the vendor arranges credit from the financier for his customers.

9.6.2 Payment Schedule

There are two parts of the arrangement for making the payment:

- 1. **Down Payment:** It usually constitutes 20-25 percent of the cost of the goods purchased. This payment has to be made by the customer before taking the delivery of the product.

2. **Equated Monthly Installment:** The period of making the payment vary widely depending upon the terms and conditions of the agreement entered into and the goods purchased. It may usually range between 1 year to 5 years.

9.6.3 Role of the Finance Company

When the consumer purchases goods from the vendor under a credit arrangement, it is often done through the agreement of the latter with a finance company. This finance company may be in house division of the vendor itself or it may be an independent financial institution. Although the agreement is primarily entered into between the buyer and the seller, the role of the finance house cannot be ignored. The finance company usually makes an enquiry about the creditworthiness of the customer before entering into an agreement. Also the customer assesses the finance company in terms of the rate of interest being charged and the repayment schedule being offered to him.

9.7 LET US SUM UP

The purchase and sale transactions relating to hire purchase is governed by the Hire Purchase Act 1972. In the absence of any specific law, the hire purchase arrangements are governed by the provisions of Indian Contract Act and Sale of Goods Act.

The hire purchaser generally makes a down payment on signing the agreement and the balance amount is paid in monthly/quarterly/six monthly/yearly installments for a specified period.

In case of hire purchase sale, the ownership of goods is transferred to the buyer only after the last installment has been paid. Under installment sale, the goods become the property of the buyer as soon as they are delivered.

The accounting for hire purchase transactions largely depends upon the 'sales value' of the goods under consideration.

Hire purchase arrangements offer tax incentives to both the hirer (i.e., the purchaser of goods) as well the finance company (i.e., the seller of goods).

Consumer credit includes all asset based financial plans wherein the consumers (largely individuals) acquire durable consumer goods. The common arrangements are: (a) Hire purchase, (b) Credit sale, and (c) Conditional sale.

9.8 LESSON END ACTIVITY

State, in detail, the legal aspects related to hire purchase arrangements.

9.9 KEYWORDS

Finance Company: It may be in house division of the vendor itself or it may be an independent financial institution, established to provide credit.

Cash Price: It is the price of the product that is charged if the entire payment is made by the customer at the time of taking the delivery.

Down Payment: It is the initial payment that is required to be made by the customer in order to obtain possession of the goods. The balance is paid in form of installments.

Hire Purchase Price: It is the total sum payable by the hirer under a hire purchase agreement in order to complete the purchase of the property.

9.10 QUESTIONS FOR DISCUSSION

1. Distinguish between Hire purchase sale and Installment sale.
2. Explain, with the help of illustrations, what are the various elements that make up the hire purchase price.
3. What are the rights and obligations of the hirer under a hire purchase agreement?
4. Explain the terms:
 - (a) Hire
 - (b) Hirer
 - (c) Hire purchase agreement
 - (d) Hire purchase price
 - (e) Owner
5. What are the various kinds of credit arrangements that are used to grant consumer credit?
6. What are the tax incentives that can be availed of under hire purchase?

Check Your Progress: Model Answers

CYP 1

1. **“hire purchase price”** means the total sum payable by the hirer under a hire purchase agreement in order to complete the purchase of or the acquisition of property
2. **“hirer”** means the person who obtains or has obtained possession of goods from an owner under a hire purchase agreement, and includes a person to whom the hirer’s rights or liabilities under the agreement have passed by agreement or by operation of law;

CYP 2

- (a) termination; (b) seller, owner; (c) property, delivered; (d) hire charges.

9.11 SUGGESTED READINGS

Sudhindra Bhat, *Security Analysis and Portfolio Management*, Excel Books, Delhi.

Preeti Singh, *Security Analysis and Portfolio Management*.

V.A. Avadhani, *Investment Management*.

M.Y. Khan, *Financial Services*.

V.K. Bhalla, *Financial Services*.

G.S. Batra, *Financial Services and Markets*.

Mahana Rao, *Financial Services, Cases and Strategies*.

L.M. Bhole, *Financial Markets and Services*.

UNIT IV

LESSON

10

MUTUAL FUND

CONTENTS

- 10.0 Aims and Objectives
- 10.1 Introduction
- 10.2 Meaning and Definition of Mutual Funds
- 10.3 Concept and Origin of Mutual Fund
 - 10.3.1 Reward for Investment
 - 10.3.2 Evolution of Mutual Fund
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- 10.7 Importance of Mutual Funds
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- 10.10 Facilities Available to Investors
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- 10.18 Reasons for Slow Growth
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Contd...

10.22	Regulatory Aspects
10.23	Mutual Fund Taxation in India
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10.25	Challenges
10.26	Let us Sum up
10.27	Lesson End Activity
10.28	Keywords
10.29	Questions for Discussion
10.30	Suggested Readings

10.0 AIMS AND OBJECTIVES

After studying this lesson, you should be able to:

- Understand the meaning, concept and origin of mutual funds
- Know the growth of mutual funds in India
- Analyze about various mutual fund schemes
- Learn about the money market mutual funds

10.1 INTRODUCTION

Investment objectives vary from person to person. While somebody wants security, others might give more weightage to returns alone. Somebody else might want to plan for his child's education while yet somebody might be saving for the proverbial rainy day or even life after retirement. With objectives defying any range, it is obvious that the products required **will** vary as well. Though still at a nascent stage, Indian Mutual Fund industry offers a plethora of schemes and serves broadly all type of investors. The range of products includes equity funds, debt, liquid, gilt and balanced funds. There are also funds meant exclusively for young and old, small and large investors. Moreover, the set up of a legal structure ensures that the investors are not cheated out of their hard-earned money. It must have teeth to safeguard investors' interest. Benefits provided by them cut across the boundaries of investor category and thus create for them, a universal appeal.

10.2 MEANING AND DEFINITION OF MUTUAL FUNDS

Mutual fund can be defined as an open-ended fund operated by an investment company which raises money from shareholders and invests in a group of assets, in accordance with a stated set of objectives. Mutual funds raise money by selling shares of the fund to the public, much like any other type of company can sell stock in itself to the public. Mutual funds then take the money they receive from the sale of their shares (along with any money made from previous investments) and use it to purchase various investment vehicles, such as stocks, bonds and money market instruments. In return for the money they give to the fund when purchasing shares, shareholders receive an equity position in the fund and, in effect, in each of its underlying securities. For most mutual funds,

shareholders are free to sell their shares at any time, although the price of a share in a mutual fund will fluctuate daily, depending upon the performance of the securities held by the fund. Benefits of mutual funds include diversification and professional money management. Mutual funds offer choice, liquidity, and convenience, but charge fees and often require a minimum investment. A closed-end fund is often incorrectly referred to as a mutual fund, but is actually an investment trust. There are many types of mutual funds, including aggressive growth fund, asset allocation fund, balanced fund, blend fund, bond fund, capital appreciation fund, clone fund, closed fund, crossover fund, equity fund, fund of funds, global fund, growth fund, growth and income fund, hedge fund, income fund, index fund, international fund, money market fund, municipal bond fund, prime rate fund, regional fund, sector fund, speciality fund, stock fund, and tax-free bond fund.

10.3 CONCEPT AND ORIGIN OF MUTUAL FUND

Investors of all categories could choose to invest on their own in multiple options but opt for mutual funds for the sole reason that all benefits come in a package. A Mutual Fund is a trust that pools the savings of a number of investors who share a common financial goal.

Mutual funds represent pooled savings of numerous investors invested by professional fund managers as diversified portfolio to obtain optimum return on investments with least risk to the investors.

The professional manager of a fund invests the collected money in different types of securities for and on behalf of the investors. The investment is based on the objectives for which the money is collected. These could range from shares to debentures to money market instruments. The income earned through these investments and the capital appreciation realised by the scheme are shared by its unit holders in proportion to the number of units owned by them (pro rata). The received income again is invested on funds by investors. Thus a Mutual Fund is the most suitable investment for the common person as it offers an opportunity to invest in a diversified, professionally managed portfolio at a relatively low cost. Anybody with an investible surplus of as little as a few thousand rupees can invest in mutual funds. Each mutual fund scheme has a defined investment objective and strategy.

10.3.1 Reward for Investment

Mutual fund earns income by way of interest or dividend or both from the securities it holds. It deducts fees, operating expenses and management income and then passes the remainder to wealth holders through dividends on the mutual fund share. The dividend fluctuates with the income on mutual funds investments.

10.3.2 Evolution of Mutual Fund

The origin of the concept of mutual fund dates back to the very dawn of commercial history. It is said that Egyptians and Phoenicians sold their shares in vessels and caravans with a view to spreading the risk attached with these risky ventures. However, the real credit of introducing the modern concept of mutual fund goes to the Foreign and Colonial Government Trust of London established in 1868. Thereafter, a large number of close-ended mutual funds were formed in the USA in the 1930s followed by many countries in Europe, the Far East and Latin America. In most of the countries, both open and close-ended types were popular. In India, this gained momentum only in 1980, though it began in the year 1964 with the Unit Trust of India launching its first fund, the Unit Scheme 1964.

- (a) ***In the World:*** Mutual funds originated in Britain in the late 19th century. It developed in U. S. in the late 19th Century and early 20th century in principal money centres of North East. The funds originally evolved in both countries were primarily close ended. The crash of stock markets in 1929 led to the demise of these close-ended funds. The enactment of Securities Act of 1933, Investment Company Act of 1940 and Investment Advisors Act, 1940 led to the revival of mutual funds in the U.S.A. In 1940, U.S. had about 68 funds; in 1998, it exceeded 5,000. In 1965, in U.S. there were only 2 to 3% of U.S. households who owned fund shares; whereas more than one-fourth of all U.S. households invest in mutual fund today.
- (b) ***In India:*** Unit Trust of India was the first mutual fund set up in India in the year 1963. In early 1990s, Government allowed public sector banks and institutions to set up mutual funds.

In the year 1992, Securities and Exchange Board of India (SEBI) Act was passed. The objectives of SEBI are-to protect the interest of investors in securities, to promote the development of, and to regulate the securities market.

As far as mutual funds are concerned, SEBI formulates policies and regulates the mutual funds to protect the interest of the investors. SEBI notified regulations for the mutual funds in 1993. Thereafter, mutual funds sponsored by private sector entities were allowed to enter the capital market. The regulations were fully revised in 1996 and have been amended thereafter from time to time. SEBI has also issued guidelines to the mutual funds from time to time to protect the interests of investors.

All mutual funds whether promoted by public sector or private sector entities including those promoted by foreign entities are governed by the same set of Regulations. There is no distinction in regulatory requirements for these mutual funds and all are subject to monitoring and inspections by SEBI.

The risks associated with the schemes launched by the mutual funds sponsored by these entities are of similar type. It may be mentioned here that Unit Trust of India (UTI) is not registered with SEBI as a mutual fund (as on January 15, 2002).

Some facts about mutual fund in India in contrast with United States of America:

1. The money market mutual fund segment has a total corpus of \$1.48 trillion in the U.S. against a corpus of \$100 million in India.
2. Out of the top 10 mutual funds worldwide, eight are bank-sponsored. Only Fidelity and Capital are non-banking mutual funds in this group.
3. In the U.S. the total number of schemes is higher than that of the listed companies while in India we have just 400 schemes.
4. Internationally, mutual funds are allowed to go short. In India, fund managers do not have such leeway.
5. In the U.S. about 9.7 million households will manage their assets on line by the year 2003, such a facility is not yet of avail in India.
6. On-line trading is a great idea to reduce management expenses from the current 2% of total assets to about 0.75% of the total assets.
7. 72% of the core customer base of mutual funds in the top 50 brokering firms in the U.S. are expected to trade on-line by 2003.

Check Your Progress 1

1. Define mutual fund.

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2. Describe, in brief, the evolution of mutual fund in India.

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10.4 TYPES OF MUTUAL FUND SCHEMES

Mutual fund can be classified according to its maturity period, the investment objective of the investors.

10.4.1 Based on Maturity Period

A mutual fund scheme can be classified into open-ended scheme or close-ended scheme depending on its maturity period.

Open-ended Fund or Scheme

An open-ended fund is available for subscription and repurchase on a continuous basis. Repurchases are generally allowed at specified rates. The sale and repurchase prices are fixed by the mutual fund concerned from time to time. These do not have a fixed maturity. Investors can conveniently buy and sell units at Net Asset Value (NAV) related prices. The NAV prices are declared on a daily basis.

For example, UTI's Unit Scheme-64 (US-64) has no prescribed time limit when it would be redeemed. The essential feature of open-end schemes is liquidity.

Close-ended Schemes

Schemes that have a stipulated maturity period (e.g., 5-7 years) are called close-ended schemes. One can invest directly in the scheme at the time of the initial issue. Thereafter he can buy or sell the units of the scheme on the stock exchanges where they are listed. The market price at the stock exchange could vary from the scheme's NAV because of demand and supply situation, unit holders' expectations and other market factors.

One of the characteristics of the close-ended schemes is that they are generally traded at a discount to NAV. If maturity approaches, the discount rate narrows. Some close-ended schemes give an additional option of selling one's units directly to the Mutual Fund through periodic repurchase at NAV-related prices. SEBI Regulations ensure that at least one of the two exit routes is provided to the investor. These mutual funds schemes disclose NAV generally on weekly basis.

10.4.2 Based on Investment Objective

A scheme can also be classified as growth scheme, income scheme, or balanced scheme considering its investment objective. Such schemes may be open-ended or close-ended schemes as described earlier. Such schemes may be classified mainly as follows:

Growth or Equity Oriented Scheme: The aim of growth funds is to provide capital appreciation over the medium to long term. The investment is made in equity stock, which have above average growth potential. Such funds have comparatively high risks.

These schemes provide different options to the investors like dividend option, capital appreciation, etc. and the investors may choose an option depending on their preferences. The investors must indicate the option in the application form. The mutual funds also allow the investors to change the options later. Growth schemes are good for investors having a long-term outlook seeking appreciation over a period of time. These schemes are not for investors seeking regular income or needing their money back in the short term.

This scheme is ideal for:

- Investors in their prime earning years.
- Investors seeking growth over the long-term.

Income or Debt-oriented Scheme: Income fund is established to maximise the current income (i. e. interest and dividend) of investors. Such schemes generally invest in fixed income securities such as bonds, corporate debentures, Government securities and money market instruments. Such funds are less risky compared to equity schemes. These funds are not affected because of fluctuations in equity markets. However, opportunities of capital appreciation are also limited in such funds. The NAVs of such funds are affected because of change in interest rates in the country. If the interest rates fall, NAVs of such funds are likely to increase in the short run and vice versa. However, long-term investors may not bother about these fluctuations.

This scheme is ideal for:

- Retired people and others with a need for capital stability and regular income.
- Investors who need some income to supplement their earnings.

Balanced Fund: Some mutual funds are called as 'Balanced Funds' where assets are a mixture of equity shares and debentures. The aim of balanced funds is to provide both growth and regular income, as such schemes invest both in equities and fixed income securities in the proportion indicated in their offer documents. These are appropriate for investors looking for moderate growth. They generally invest 40-60% in equity and debt instruments. These funds are also affected because of fluctuations in share prices in the stock markets. However, NAVs of such funds are likely to be less volatile compared to pure equity funds.

This fund is ideal for:

- Investors looking for a combination of income and moderate growth.

Money Market or Liquid Fund: The aim of this money market fund is to provide easy liquidity, preservation of capital and moderate income. These funds are also income funds. These schemes invest exclusively in safer short-term instruments such as treasury bills, certificates of deposit, commercial paper, inter-bank call money, and government securities, etc. Returns on these schemes fluctuate much less compared to other funds. These funds are appropriate for corporate and individual investors as a means to park their surplus funds for short periods.

Liquid fund is ideal for:

- Corporates and individual investors as a means to park their surplus funds for short periods or awaiting a more favourable investment alternative.

Gilt Fund: These funds invest exclusively in government securities. Government securities have no default risk. NAVs of these schemes also fluctuate due to change in interest rates and other economic factors as is the case with income or debt oriented schemes.

Index Funds: Index Funds simply follow the pattern of the portfolio of a particular index such as the BSE Sensitive Index, S&P NSE 50 index (Nifty), etc. These schemes invest in the securities in the same weightage comprising of an index. NAVs of such schemes would rise or fall in accordance with the rise or fall in the index, though not exactly by the same percentage due to some factors known as “tracking error” in technical terms. Necessary disclosures in this regard are made in the offer document of the mutual fund scheme. There are also exchange traded index funds launched by the mutual funds, which are traded on the stock exchanges.

10.4.3 Other Schemes

Tax Saving Schemes: These schemes offer tax rebates to the investors under tax laws as prescribed from time to time. This is made possible because the Government offers tax incentives for investment in specified avenues. For example, Investments made in Equity Linked Savings Schemes (ELSS) and Pension Schemes are allowed as deduction under Section 88 of the Income Tax Act, 1961. The Act also provides opportunities to investors to save capital gains under Section 54EA and 54EB by investing in Mutual Funds, provided the capital asset has been sold prior to April 1, 2000 and the amount is invested before September 30, 2000. The details of such tax savings are provided in the relevant offer documents.

This scheme is ideal for:

- Investors seeking tax rebates.

Special Schemes: This category includes index schemes as already seen, that attempt to replicate the performance of a particular index such as the BSE Sensex or the NSE 50, or industry specific schemes (which invest in specific industries) or sectoral schemes (which invest exclusively in segments such as ‘A’ Group shares or initial public offerings). Index fund schemes are ideal for investors who are satisfied with a return approximately equal to that of an index. Sectoral fund schemes are ideal for investors who have already decided to invest in a particular sector or segment. Keep in mind that any one scheme may not meet all your requirements for all time. You need to place your money judiciously in different schemes to be able to get the combination of growth, income and stability that is right for you. Higher the return one seeks, higher the risk one should be prepared to take. A few frequently used terms are explained below:

Load Funds: A Load Fund is one that charges a commission for entry or exit, that is, each time you buy or sell units in the fund, a commission will be payable. Typically, entry and exit loads range from 1% to 2%. It could be worth paying the load, if the fund has a good performance history.

No-load Funds: A No-load Fund is one that does not charge a commission for entry or exit. That is, no commission is payable on purchase or sale of units in the fund. The advantage of a no-load fund, is that the entire corpus is put to work.

Industry Specific Schemes: Industry Specific Schemes invest only in the industries specified in the offer document. The investment of these funds is limited to specific industries like InfoTech, FMCG, Pharmaceuticals, etc.

Sectoral Schemes: These are the funds, which invest in the securities of only those sectors, or industries as specified in the offer documents, e.g. Pharmaceuticals, Software, Fast Moving Consumer Goods (FMCG), Petroleum stocks, etc. The returns in these funds are dependent on the performance of the respective sectors or industries. While these funds may give higher returns, they are more risky compared to diversified funds. Investors need to keep a watch on the performance of those sectors or industries and must exit at an appropriate time. They may also seek advice of an expert.

Check Your Progress 2

What do you understand by income or debt oriented fund?

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10.5 FINANCIAL RISK

Understanding risks: Every investment entails risk. Mutual funds too are not risk-free investments. Even funds invested in government bonds (sovereign papers) are susceptible to some kinds of risk.

Risk: Risk is a measure of the possibility that the investor will not receive an expected return on his investment. Risk and reward move hand in hand. The greater the risk that an investment may lose money, the greater its potential for providing a substantial return. The following are some risks associated with investment in mutual funds.

Market Risk: Market risk exposes one to a potential loss of principal. In all likelihood, the market value of a stock will fluctuate based on factors such as developments affecting the company's financial status, earnings of the company or impact of economic slowdown on the company. Likewise, debt funds too are subject to market risk. Prices of bonds and government securities fluctuate with change in interest rates.

One could minimise the market risk by diversifying among a variety of instruments rather than investing his money in one or two stocks. Diversification helps minimise risks. Thus, when one asset class is adversely affected by market or other conditions, another class may be less affected. Because mutual funds invest in many companies, they are the best way to diversify.

Interest Rate Risk: The value of a fixed income security will drop as interest rates rise. It is called interest rate risk. Government security prices are inversely related to interest rates. If interest rates decline then the prices of securities increase and vice versa. This risk cannot be avoided.

Example: Suppose a person buys a bond for Rs. 100 with a coupon rate of 10 per cent. In other terms, the person should get Rs. 110 at the end of the year. The RBI announces a hike in the bank rate. The market yield for the duration of the bond increased, say to 11 per cent. The prices of the bond will fall around to Rs. 90.91 in order to adjust to the market yield. This is termed as interest rate risk in financial jargon. It is precisely what happened in 2000 when RBI had hiked the interest rates.

An investor stands to benefit in the opposite scenario, when the interest rates are cut, as then the prices go up, leading to better returns from the fund. For example, the interest rate in the above example falls to 9 per cent. A person still gets Rs. 10 in interest. In order to align the amount received to the prevailing market yield, the price of the bond adjusts to Rs. 111.11. In this case, the investor is better off by selling it at Rs. 111.11 than holding it to its maturity, as then he will only get Rs. 110.

Inflation Risk: The return on investments will not increase with rising consumer prices, it is called inflation risk. Conservative instruments like debt funds provide less return over time. They are more prone to the inflation risk.

Though this risk cannot be avoided, one can manage it by investing a small portion in equity mutual funds. Equity funds always provide higher returns over a period. In comparison, debt funds give less return.

Business Risk: A company issuing a security may not be financially sound due to factors like poor management, low product demand, or huge operating expenses. It is known as business risk. Such situations can result in a decline in the security's value. Since mutual funds invest in a variety of companies, the effect of such a risk spreads out.

Credit Risk: An issuer will default on a fixed income security by failing to pay interest or principal when due. It is the credit risk. Most of the bond instruments are rated by rating agencies. The higher the rating given to the bond, the higher is the credit quality implying low credits risk and vice versa.

This risk can be limited by investing in mutual funds having a high exposure to quality paper. Rating of AA/AAA denotes high credit quality.

Political Risk: Political events may unfavourably influence the value of a security. It is known as political risk. Other political risks could include wars, change in government, etc.

Political risks cannot be avoided. However, no two companies will be affected in a similar manner when any change in law or a new legislation takes place.

Liquidity Risk: A mutual fund's underlying securities, i.e., low profile securities cannot be sold at a fair price when the need arises. It affects the liquidity of a security. It is known as liquidity risk. Hence, marketability of a security is a very important consideration.

One can minimise liquidity risk by investing in actively traded companies. In mutual funds, invest in an open-ended scheme as one can enter and exit at his convenience. Close-ended funds do not give an investor an option to exit at his convenience.

Timing Risk: Buying or selling a security at the wrong time is leading to this risk. For example, there is the chance that a few days after an investor sells a fund it will go up in value or there is decline in value of a fund after he buys it. The best way to counter market timing is to invest systematically. He can actually take advantage of short-term market volatility by investing a fixed amount on a regular basis to build a portfolio over a period. This approach, called rupee-cost averaging, lets one buy more mutual fund units when NAVs are low and fewer units when NAVs are high.

Some of the risks stated above can be avoided through strategic planning. If investors were conservative, it would make sense if they invest in schemes, which are not affected by the swings of the stock market.

10.6 PERFORMANCE MEASURES OF MUTUAL FUNDS

Past performance alone cannot be indicative of future performance. It is, frankly the only quantitative way to judge how good a fund is at present. Therefore, there is a need to assess the past performance of different mutual funds correctly.

The performance of a mutual fund, in general, can be evaluated by using the beginning and the end period net asset values (NAV) as follows:

$$R_p = ((NAV_t - NAV_{t-1}) + D_1 + C_1) / NAV_{t-1}$$

The one period rate of return for a mutual fund (R_p) is defined as the change in net asset value (NAV) plus its cash disbursements (D) and capital gains disbursements (C). Net asset values of the fund are adjusted for bonus and rights.

Net Asset Value (NAV)

The net asset value of the fund is the cumulative market value of the assets of the fund net of its liabilities. In other words, if the fund is dissolved or liquidated, by selling off all

the assets in the fund, this is the amount that the shareholders would collectively own. This gives rise to the concept of net asset value per unit, which is the value, represented by the ownership of one unit in the fund. It is calculated simply by dividing the net asset value of the fund by the number of units. However, most people refer loosely to the NAV per unit as NAV, ignoring the “per unit”. We also abide by the same convention.

Calculation of NAV

The most important part of the calculation is the valuation of the assets owned by the fund. Once it is calculated, the NAV is simply the net value of assets divided by the number of units outstanding. The detailed methodology for the calculation of the asset value is given below:

- Asset value is equal to
- Sum of market value of shares or debentures
- + Liquid assets or cash held, if any
- + Dividends or interest accrued
- Amount due on unpaid assets
- Expenses accrued but not paid

Details on the above Items

1. For liquid shares or debentures, valuation is done on the basis of the last or closing market price on the principal exchange where the security is traded.
2. For illiquid and unlisted and or thinly traded shares or debentures, the value has to be estimated. For shares, this could be the book value per share or an estimated market price if suitable benchmarks are available. For debentures and bonds, value is estimated on the basis of yields of comparable liquid securities after adjusting for illiquidity. The value of fixed interest-bearing securities moves in a direction opposite to interest rate changes. Valuation of debentures and bonds is a big problem since most of them are unlisted and thinly traded. This gives considerable leeway to the AMCs on valuation and some of the AMCs are believed to take advantage of this and adopt flexible valuation policies depending on the situation.
3. Interest is payable on debentures or bonds on a periodic basis say every 6 months. But, with every passing day, interest is said to be accrued, at the daily interest rate, which is calculated by dividing the periodic interest payment with the number of days in each period. Thus, accrued interest on a particular day is equal to the daily interest rate multiplied by the number of days since the last interest payment date.
4. Usually, dividends are proposed at the time of the Annual General Meeting and become due on the record date. There is a gap between the dates on which it becomes due and the actual payment date. In the intermediate period, it is deemed to be “accrued”.
5. Expenses including management fees, custody charges, etc. are calculated on a daily basis.

10.7 IMPORTANCE OF MUTUAL FUNDS

The mutual fund industry has grown at a phenomenal rate in the recent past. One can witness a revolution in the mutual fund industry in view of its importance to the investors

in general and the country's economy at large. The following are some of the important advantages of mutual funds:

- (i) **Channelising Savings for Investment:** Mutual funds act as a vehicle in galvanising the savings of the people by offering various schemes suitable to the various classes of customers for the development of the economy as a whole. A number of schemes are being offered by MFs so as to meet the varied requirements of the masses, and thus, savings are directed towards capital investments directly. In the absence of MFs, these savings would have remained idle. Thus, the whole economy benefits due to the cost efficient and optimum use and allocation of scarce financial and real resources in the economy for its speedy development.
- (ii) **Offering wide Portfolio Investment:** Small and medium investors used to burn their fingers in stock exchange operations with a relatively modest outlay. If they invest in a select few shares, some may even sink without a trace never to rise again. Now, these investors can enjoy the wide portfolio of the investment held by the mutual fund. The fund diversifies its risks by investing on a large varieties of shares and bonds which cannot be done by small and medium investors. This is in accordance with the maxim 'Not to lay all eggs in one basket'. These funds have large amounts at their disposal, and so, they carry a clout in respect of stock exchange transactions. They are in a position to have a balanced portfolio which is free from risks. Thus, MFs provide instantaneous portfolio diversification. The risk diversification that a pool of savings through mutual funds can achieve cannot be attained by a single investor's savings.
- (iii) **Providing Better Yields:** The pooling of funds from a large number of customers enables the fund to have large funds at its disposal. Due to these large funds, mutual funds are able to buy cheaper and sell dearer than the small and medium investors. Thus, they are able to command better market rates and lower rates of brokerage. Therefore, they provide better yields to their customers. They also enjoy the economies of large scale and can reduce the cost of capital market participation. The transaction costs of large investments are definitely lower than that of small investments. In fact, all the profits of a mutual fund are passed on to the investors by way of dividends and capital appreciation. The expenses pertaining to a particular scheme alone are charged to the respective scheme. Most of the mutual funds so far floated have given a dividend at the rate ranging between 12% p.a. and 17% p.a. It is fairly a good yield. It is an ideal vehicle for those who look for long-term capital appreciation.
- (iv) **Rendering Expertised Investment Service at Low Cost:** The management of the fund is generally assigned to professionals who are well-trained and have adequate experience in the field of investment. The investment decisions of these professionals are always backed by informed judgement and experience. Thus, investors are assured of quality services in their best interest. Due to the complex nature of the securities market, a single investor cannot perform all these functions himself nor can he go to a professional manager who manages individual portfolios. In such a case, the latter may charge hefty management fee. The intermediation fee is the lowest being 1 per cent in the case of a mutual fund.
- (v) **Providing Research Service:** A mutual fund is able to command vast resources and hence it is possible for it to have an in-depth study and carry out research on corporate securities. Each fund maintains a large research team that constantly analyses the companies and the industries, and recommends the fund to buy or sell a particular share. Thus, investments are made purely on the basis of a thorough research. Since research involves a lot of time, efforts and expenditure, an individual

investor cannot take up this work. By investing in a mutual fund, the investor derives the benefit of the research done by the fund.

- (vi) **Offering Tax Benefits:** Certain funds offer tax benefits to their customers. Thus, apart from dividends, interest and capital appreciation, investors also stand to get the benefit of tax concession.

For instance, under Section 80L of the Income Tax Act, a sum of Rs. 10,000 received as dividend (Rs. 13,000 to UTI) from a MF is deductible from the gross total income. Some funds operate 88A Funds, where 20% of the amount invested (subject to a maximum of Rs.25,000) is allowed to be deducted from the tax payable. Under the Wealth Tax Act, investments in MF are exempted up to Rs. 5 lakhs.

The mutual funds themselves are totally exempt from tax on all income on their investments. All other companies have to pay taxes and they can declare dividends only from the profits after tax. But mutual funds do not deduct tax at source from dividends. This is really a boon to investors.

- (vii) **Introducing Flexible Investment Schedule:** Some mutual funds have permitted the investors to exchange their units from one scheme to another and this flexibility is a great boon to investors. Income units can be exchanged for growth units depending upon the performance of the funds. One cannot derive such a flexibility in any other investments.
- (viii) **Providing Greater Affordability and Liquidity:** Even a very small investor can afford to invest in mutual funds. They provide an attractive and cost effective alternative to direct purchase of shares. In the absence of MFs, small investors cannot think of participating in a number of investments with such a meagre sum. Again, there is greater liquidity. Units can be sold to the fund at any time at the Net Asset Value and thus quick access to liquid cash is assured. Besides, branches of the sponsoring bank is always ready to provide loan facility against the unit certificates.
- (ix) **Simplified Record-keeping:** An investor with just an investment in 500 shares or so in three or four companies has to keep proper records of dividend payments, bonus issues, price movements, purchase or sale instruction, brokerage and other related items. It is very tedious and consumes a lot of time. One may even forget to record the rights issue and may have to forfeit the same. Thus, record-keeping is the biggest problem for small and medium investors. Now, a mutual fund offers a single investment source facility, i.e., a single buy order of 100 units from a mutual fund is equivalent to investment in more than 100 companies. The investor has to keep a record of only one deal with the mutual fund. Even if he does not keep a record, the MF sends statements very often to the investor. Thus, by investing in MFs, the record-keeping work is also passed on to the Fund.
- (x) **Supporting Capital Market:** Mutual funds play a vital role in supporting the development of capital markets. They make the capital market active by means of providing a sustainable domestic source of demand for capital market instruments. In other words, the savings of the people are directed towards investments in capital markets through these mutual funds. Thus, funds serve as a conduit for dis-intermediating bank deposits into stocks, shares and bonds. Mutual funds also provide a valuable liquidity to the capital market, and thus, the market is made very active and stable. When foreign investors and speculators exit and re-enter the markets en masse, mutual funds keep the market stable and liquid. In the absence of mutual funds, the prices of shares would be subject to wide price fluctuations due to the exit and re-entry of speculators into the capital market en masse. Thus, mutual

funds render excellent support to the capital market and help in the process of institutionalisation of the market.

- (xi) **Promoting Industrial Development:** The economic development of any nation depends upon its industrial advancement and agricultural development. All industrial units have to raise their funds by resorting to the capital market by the issue of shares and debentures. Mutual funds not only create a demand for these capital market instruments but also supply a large source of funds to the market, and thus, the industries are assured of their capital requirements. In fact the entry of mutual funds has enhanced the demand for India's stocks and bonds. Thus, mutual funds provide financial resources to the industries at market rates.
- (xii) **Acting as Substitute for Initial Public Offerings (IPOs):** In most cases, investors are not able to get allotment in IPOs of companies because they are often oversubscribed many time. Moreover, they have to apply for a minimum of 500 shares which is very difficult particularly for small investors. But in mutual funds, allotment is more or less guaranteed. Mutual funds are also guaranteed a certain percentage of IPOs by companies. Thus, by participating in MFs, investors are able to get the satisfaction of participating in hundreds of varieties of companies.
- (xiii) **Reducing the Marketing Cost of New Issues:** Moreover, mutual funds help to reduce the marketing cost of the new issues. The promoters used to allot a major share of the initial public offering to the mutual funds and thus they are saved from the marketing cost of such issues.
- (xiv) **Keeping the Money Market Active:** An individual investor cannot have any access to money market instruments since the minimum amount of investment is out of his reach. On the other hand, mutual funds keep the money market active by investing money on the money market instruments. In fact, the availability of more money market instruments itself is a good sign for a developed money market which is very essential for the successful functioning of the central bank in a country.

Thus mutual funds provide stability to share prices, safety to investors and resources to prospective entrepreneurs.

10.8 ORGANISATION OF THE FUND

The structure of mutual fund operations in India envisages a three-tier establishment namely:

- (i) A sponsor institution to promote the fund
- (ii) A team of trustees to oversee the operations and to provide checks for the efficient, profitable and transparent operations of the fund and
- (iii) An Asset Management Company (AMC) to actually deal with the funds.

Sponsoring Institution: The company which sets up the mutual fund is called the sponsor. The SEBI has laid down certain criteria to be met by the sponsor. These criteria mainly deal with adequate experience, good past track record, net worth etc.

Trustees: Trustees are people with long experience and good integrity in their respective fields. They carry the crucial responsibility of safeguarding the interest of investors. For this purpose, they monitor the operations of the different schemes. They have wide-ranging powers and they can even dismiss asset management companies with the approval of the SEBI.

Asset Management Company (AMC): The AMC actually manages the funds of the various schemes. The AMC employs a large number of professionals to make investments, carry out research and to do agent and investor servicing. In fact, the success of any mutual fund depends upon the efficiency of this AMC. The AMC submits a quarterly report on the functioning of the mutual fund to the trustees who will guide and control the AMC.

10.9 OPERATION OF THE FUND

A mutual fund invites the prospective investors to join the fund by offering various schemes so as to suit to the requirements of different categories of investors. The resources of individual investors are pooled together and the investors are issued units/shares for the money invested. The amount so collected is invested in capital market instruments like shares and debentures and money market instruments like treasury bills, commercial papers, etc.

For managing this fund, a mutual fund gets an annual fee of 1.25% of funds managed at the maximum as fixed by the SEBI (MF) Regulations, 1993 and if the funds exceed Rs. 100 crores, it is only 1%. It cannot take more than that. Of course regular expenses, like custodial fee, cost of dividend warrants, fee for registration, the asset management fee etc. are debited to the respective schemes. These expenses cannot exceed 3% of the assets in the respective schemes each year. The remaining amount is given back to the investors in full.

10.10 FACILITIES AVAILABLE TO INVESTORS

1. **Repurchase Facilities:** The units of closed ended schemes must be compulsorily listed in recognized stock exchanges. Such units can be sold or bought at market prices. But units of open-ended schemes are not at all listed and hence they have to be bought only from the fund. The fund, therefore, reserves the right to buy back the units from its members. This process of buying back the units from the investors by the fund is called repurchase facility. This is available in both schemes so as to provide liquidity to investors. The price fixed for this purpose is called repurchase price.
2. **Reissue Facilities:** In the case of open-ended schemes, units can be bought only from the fund and not in the open market. The units bought from investors are again reissued to those who are interested in purchasing them. The price fixed for this purpose is called re-issue price.
3. **Roll-over Facilities:** At the time of redemption, the investor is given an option to reinvest his entire investment once again for another term. An investor can overcome an adverse market condition prevailing at the time of redemption by resorting to this Roll-over facility. This is applicable in the case of close-ended funds.
4. **Lateral Shifting Facilities:** Some mutual funds permit the investors to shift from one scheme to another on the basis of the Net Asset Values with a view to providing total flexibility in their operation. This is done without any discount on the fund and without any additional charges. This is a great privilege given to the investors. This shifting is called 'lateral shifting'.

Net Asset Value

The repurchase price is always linked to the Net Asset Value (NAV). The NAV is nothing but the market price of each unit of a particular scheme in relation to all the

assets of the scheme. It can otherwise be called "the intrinsic value" of each unit. This value is a true indicator of the performance of the fund. If the NAV is more than the face value of the unit, it clearly indicates that the money invested on that unit has appreciated and the fund has performed well.

Illustration: For instance, Fortune Mutual Fund has introduced a scheme called Millionaire Scheme. The scheme size is 100 crores. The value of each unit is Rs.10/-. It has invested all the funds in shares and debentures and the market value of the investment comes to Rs. 200 crores.

$$\begin{aligned}\text{Now NAV} &= (200 \text{ crores} / 100 \text{ crores}) \times \text{Value of each unit} \\ &= 2 \times 10 = 20\end{aligned}$$

Thus, the value of each unit of Rs.10/- is worth Rs. 20.

Hence the NAV =Rs. 20.

This NAV forms the basis for fixing the repurchase price and reissue price.

The investor can call up the fund any time to find out the NAV. Some MFs publish the NAV weekly in two or three leading daily newspapers.

Check Your Progress 3

Describe, in brief, the organisation of the mutual fund in India.

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10.11 INVESTORS RIGHTS

The SEBI (MF) Regulations, 1993 contains specific provisions with regard to investor servicing. Certain rights have been guaranteed to the investors as per the above regulations. They are as follows:

- (i) **Unit Certificates:** An investor has a right to receive his unit certificates on allotment within a period of 10 weeks from the date of closure of subscription lists in the case of a close-ended scheme and 6 weeks from the date of closure of the initial offer in the case of an open-ended scheme.
- (ii) **Transfer of Units:** An investor is entitled to get the unit certificates transferred within a period of 30 days from the date of lodgement of the certificates along with the relevant transfer forms.
- (iii) **Refund of Application Money:** If a mutual fund is not able to collect the statutory minimum amount (close-ended funds - Rs. 20 crores, open-ended funds - Rs. 50 crores or 60% of the targeted amounts, whichever is higher) it has to return the application money as refund within a period of 6 weeks from the date of closure of subscription lists. If the refund is delayed beyond this period, each applicant is entitled to get the refund with interest at the rate of 15% p.a. for the period of delay.
- (iv) **Audited Annual Report:** Every mutual fund is under an obligation to its investors to publish the audited annual report and unaudited half yearly report through prominent newspapers in respect of each of its schemes within 6 months and 3 months respectively of the date of closure of accounts.

Net Asset Value

Again, every investor has the right to receive information about the NAV at intervals not exceeding 3 months in the case of open-ended scheme and one month in the case of close-ended funds. It must also be published at least in two daily newspapers.

10.12 GENERAL GUIDELINES

For proper functioning of mutual funds and for ensuring investor protection, the following important guidelines have been framed by the Government of India:

(a) ***General***

- (i) Money market mutual funds would be regulated by the RBI while other mutual funds would be regulated by the Securities and Exchange Board of India (SEBI).
- (ii) Mutual fund shall be established in the form of Trusts under the Indian Trust Act and be authorised for business by the SEBI.
- (iii) Mutual funds shall be operated only by separately established Asset Management Companies (AMCs).
- (iv) At least 50% of the Board of AMC must be independent directors who have no connections with the sponsoring organisation, The directors must have professional experience of at least 10 years in the relevant fields such as portfolio management, financial administration etc.
- (v) The AMC should have a minimum net worth of Rs. 5 crores at all times.
- (vi) The SEBI is given the power to withdraw the authorisation given to any AMC if it is found to be not serving the best interest of investors as well as the capital market. It is not applicable to bank sponsored AMCs.

(b) ***Business Activities***

- (i) Both AMCs and trustees should be treated as two separate legal entities.
- (ii) AMCs should not be permitted to undertake any other business activity except mutual funds.
- (iii) One AMC cannot act as the AMC for another mutual fund.

(c) ***Schemes***

- (i) Each scheme of a mutual fund must be compulsorily registered with the SEBI before it is floated in the market,
- (ii) The minimum size of the fund should be Rs.20 crores in the case of each closed-end scheme and it is Rs. 50 crores for each open-end scheme.
- (iii) Closed-end schemes should not be kept opened for subscription for more than 45 days. For open-end schemes, the first 45 days should be considered for determining the target figure or the minimum size.
- (iv) If the minimum amount or 60 per cent of the targeted amount, whichever is higher, is not raised, then, the entire subscription has to be refunded to the investors.
- (v) To provide continuous liquidity, closed-end schemes should be listed on stock exchanges. In the case of open-end schemes, mutual funds shall sell and repurchase units at predetermined prices based on the Net Asset Value and such prices should be published at least once in a week.

- (vi) For each scheme, there should be a separate and responsible fund manager.

(d) ***Investment Norms***

- (i) Mutual funds should invest only in transferable securities either in the capital market or money market or securitized debt. It cannot exceed 10 per cent in the case of growth funds and 40 per cent in the case of income funds.
- (ii) The mutual fund should not invest more than 5% of its corpus of any scheme in any one company's shares.
- (iii) This limit of 5% can be extended to 10% if all the schemes of a mutual fund are taken together.
- (iv) No scheme should invest in any other scheme under the same AMC.
- (v) No mutual fund under all its schemes taken together can invest more than 15 per cent of the funds in the shares and debentures of any specific industry, except in the case of those schemes which are specifically floated for investment in one or more specified industries.

(e) ***Expenses***

- (i) The AMC may charge the mutual fund with investment management and advisory fees. Such fees should have been disclosed in the prospectus.
- (ii) The initial issue expenses should not exceed 6% of the funds raised under each scheme.
- (iii) Excepting the initial issue expenses, all other expenses to be charged to the fund should not exceed 3% of the weekly average net assets outstanding during the current year. It must be disclosed through advertisements, accounts etc.

- (f) ***Income Distribution:*** All mutual funds must distribute a minimum of 90% of their profits in any given year.

(g) ***Disclosure and Reporting***

- (i) The SEBI is given wide powers to call for any information regarding the operation of mutual funds and any of its schemes from the mutual fund or any person associated with it like the AMC, Trustee, Sponsor etc.
- (ii) Every mutual fund is required to send its copies of duly audited annual statements of accounts, six monthly unaudited accounts, quarterly statements of movements in net assets for each of its schemes to the SEBI.
- (iii) The SEBI can lay down the accounting policies, the format and contents of financial statements and other reports.
- (iv) The SEBI shall also lay down a common advertising code for all mutual funds to comply with.

(h) ***Accounting Norm***

- (i) All mutual funds should segregate their earnings as current income, short-term capital gains and long-term capital gains.
- (ii) Accounting for all the schemes must be done for the same year-ending.

(i) ***Winding Up***

- (i) Each closed-end scheme should be wound up or extended with the permission of the SEBI as soon as the predetermined period is over.

- (ii) An open-end scheme shall be wound up, if the total number of units outstanding after repurchases at a point of time falls below 50% of the originally issued number of units.
- (j) **Violation of Guidelines:** The SEBI can, after due investigation, impose penalties on mutual funds for violating the guidelines as may be necessary.

10.13 MUTUAL FUNDS 2000

During April 1996, the Mutual Funds Department of SEBI has released an exhaustive study on the mutual fund industry called “Mutual Funds 2000”. The study has suggested several reforms as given hereunder:

- (i) It has been proposed that mutual funds should broaden their areas of investment. Accordingly, there is a proposal to set up mutual funds to invest in quilt edged securities or real estate.
- (ii) There is a proposal to do away with the restriction of a maximum industry exposure of 15% for a mutual fund scheme. Earlier this restriction applied to all Mutual Fund Schemes except those which are designed to invest in a particular industry.
- (iii) At present, a mutual fund can hold at a maximum of only 5% of the equity of a company. It has been proposed that this limit be increased to 10%.
- (iv) Similarly, it is proposed to remove the existing maximum limit of 10% of a mutual fund investment (both equity and debt) in a single company.
- (v) All closed-end mutual funds should get used within 6 months from the date of allotment unless they offer a continuous repurchase facility to their clients.
- (vi) It has been proposed that closed-end mutual fund schemes which offer monthly income or schemes which are targeted at any certain categories of investors like women need not get listed.
- (vii) The existing requirement of minimum initial corpus for both open-ended and closed-end schemes is likely to be removed,
- (viii) Further, the requirement of refunding subscription in case of collection falling below 60% of the target collection is sought to be removed.
- (ix) There is a proposal to extend the lock-in period of 60 days before redemption in the case of open-end schemes to 6 months.
- (x) For the purpose of meeting the redemption requests alone, it has been suggested that mutual funds be permitted to borrow upto 10% of their net assets for a maximum period of 3 months only.

10.14 SELECTION OF A FUND

Mutual funds are not magic institutions that can bring treasure to the millions of their investors within a short span of time. All funds are equal to start with. But in due course of time, some excel the other. It all depends upon the efficiency with which the fund is being managed by the professionals of the fund. Hence, the investor has to be very careful in selecting a fund. He must take into account the following factors for evaluating the performance of any fund and then finally decide the one he has to choose:

- (i) **Objective of the Fund:** First of all, he must look at the objective of the fund - whether income-oriented or growth-oriented. Income-oriented funds are backed mainly by fixed interest yielding securities like debentures and bonds whereas growth-

oriented funds are backed by equities. It is obvious that growth-oriented schemes are more risky than income oriented schemes, and hence, the returns from such schemes are not comparable with each other. The investor should compare the particular scheme of one fund with the same scheme of another fund and make a comparative analysis. His objective should also coincide with the objective of the scheme which he proposes to choose.

- (ii) **Consistency of Performance:** A mutual fund is always intended to give steady long term returns, and hence, the investor should measure the performance of a fund over a period of at least three years. Investors are satisfied with a fund that shows a steady and consistent performance than a fund which performs superbly in one year and then fails in the next year. Consistency in performance is a good indicator of its investment expertise.
- (iii) **Historical Background:** The success of any fund depends upon the competence of the management, its integrity, periodicity and experience. The fund's integrity should be above suspicion. A good historical record could be a better horse to bet on than new funds. It is in accordance with the maxim "A known devil is better than an unknown angel."
- (iv) **Cost of Operation:** Mutual funds seek to do a better job of the investible funds at a lower cost than the individuals could do for themselves. Hence, the prospective investor should scrutinise the expense ratio of the fund and compare it with others. Higher the ratio, lower will be the actual returns to the investor.
- (v) **Capacity for Innovation:** The efficiency of a fund manager can be tested by means of the innovative schemes he has introduced in the market so as to meet the diverse needs of investors. An innovator will always be a successful man. It is quite natural that an investor will look for funds which are capable of introducing innovations in the financial market.
- (vi) **Investor Servicing:** The most important factor to be considered is prompt and efficient servicing. Services like quick response to investor queries, prompt despatch of unit certificates, quick transfer of units, immediate encashment of units etc. will go a long way in creating a lasting impression in the minds of investors.
- (vii) **Market Trends:** Traditionally, it has been found that the stock market index and the inflation rate tend to move in the same direction, whereas the interest rates and the stock market index tend to move in the opposite direction. This sets the time for the investor to enter into the fund and come out of it. A prudent investor must keep his eyes on the stock market index, interest rate and the inflation rate. Of course, there is so scientific reasoning behind it.
- (viii) **Transparency of the Fund Management:** Again, the success of a mutual fund depends to a large extent on the transparency of the fund management. In these days of investor awareness, it is very vital that the fund should disclose the complete details regarding the operation of the fund. It will go a long way in creating a lasting impression in the minds of the investors to patronise the fund for ever.

In fact, the wider range of products/services offered by the different funds have made the investor quality-conscious. He is now in a position to assess the quality of the products offered by MFs in the financial market. MFs cannot simply attract savings by mere lucrative advertisements. The cult of the equity has spread to many small investors who have become very discerning in selecting mutual funds.

10.15 COMMERCIAL BANKS AND MUTUAL FUNDS

With a view to providing wider choice to small investors, the Government of India has permitted the banks to launch mutual funds as subsidiaries. There has been an urgent need for the banks to enter into the field of mutual funds due to the following reasons:

- (i) Banks are not able to provide better yields to the investing public with their savings and fixed deposit interest rates whereas many financial intermediaries, with innovative market instruments offering very attractive returns, have entered the financial market. So banks are not able to compete with them in tapping the savings. Hence there is a necessity to enter into the field of MFs.
- (ii) Gross domestic savings has risen from 10% in Fifties to 20% in Eighties, thanks to the massive branch expansion programme of banks and their growing deposit mobilisation. Since the banks have branches in the rural as well as urban sectors, they can reach out to everyone in the country. Hence, an MF backed by a bank will be in a better position to tap the savings effectively and vigorously for the capital market.
- (iii) Indian investors, particularly small and medium ones, are not very keen in investing any substantial amount directly in capital market instruments. They may also hesitate to invest in an indirect way through private financial intermediaries. On the other hand, if such intermediary has the backing of a bank, investors may gain confidence and come forward to invest. Thus, banks have the advantage of 'public confidence' which is very essential for the success of mutual funds.
- (iv) Earlier, banks were not permitted to tap the capital market for funds or to invest their funds in the market. Now, a green signal has been given to them to enter into this market and reap the maximum benefits.
- (v) Banks can provide a wider range of products/services in mutual funds by introducing innovative schemes and extend their professionalism to the mutual funds industry.
- (vi) Banks, as merchant banks have wide experience in the capital market and hence managing a mutual fund may not be a big problem for them.
- (vii) The entry of banks would provide much needed competition in the mutual fund industry which has been hitherto monopolised by the U.T.I. This competition will improve customer service and widen customer choice also.
- (viii) In the Indian economy, the Eighties witnessed the operation of both the process of intermediation and dis-intermediation. The dis-intermediation process can be easily harnessed by commercial banks through mutual funds. The process of dis-intermediation of time deposits into mutual funds would benefit the capital market because it would provide a sustainable domestic source of demand.
- (ix) Above all the, investor servicing can be effectively done by banks through their network of branches spread throughout the country. Hence, the commercial banks have entered into the mutual fund market without any hesitancy.
- (x) Moreover, the profitability of banks has been very much affected due to too many restrictions on their lending policies. They have been compelled to seek some other alternatives to increase their profits by means of diversifying their activities. Mutual funds offer an excellent outlet for diversification.

10.16 MUTUAL FUNDS ABROAD

Mutual funds have been growing at an unprecedented pace throughout the world. In the US, mutual funds have been labelled as the “bank deposits of 1990s”. Mutual funds have changed the American financial landscape by offering a menu of investment choice and some companies like Fidelity Investments, Vanguard and Merrill Lynch are very popular among them. The Americans have been pouring in over \$ 1 billion every day into these funds. According to a study, the industry was expected to have \$ 2 trillion in assets by 1995 or 1996 and touch the \$ 3 trillion mark by 2000. But the mutual fund industry zoomed past the \$2 trillion mark as easily as 1993. In the US today, nearly 83 million investors forming 27% of the households save in 4,558 funds. In fact the number of mutual funds outnumber the number of listed companies on the New York Stock Exchange. This industry has an annual growth of about 20 to 25 per cent.

Mutual funds in the UK had crossed the £1000 mark by the end of 1987. The top 25 funds in terms of performance come from Japan and the Far East growth sectors. Some of them have doubled their money within a period of just one year. In Australia too, these funds have been very successful, particularly on account of 46.8% rise to Australian All Shares Index. MFs are growing in size and importance in countries like Hong Kong, Singapore, Philippines, Thailand, South Korea etc.

The following table shows the number of mutual funds and their investible funds in abroad as on 29.9.95 or 30.9.95:

S.No.	Country	Total number of mutual funds	Total investible funds (in US dollars)
1	U.S.A.	4,800	2,400 billion
2	France	5,900	510 billion
3	Japan	4,300	500 billion
4	U.K.	1,390	125 billion

10.17 GROWTH OF MUTUAL FUNDS IN INDIA

In India, the mutual fund industry has been monopolised by the Unit Trust of India ever since 1963. Now, commercial banks like the State Bank of India, Canara Bank, Indian Bank, Bank of India and the Punjab National Bank have entered the field. To add to the list are the LIC of India and the private sector banks and other financial institutions. These institutions have successfully launched a variety of schemes to meet the diverse needs of millions of small investors. The Unit Trust of India has introduced huge portfolio of schemes like Unit 64, Mastergain, Mastershare etc. It is the country's largest mutual fund company with over 25 million investors and a corpus exceeding Rs. 55,000 crores, accounting for nearly 10% of the country's stock market capitalisation. The total corpus of the 13 other mutual funds in the country is less than Rs. 15,000 crore. The SBI fund has a corpus of Rs. 2,925 crore deployed in its 16 schemes servicing over 2.5 million shareholders.

On the whole, as on 30.9.95 there were nearly 25 mutual funds offering 80 different schemes and serving nearly 60 million investors.

There are also mutual funds with investments sourced abroad called 'Offshore Funds'. They have been established for attracting NRI investments to the capital market in India. The India Fund Unit scheme 1986 traded in the London Stock Exchange and the India Fund Unit Scheme 1988 traded in the New York Stock Exchange were floated by the Unit Trust of India and 'the India Magnum Fund' was floated by the State Bank of

India. At present, there are 16 different offshore Indian funds which have brought about \$2.7 billion to the Indian market.

Besides the above, the LIC and the GIC have also entered into the market. Again, many private organisations have entered into the field. Most of the schemes have declared a dividend ranging between 13.5% and 17%. In most of the cases it is around 14% only.

The recent trend in the mutual fund industry is to go for tie-up arrangements with foreign collaborators. We find the TATAs tying up with Kleinworth Benson; GIC with George Soros; Credit Capital with Lazard Brothers; Kothari with Pioneer; ICICI with JP Morgan; 20th Century with Morgan and so on. Of course, these tie-ups would bring in new perspective, systems and technology and this very foreign tag may add credit to the institution.

The private sector, which entered the arena in 1993, is concentrating on the primary market. This is so because, investments in new shares fetch appreciation between 30 and 1500 per cent in a very short period. Promoters too give preferential treatment to mutual funds because it reduces their marketing cost. Again, they go for fund-participation in a venture even before it goes public. They see potential for immense appreciation in unlisted securities which intend to go to public with a short period of one year.

In India, mutual funds have been preferred as an avenue for investment by the household savers only from 1990s. The sales of units of UTI, which were Rs. 890 crores in 1985-86 rose to Rs. 4,100 crores in 1990-91 and Rs. 9,500 crores in 1993-94. The public sector mutual funds were able to collect Rs. 3,800 crores in 1990-91. However, they could collect only Rs. 400 crores in 1993-94. The private sector mutual funds mobilised Rs. 1,700 crores in 1993-94. On the whole, the mutual fund industry was able to mobilise approximately Rs. 12,000 crores in 1993-94 which amounts to 8% of the gross domestic householding savings in the country. It is a good going indeed. However, the rate of growth is comparatively slow and not very satisfactory.

10.18 REASONS FOR SLOW GROWTH

Of late, mutual funds find their going very tough. Most of the funds are not able to collect the targetted amount from small investors. Investors tend to keep out of the new issue mutual funds and they prefer to buy units from the secondary market even by paying a brokerage fee of 3 per cent. The mutual fund industry has to face many problems also. Some of them are:

- (i) **Disparity between NAV and Listed Price:** Small investors are really bewildered at the lack of proper pricing for their units. Though the NAV seems to be good, the listed prices are awfully poor. Of course, the NAV is used as a parameter to rate the performance of the mutual funds. However, in practice, almost all the mutual fund schemes are deeply discounted to their NAV by as much as 30 to 40 per cent. Thus, the real dilemma for the investor is this disparity between the NAV and the listed price. Due to this factor, investors are not able to dispose off their units in the market and hence there is no liquidity at all. As on 30.9.95, nearly 23 funds were traded at a discount to their NAV ranging from 5% to 35%.
- (ii) **No Uniformity in the Calculation of NAV:** It is interesting to note that there is no standard formula for the calculation of the NAV. With the result, different companies apply different formula, and hence, any fruitful comparison of one fund with another is not at all possible. Therefore, small investors cannot form a concrete opinion on the performance of different funds.

- (iii) **Lack of Transparency:** Mutual funds in India do not provide adequate information and materials to the investors. It was expected that they would provide a detailed investment pattern of their various schemes. They would also have frequent and continuing communications with the unit-holders. Unfortunately, most of the funds are not able to send even their quarterly report to their members. For the success of mutual funds it is very essential that they should create a good rapport with the investors by declaring their entire holdings to them.
- (iv) **Poor Investor Servicing:** Mutual funds have failed to build up investor-confidence by rendering poor services. Due to the recurring transfer problems and non-receipt of dividend in time, people are hesitant to touch the mutual fund scrip. There are instances where people have to wait for more than six months to get their unit certificates. Again, the percentage of units under objection with the funds is also very high ranging between 3 per cent and 10 per cent. It is also said that the fake certificates are also very high. This deteriorated after-sales service to the investors has positively affected the growth of this industry. Many investors have been driven out of this mutual fund industry due to this poor servicing. In the case of a company, there is a statutory obligation to convene the meeting of the shareholders and place before them important matters for discussion. There is no such meeting in the case of a mutual fund company.
- (v) **Too much dependence on outside agencies:** In India, most of the funds depend upon outside agencies to collect data and to do research. There is no doubt that research-driven funds can ensure good returns to its members. But, one should not rely on borrowed research. Since research involves a lot of money, mutual funds think that their overhead cost will go up and thereby their administrative expenses will go beyond the 3 per cent level fixed by the SEBI. In practice it may not be so. In fact, they have to pay more for borrowed research and even that cannot be fully relied upon. Unless they set up their own research cell, they cannot succeed in the business.
- (vi) **Investor's Psychology:** Investors often compare units with that of shares and expect a high listing price. They don't realise that unit is a low-risk long-term instrument. Indeed, mutual funds are only for those who have the patience to wait for a long period say 3 to 5 years. But, in practice, people don't have the patience. Hence, units are not popular among the public.
- (vii) **Absence of Qualified Sales Force:** Efficient management of a fund requires expertised knowledge in portfolio management and skill in execution. Without professional agents and intermediaries, it cannot be managed efficiently. Unfortunately, such professional people are rare. One can find a network of qualified brokers to deal in shares and stocks. Such persons are conspicuously absent in the mutual fund industry and this absence of large and qualified sales force makes the industry suffer.
- (viii) **Other Reasons:** Few funds which have not performed well have actually demoralised the investing public. Moreover, the listing of close-ended funds on the stock exchanges has compelled the medium and small investors to go back to the stock market and face the hassles and headaches of its dealing. Above all, there is a lack of investor education in the country. Most of the investors are not aware of the mutual fund industry and the various products offered by it.

10.19 FUTURE OF MUTUAL FUNDS INDUSTRY

In spite of the above bottlenecks, the mutual fund industry has a good prospects in our country. It is likely to show good progress in the coming years due to a variety of factors:

- (i) The Securities and Exchanges Board of India is lending its full support for the promotion of the mutual fund industry directly as well as indirectly. For instance, it has allowed the promoters of a company to retain 75 per cent holding. It has raised the minimum subscription amount to Rs. 5,000 for an individual investor for direct investment. It has also introduced the proportionate allotment scheme. All these factors stand in the way of small investors who wish to enter into the capital market directly and they favour only big investors. So, a small investor has to necessarily seek the services of a mutual fund industry with his meagre savings.
- (ii) Moreover, ever since the disbanding of the Controller of Capital Issues Office, many companies have entered the market with a petty premium on their shares. Naturally, small investors find them beyond their reach, and hence, they have to seek the blessings of the mutual fund industry. One can easily subscribe to mutual funds shares at par with one's little investment.
- (iii) In recent times, the interest rates on bank deposits have been declining. Household savers are looking for alternative avenues which could bring higher returns. The returns on the mutual fund schemes compare favourably with the returns on bank deposits.
- (iv) The trend of rising PE ratio, the entry of large domestic institutional investors, the opening of the market to the foreign investors etc. would make stock market inaccessible to the small investors. Hence, they have to necessarily go to the mutual fund industry.
- (v) Mutual funds provide a wider range of products so as to meet the diverse needs of the investing public. The investors have a good choice to meet their different expectations like security, growth and liquidity.
- (vi) The government has also given the necessary impetus by providing tax concessions and tax exemptions. When the mutual fund industry is receiving a preferential treatment at the hands of the government, it is bound to grow in future.
- (vii) The Department of Company Affairs has agreed to amend the Companies Act to grant voting rights in companies for mutual funds.
- (viii) Mutual funds have also been permitted to underwrite shares.
- (ix) The Union Budget 1999-2000 introduced many measures to encourage the mutual fund industry. These measures include.
- (x) A three year dividend tax exemption from U.T.I. and equity dominated open-ended mutual funds.
- (xi) A full income tax exemption for all income from the U.T.I. and other mutual funds in the hands of the investors.

All these factors would go a long way in making mutual funds an increasingly popular, lucrative and cost-efficient vehicle for investment. The advent of mutual funds has augured well for genuine and good entrepreneurs too. The promoters suffered grievously during 1987 and early 1988 due to the failure of their new issues. Now 'mutual funds' are able to channel the savers' resources productively for equity capital in the industry and thus, new entrepreneurs are guaranteed of their new issues.

10.20 MEASURES OF MUTUAL FUND PERFORMANCE

If mutual funds ensure good returns, quick liquidity and safety and create a good rapport with the investors, their future will be very bright. They act as a via media between bank deposits and shares in the sense it involves a higher risk than a bank deposit and hence a better return, but a lower risk than a share and hence more safety. Hence, it would soon become an ideal vehicle for investment in India. It is time for the mutual funds to act as 'mutual friends' by creating a good rapport with the investors by rendering efficient and prompt services. No doubt, there is a bright future for mutual funds in India.

Return alone should not be considered as the basis of measurement of the performance of a mutual fund scheme. It should also include the risk taken by the fund manager because different funds will have different levels of risk attached to them. Risk associated with a fund, in a general, can be defined as variability in the returns generated by it. The higher the fluctuations in the returns of a fund during a given period, higher will be the risk associated with it. These fluctuations in the returns generated by a fund are resultant of two guiding forces.

First, general market fluctuations, which affect all the securities, present in the market, called market risk or systematic risk and second, fluctuations due to specific securities present in the portfolio of the fund, called unsystematic risk. The **total risk** of a given fund is the sum of these two and is measured in terms of **standard deviation** of returns of the fund.

Systematic risk, on the other hand, is measured in terms of **Beta**. It represents fluctuations in the NAV of the fund vis-a-vis market. The more responsive the NAV of a mutual fund is to the changes in the market; higher will be its beta. Beta is calculated by relating the returns on a mutual fund with the returns in the market. Unsystematic risk can be diversified through investments in a number of instruments. Systematic risk cannot be diversified. By using the risk-return relationship, we try to assess the competitive strength of the mutual funds vis-a-vis one another in a better way.

In order to determine the risk-adjusted returns of investment portfolios, several eminent authors have worked since 1960s to develop composite performance indices to evaluate a portfolio by comparing alternative portfolios within a particular risk class. The most important and widely used measures of performance are:

1. The Treynor Measure
2. The Sharpe Measure
3. Jenson Model
4. Eugene Fama Model
1. **The Treynor Measure:** Jack Treynor developed this model. The model evaluates funds based on Treynor's Index. This Index is a ratio of return generated by the fund over and above risk free rate of return (generally taken to be the return on securities backed by the government, as there is no credit risk associated), during a given period and systematic risk associated with it (beta). Symbolically, it can be represented as:

Treynor's Index (**Ti**) = $(R_i - R_f)/B_i$.

where, **Ri** represents return on fund,

Rf is risk free rate of return and

Bi is beta of the fund.

All risk-averse investors would like to maximise this value. While a high and positive Treynor's Index shows a superior risk-adjusted performance of a fund, a low and negative Treynor's Index is an indication of unfavourable performance.

2. **The Sharpe Measure:** William Sharpe developed this model. The model is named after his name, Sharpe Ratio. It is a ratio of returns generated by the fund over and above risk free rate of return and the total risk associated with it. According to Sharpe, it is the total risk of the fund that the investors are concerned about. So, the model evaluates funds on the basis of reward per unit of total risk. Symbolically, it can be written as:

$$\text{Sharpe Index (Si)} = (\mathbf{Ri} - \mathbf{Rf})/\mathbf{Si}$$

where, Si is standard deviation of the fund.

While a high and positive Sharpe Ratio shows a superior risk-adjusted performance of a fund, a low and negative Sharpe Ratio is an indication of unfavourable performance.

3. **Comparison of Sharpe and Treynor:** Sharpe and Treynor measures are similar in one aspect. They both divide the risk premium by a numerical risk measure. The total risk is appropriate when we are evaluating the risk return relationship for well-diversified portfolios. On the other hand, the systematic risk is the relevant measure of risk when we are evaluating less than fully diversified portfolios or individual stocks. For a well-diversified portfolio, the total risk is equal to systematic risk. Rankings based on total risk (Sharpe Measure) and systematic risk (Treynor Measure) should be identical for a well-diversified portfolio, as the total risk is reduced to systematic risk. Therefore, a poorly diversified fund that ranks higher on Treynor Measure, compared with another fund that is highly diversified, will rank lower on Sharpe Measure.
4. **Jenson Model:** Michael Jenson developed this model. Jenson's model proposes another risk adjusted performance measure. It is also referred to as the Differential Return Method. It involves evaluation of the returns that the fund has generated vs. the returns actually expected out of the fund given the level of its systematic risk. The surplus between the two returns is called **Alpha**. It measures the performance of a fund compared with the actual returns over the period. Required return of a fund at a given level of risk (Bi) can be calculated as:

$$\mathbf{Ri} = \mathbf{Rf} + \mathbf{Bi} (\mathbf{Rm} - \mathbf{Rf})$$

where, **Rm** is average market return during the given period.

After calculating it, alpha can be obtained by subtracting required return from the actual return of the fund.

Higher alpha represents superior performance of the fund and vice versa. Limitation of this model is that it considers only systematic risk, not the entire risk associated with the fund and an ordinary investor cannot mitigate unsystematic risk, as his knowledge of market is primitive.

5. **Eugene Fama Model:** The Eugene Fama model is an extension of Jenson model. This model compares the performance, measured in terms of returns, of a fund with the required return commensurate with the total risk associated with it. The difference between these two is taken as a measure of the performance of the fund and is called **net selectivity**.

The net selectivity represents the stock selection skill of the fund manager, as it is the excess returns over and above the return required to compensate for the total risk taken

by the fund manager. Higher value of which indicates that fund manager has earned returns well above the return commensurate with the level of risk taken by him.

Required return can be calculated as:

$$R_i = R_f + S_i/S_m(R_m - R_f)$$

where, S_m is standard deviation of market returns.

The net selectivity is then calculated by subtracting this required return from the actual return of the fund.

Suitability of Models

Among the above performance measures, two models namely, Treynor measure and Jenson model use systematic risk based on the premise that the unsystematic risk is diversifiable. These models are suitable for large investors like institutional investors with high risk taking capacities as they do not face paucity of funds and can invest in a number of options to dilute some risks. For them, a portfolio can be spread across a number of stocks and sectors. However, Sharpe measure and Fama model that consider the entire risk associated with fund are suitable for small investors, as the ordinary investor lacks the necessary skill and resources for diversification. Moreover, the selection of the fund based on superior stock selection ability of the fund manager will also help in safeguarding the money invested largely. The investment in funds that have generated big returns at higher levels of risks leaves the money all the more prone to risks of all kinds that may exceed the individual investors' risk appetite.

Check Your Progress 4

Define the following:

1. Treynor Index

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2. Sharpe Index

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10.21 MUTUAL FUND ORGANISATION

A Mutual Fund can be constituted either as a corporate entity or as trust. Indian banks when permitted to operate mutual funds were asked to create trusts to run these funds. The basic difference between a corporation and a trust is that in the case of the company, the liability is limited whereas in case of the trust it is unlimited. In addition, a corporation enjoys the status of a separate legal entity who can act on its behalf. A trust has to work on behalf of its trustees. Indian banks operating mutual funds had made a convincing plea before the government to allow their mutual funds to constitute them as 'Asset Management Companies'. The Department of Company Affairs, Ministry of Law, Justice and Company Affairs has issued guidelines in respect of registration of Asset Management Companies (AMCs), in consultation with Securities and Exchange Board of India (SEBI), as follows:

- (a) Mutual Funds are to be established in the forms of trusts under the Indian Trusts Act and are to be operated by separate Asset Management Companies (AMCs)

or It can be initiated as a company under Indian Companies Act, 1956. Accordingly, no company can register an AMC under the Companies Act, 1956 without the Memorandum and Articles of Association being approved by SEBI.

- (b) AMCs shall have a minimum net worth of Rs. 5 crores.
- (c) AMCs and trustees of mutual funds are to be two separate legal entities and that an AMC cannot act as a manager for any other fund.
- (d) Mutual funds dealing exclusively with money market instruments are to be regulated by the Reserve Bank of India.
- (e) Mutual funds dealing primarily in the capital market instruments and partly in money market instruments are to be regulated by the SEBI.
- (f) All schemes floated by mutual funds are to be registered with SEBI.

Major Players Helping in Running a Mutual Fund

Major Players who help in running a Mutual Fund are as follows:

(a) ***Registrars and Transfer Agents:***

- 1. He receives and processes the application form of investors.
- 2. He issues unit certificate.
- 3. He maintains detailed records of unit holders.
- 4. He purchases, sells, transfers and redeems the unit certificate.
- 5. He issues income warrants, broker cheques, etc.
- 6. He creates security interest on units for allowing loans against them.

(b) ***Advertiser:***

- 1. He helps funds to prepare a media plan for marketing the fund.
- 2. He issues or buys the space in newspapers and other e-media for advertising.
- 3. He arranges for hoarding at public places.

(c) ***Advisor/Manager:***

It is generally a corporate entity who does the following jobs:

- 1. It extends professional advice on tYie>uncW)nves\meTtts.
- 2. It advises on Asset Management Services.

(d) ***Trustees:*** Trustees provide the overall management services and charge management fee.

(e) ***Custodian:*** A custodian is a corporate body. It does the following functions:

- 1. It holds securities.
- 2. It receives and delivers securities.
- 3. It collects income on the securities.
- 4. It holds and processes cash.

Besides the above, other players are as follows:

(f) ***Fund Administrator***

(g) ***Fund Accounting Services***

- (h) **Legal Advisors**
- (i) **Fund Officers**
- (J) **Underwriters/Distributors**
- (k) **Legal Advisors**

In India, the mutual funds have taken the services of the following outside agencies:

- (a) Registrars and Transfer agents,
- (b) Advertisers,
- (c) Legal Advisors, and
- (d) Custodians.

Advantages of Mutual Funds

Mutual funds represent pooled savings of numerous investors invested by professional fund managers as diversified portfolio to obtain optimum return on investments with least risk to the investors. The dividend fluctuates with the income on mutual funds investments. Mutual Funds are **advantageous** to individual investors in relation to their direct involvement in investment portfolio activity covering the following aspects.

1. **Reduced risk:** Mutual funds provide small investors access to reduced investment risk resulting from diversification, economics of scale in transaction cost and professional finance management.
2. **Diversified investment:** Small investors participate in larger basket of securities and share the benefits of efficiently managed portfolio by experts, and are freed of keeping any records of share certificates, etc. of various companies, tax rules, etc.
3. **Stress free investment:** Investors get freedom from emotional stress involved in buying or selling securities. Mutual funds relieve them from such stress as it is managed by professional experts who act scientifically with right timings in buying and selling for their clients.
4. **Revolving type of investment:** Automatic reinvestment of dividends and capital gains provides relief to the members of mutual funds.
5. **Selection and timings of investment:** Expertise in stock selection and timing is made available to investors so that invested fund generates higher returns to them.
6. **Wide investment opportunities:** Availment of wider investment opportunities that create an increased level of liquidity for the funds holders become possible because of package of more liquid securities in the portfolio of mutual funds. These securities could be converted into cash without any loss of time.
7. **Investment care:** Care for a security is available through mutual fund to the investors relieving them of various rules and regulations.
8. **Low investment and easy liquidity:** Initial investment in units is as low as Rs. 1,000 in 100 units of Rs. 10 each prompting investors habits which they encash as per the term of the issue either through direct repurchase by mutual fund or through secondary market of listed securities.
9. **Tax benefits:** Investors are allowed tax exemptions on investments made in mutual funds with a view to motivate them to invest in mutual funds and provide finance to industry.

Advantages from Investment in Money Market Mutual Funds

1. Individual with short-term investible funds park their funds temporarily in money market instruments until some long-term avenues open.
2. Individual investors share through MMMFs the economic advantages of bulk purchases, expertise of professional fund managers and high yield on short-term investments.
3. Individual investors are benefited of high safety and liquidity of their investments, which MMMFs provide because of their early redemption features and reduced risk resulting from diversified investments.
4. Individual saving habits get stimulated with readily available investment avenue for the short-term.
5. Individual savers cannot invest huge sums required for money market instruments, as the minimum investment requirements for each of the money market instruments are very high because MMMFs are the vehicles of raising huge funds for short-term requirements.

10.22 REGULATORY ASPECTS

Schemes of a Mutual Fund

1. The asset management company shall launch no scheme unless the trustees approve such scheme and a copy of the offer document has been filed with the Board.
2. Every mutual fund shall along with the offer document of each scheme pay filing fees.
3. The offer document shall contain disclosures which are adequate in order to enable the investors to make informed investment decision including the disclosure on maximum investments proposed to be made by the scheme in the listed securities of the group companies of the sponsor. A close-ended scheme shall be fully redeemed at the end of the maturity period. “Unless a majority of the unit holders otherwise decide for its Roll-over by passing a resolution.
4. The mutual fund and asset management company shall be liable to refund the application money to the applicants:
 - (i) If the mutual fund fails to receive, the minimum subscription amount referred to in clause (a) of sub-regulation (1);
 - (ii) If the moneys received from the applicants for units are in excess of subscription as referred to in clause (b) of sub-regulation (1).
5. The asset management company shall issue to the applicant, whose application has been accepted, unit certificates or a statement of accounts specifying the number of units allotted to the applicant as soon as possible but not later than six weeks from the date of closure of the initial subscription list and or from the date of receipt of the request from the unit holders in any open-ended scheme.

Rules Regarding Advertisement

The offer document and advertisement materials shall not be misleading or contain any statement or opinion, which are incorrect or false.

Investment Objectives and Valuation Policies

The price at which the units may be subscribed or sold and the price at which such units may at any time be repurchased by the mutual fund shall be made available to the investors.

General Obligations

- (a) Every asset management company for each scheme shall keep and maintain proper books of accounts, records and documents, for each scheme so as to explain its transactions and to disclose at any point of time the financial position of each scheme and in particular give a true and fair view of the state of affairs of the fund and intimate to the Board the place where such books of accounts, records and documents are maintained.
- (b) The financial year for all the schemes shall end as of March 31 of each year. Every mutual fund or the asset management company shall prepare in respect of each financial year an annual report and annual statement of accounts of the schemes and the fund as specified in Eleventh Schedule.
- (c) Every mutual fund shall have the annual statement of accounts audited by an auditor who is not in any way associated with the auditor of the asset management company.

Procedure for Action in Case of Default

On and from the date of the suspension of the certificate or the approval, as the case may be, the mutual fund, trustees or asset management company, shall cease to carry on any activity as a mutual fund, trustee or asset management company, during the period of suspension, and shall be subject to the directions of the Board with regard to any records, documents, or securities that may be in its custody or control, relating to its activities as mutual fund, trustees or asset management company.

Restrictions on Investments

- 1. A mutual fund scheme shall not invest more than 15% of its NAV in debt instruments issued by a single issuer, which are rated not below investment grade by a credit rating agency authorised to carry out such activity under the Act. Such investment limit may be extended to 20% of the NAV of the scheme with the prior approval of the Board of trustees and the Board of asset management company.
- 2. A mutual fund scheme shall not invest more than 10% of its NAV in unrated debt instruments issued by a single issuer and the total investment in such instruments shall not exceed 25% of the NAV of the scheme. All such investments shall be made with the prior approval of the Board of trustees and the Board of asset management company.
- 3. No mutual fund under all its schemes should own more than 10% of any company's paid-up capital carrying voting rights.
- 4. Such transfers are done at the prevailing market price for quoted instruments on spot basis. The securities so transferred shall be in conformity with the investment objective of the scheme to which such transfer has been made.
- 5. A scheme may invest in another scheme under the same asset management company or any other mutual fund without charging any fees, provided that aggregate inter-scheme investment made by all schemes under the same management or in schemes under the management of any other asset management company shall not exceed 5% of the net asset value of the mutual fund.

6. The initial issue expenses in respect of any scheme may not exceed 6% of the funds raised under that scheme.
7. Every mutual fund shall buy and sell securities on the basis of deliveries and shall in all cases of purchases, take delivery of relative securities and in all cases of sale, deliver the securities and shall in no case put itself in a position whereby it has to make short sale or carry forward transaction or engage in badla finance.
8. Every mutual fund shall, get the securities purchased or transferred in the name of the mutual fund on account of the concerned scheme, wherever investments are intended to be of long-term nature.
9. Pending deployment of funds of a scheme in securities in terms of investment objectives of the scheme a mutual fund can invest the funds of the scheme in short-term deposits of scheduled commercial banks.
10. No mutual fund scheme shall make any investment in:
 - (i) Any unlisted security of an associate or group company of the sponsor; or
 - (ii) Any security issued by way of private placement by an associate or group company of the sponsor; or

The listed securities of group companies of the sponsor which is in excess of 30% of the net assets [of all the schemes of a mutual fund].
11. No mutual fund scheme shall invest more than 10% of its NAV in the equity shares or equity-related instruments of any company. Provided that, the limit of 10% shall not be applicable for investments in index fund, sector, or industry specific scheme.
12. A mutual fund scheme shall not invest more than 5% of its NAV in the equity shares or equity-related investments in case of open-ended scheme and 10% of its NAV in case of close-ended scheme.

Rights of Mutual Fund Unitholder

An investor, in a mutual fund scheme is governed by the SEBI (Mutual Funds) Regulations, is entitled to:

- Receive unit certificates or statements of accounts confirming the title within 6 weeks from the date of closure of the subscription or within 6 weeks from the date of request for a unit certificate is received by the Mutual Fund.
- Receive information about the investment policies, investment objectives, financial position and general affairs of the scheme.
- Receive dividend within 42 days of their declaration and receive the redemption or repurchase proceeds within 10 days from the date of redemption or repurchase.
- Vote in accordance with the Regulations to:
 - (a) Approve or disapprove any change in the fundamental investment policies of the scheme, which are likely to modify the scheme or affect the interest of the unitholder. The dissenting unitholder has a right to redeem the investment.
 - (b) Change the Asset Management Company.
 - (c) Wind up the schemes.

Inspect the documents of the mutual funds specified in the scheme's offer document.

10.23 MUTUAL FUND TAXATION IN INDIA

Taxation policies in India with respect to mutual funds have varied over the years. The purpose, over all these years, in part, has been to encourage the growth of the industry. Currently, a variety of tax laws applies to mutual funds. Tax provisions applying to fund investments and funds themselves in respect of various matters are listed below:

- (1) **Capital Gains:** Units of mutual fund schemes are treated as long-term capital assets if they are held for a period more than 12 months. In this case, the unitholder has the option to pay capital gains tax at either 20% (with indexation) or 10% without indexation.
- (2) **Tax Deducted at Source (TDS):** For any income credited or paid by a fund, no tax is deducted or withheld at Source.

The relevant Sections in the Income Tax Act governing this provision are Sections 194K and 196A.

- (3) **Wealth Tax:** Mutual fund units are not currently treated as assets under Section 2 of the Wealth Tax Act and are therefore not liable to tax.
- (4) **Income from Units:** Any income received from units of the schemes of a mutual fund specified under Section 23(D) is exempt under Section 10(33) of the Act. While Section 10(23D) exempts income of specified mutual funds from tax (which currently includes all mutual funds operating in India), Section 10(33) exempts income from funds in the hands of the unitholders. However, this does not mean that there is no tax at all on income distributions by mutual funds.
- (5) **Income Distribution Tax:** As per prevailing tax laws income distributed by schemes other than open-end equity schemes is subject to tax at 10 per cent (plus surcharge of 2%). For this purpose equity schemes have been defined to be those schemes that have more than 50% of their assets in the form of equity. Open-end equity schemes have been left out of the purview of this distribution tax for a period of three years beginning from April 1999.
- (6) **Section 88:** The investment in mutual funds designated as Equity-Linked Saving Scheme (ELSS) qualifies for rebate under Section 88. The maximum amount that can be invested in these schemes is Rs. 1,00,000, therefore the maximum tax benefit available works out to Rs. 20,000. Apart from ELSS schemes, the benefit of Section 88 is also available in select schemes of some funds such as UTI, ULIP, KP Pension Plan, etc

10.24 MEASUREMENT OF GROWTH OF MUTUAL FUNDS

The fundamentals are strong and macroeconomic indicators are strong, one would expect most sectors to perform well and are expecting a Bull Run in the market. The market is expected to gain around 20-25% and mutual funds will be able to provide those kind of returns enabling one to take advantage of the markets. If a fund is smartly managed, it can even beat the market and provide superior returns to the market.

- The economy slowly picked up after September 11 issues in year 2002. However, poor monsoon affected the stock markets.
- Disinvestment stories, Securitisation Bill, Security Interest Bill, entrance of IT players in IT segment and other positive news boosted the stock market and that helped the equity funds to post the good returns.
- Fixed income markets witnessed a steep decline in interest rates of around 300 basis points in 2001.

How does one know whether the fund sector in a country has grown or not?

There are several yardsticks available to measure the performance of a fund sector. They are:

- (a) Asset Under Management (AUM),
 - (b) Number of Unit Schemes in Operation,
 - (c) Net Asset Value,
 - (d) Return and
 - (e) Volume of Investment expressed in Rupee Value.
- (a) ***Asset Under Management (AUM):*** What is an asset under management? Before understanding the term 'Asset Under Management', it is required to know about Asset Management Companies. A mutual fund is a collection of investments. It is a pool of money, the combined contributions of a number of individuals. While the mutual fund is a collection of moneys, it requires some person or body to mobilise and manage these assets. This entity is usually an organisation, aptly known as an asset management company. The AMC is thus the physical entity, the organisation, the company, which generates the collective investment from the public with a view to invest in securities and generate returns.

By virtue of its mobilisation function, the AMC has offices or branches in a number of cities. These branches collect money from investors and are one of the visible faces of the mutual fund. As this money has to be invested and managed, the AMC has an investment team. The collected fund is to be managed to bring the expected return from the money market. The fund is generally known as Asset Under Management (AUM). This has become a yardstick to measure the performance of mutual fund at a particular point of time.

The number of mutual funds in India is 35 and the assets under management are over Rs. 1,00,000 crores. From March 2002 to November 2002, AUM has jumped of 19.22% from Rs. 1,01,822 crores in Dec 2001 to Rs. 1,21,393 crores in November 2002. In 2001, the mutual fund industry grew only by 2.5% from Rs. 99,326 crores in December 2000 to Rs. 1,01,822 crore in December 2001.

AUM of balanced schemes is down by 23% in 2002. The growth scheme is up by 16.25% in 2002. It is likely to go up further. Many mutual funds have lined up a slew of equity schemes in 2002 and are waiting for SEBI's approval for the same.

The assets under management (AUM) of income schemes jumped up by 40.57% from Rs. 54,194 crores to Rs. 76,182 crores in November 2002. Debt schemes have mobilised around 76.26% (Rs. 92,575 crores) of the total assets under management as against Rs. 28,818 crore garnered by equity funds. (Refer Table 10.1)

Table 10.1: Asset Under Management (Rs. in Crores)

Category	ASSETS UNDER MANAGEMENT			
	Nov. 2002	Dec. 2001	Dec. 2000	Dec. 1999
Income	76,182	54,194	48,869	42,073
Growth	13,554	11,659	18,010	21,625
Balanced	13,832	17,996	22,173	23,330
Liquid	12,386	12,105	4,705	2,836
Gilt	4,007	3,908	2,118	1,501
ELSS	1,432	1,960	3,451	2,663

Source: Capital Market, Jan 6-9, 2003.

The growth potential of mutual funds in India is very high. This could be understood by comparing the mutual funds with deposits of commercial banks. The banking industry has deposits worth Rs. 14,00,000 crores, almost 14 times the assets under management (AUM) of mutual funds. The wide gap is attributed to many factors. Lack of awareness of mutual funds among potential investors and limited reach of private sector players within metros are two reasons.

- (b) **Number of Unit Schemes in Operation:** Many mutual funds launched innovative products. Few are exchange-traded fund, dynamic plan, floating rate fund, P/E ratio fund and international plan.

Some innovative products like real estate mutual fund, pension fund, and derivative fund are on the cards in 2003.

Table 10.2: Schemes in Operation as on March 31, 2002

Type of Scheme	No. of Schemes	Total No. of Schemes
Income (Debt-oriented) Schemes		205
Gilt Schemes	29	
Liquid/Money Market	30	
Non-assured Return Debt Schemes	120	
Assured Return Debt Schemes	26	
Growth (Equity oriented) Schemes		178
Equity-Linked Savings Schemes	63	
Others	115	
Balanced Schemes		34
Total		417

Source: SEBI

These funds, newly introduced, would give the benefit of diversification or professional fund management or liquidity to investors. Capital guaranteed plan is also an interesting scheme.

A total of 417 mutual funds schemes (including serial plans) were in operation as on March 31, 2002, out of which 307 schemes were open-ended schemes. In terms of investment objective, the details of these 417 schemes are given in Table 10.2.

- (c) **Net Asset Value (NAV):** The total net assets of all domestic schemes of mutual funds were Rs. 1, 00,594 crore as on March 31, 2002. The details are given in Table 10.3.

Table 10.3: Net Assets of Mutual Funds as on March 31, 2002

	% in Mar, 2001	Amount (Rs Crs.)	Percentage(%)
UTI	64. 00	51,434	51. 13
Public Sector	7. 33	7,701	7. 66
Private Sector	28. 67	41,459	41. 21
Total	100. 00	1,00,594	100. 00

Simple comparison of the net assets as on March 31, 2002 with that of March 31, 2001 will help one to understand the status of debt fund. The share of net assets of UTI has declined substantially from 64.0 per cent to 51.1 per cent whereas net assets of mutual funds of private sector have risen substantially from 28.6 per cent to 41.2 per cent. Assets of other public sector mutual funds have marginally increased from 7.3 per cent to 7.6 per cent.

Table 10.4: Top Five Equity Funds

	Sharpe Ratio	Returns (%)	Standard Deviator
K Tech Fund	93.96	22.35	0.17
UTI Master Equity 99	66.41	81.95	1.14
JM Basic Fund	39.82	87.74	2.04
DSP ML Tech. com	34.18	19.39	0.38
Birla IT Fund	32.75	39.23	1.00

Source: India Infoline Ltd. 3.10.4. RETURN

(d) **Performance of Equity Schemes in 2002 in terms of Return**

1. In year 2002, some of the schemes even posted return higher than 80%.
2. For sample funds and their performance in terms of return, see the Table 10.4.
3. Equity Funds posted good returns in the year 2002. Almost all the equity schemes, barring a handful, have been able to outperform the Sensex for the year ended December 31, 2002. The Sensex is the shorter form of Bombay Stock Exchange Sensitive Index. For example, out of the 53 diversified schemes, 46 were able to beat the Sensex. Similarly, 35 out of the 37 balanced schemes outperformed the Sensex.
4. Some of the funds with high returns during the year 2002 are Reliance Vision (74.46%), GIC Fortune (45.79%), Franklin India Prima Fund (44.17%), Alliance Basic Industries (39.83%), SBI Magnum Sector Umbrella-Contra Fund (33.93%), SUN F&C Resurgent India Equity Fund (33.74%), Birla IT Fund (39.23%) and Zurich India Top 200 (26.97%). The average return is above 15%.
5. The equity category posted 14.65% returns as against -20.8% returns in 2001.
6. The diversified sector posted 18.77% returns as against 17.97% in 2001 while Sensex moved up by 6.53% in 2002.
7. The tech schemes returned 16.34% in 2002 as against the 7.14% returns posted by the BSE IT Sector Index. In 2001, the tech sector schemes gave an average of -34.95%.

(e) **Performance of Debt Schemes in 2002 in Terms of Return**

1. In 2002, the fall in interest rates was much. Due to this, the returns were not as that of last years. RBI's softer interest rate bias and excess liquidity in the market continued. The move to allow participation in rated securities of foreign countries expands the investment portfolio of the Debt schemes. For sample debt schemes and their performance, see Table 10.5.

Table 10.5: Top Five Balanced Funds

	Sharpe Ratio	Returns (%)	Standard Deviation
IDBI Principal	20.89	15.30	0.42
Templeton	16.82	12.05	0.33
Escorts	16.52	15.60	0.55
Pru ICICI	12.89	12.23	0.44
Zurich	9.96	16.48	1.00

Source: India Infoline Ltd.

2. The Debt Schemes notched 9.34% returns in 2002 as compared to 13.21% in 2001.
 3. The Gilt Funds, on the other hand, returns 13.70% as compared to 18.23% in 2001.
 4. The Income Funds posted 12.92% returns as against 14.2% in 2001.
 5. The returns of Debt Funds have not been able to keep pace with the performance in 2001. Despite a small setback, investors preferred the debt schemes as they offered safety of capital.
 6. The asset under management (AUM) of income schemes jumped up by 40.57% from Rs. 54,194 crore to Rs. 76,182 crores in November 2002.
- (f) **Volume of Investment Expressed in Rupee Value:** During April-December 2001, mutual funds were net sellers of equity shares while they were net buyers of debt. The gross purchase of equity amounted to Rs. 7,489 crore, while sales amounted to Rs. 8,762 crores, resulting in a net negative investment in equity. In the case of debt, gross purchase amounted to Rs. 19,578 crores against the sale of Rs. 12,385 crores, resulting in net investment in debt amounting to Rs. 7,193 crores during this period. Table 10.6 presents data on purchase and sale transactions of mutual funds on stock exchanges.

Table 10.6: Monthly Transactions by Mutual Funds (Rs. in Crores)

		Equity			Debt	
Transaction Month	Gross Purchases	Gross Sales	Net Purchases /Sales	Gross Purchases	Gross Sales	Net Purchases /Sales
April 2001	746. 51	1,039. 48	-292. 97	1,464. 50	714. 98	749. 52
May 2001	994. 39	1,473. 19	-478. 80	2,548. 25	1,406. 81	1,141. 44
June 2001	658. 56	770. 63	-112. 07	2,519. 45	1,838. 10	681. 35
July 2001	475. 34	920. 20	-444. 86	2,553. 53	1,476. 25	1,077. 28
August 2001	643. 73	1,021. 27	-377. 54	2,952. 00	1,779. 60	1,172. 40
Sept. 2001	878. 49	766. 94	111. 55	1,614. 60	1,876. 41	-261. 81
October 2001	751. 43	1,425. 84	-674. 41	2,626. 04	1,648. 88	977. 16
Nov. 2001	1,003. 46	1,348. 42	-344. 96	3,281. 67	1,631. 97	1,649. 70
Dec. 2001	1,340. 43	1,263. 84	76. 59	2,617. 82	1,675. 23	942. 59
Jan. 2002	1,722. 16	2,157. 05	-434. 89	4,922. 31	2,824. 54	2,097. 77
Feb. 2002	1,705. 28	2,057. 03	-351. 75	3,891. 31	3,084. 95	806. 36
Mar. 2002	1,178. 33	1,650. 10	-471. 77	2,592. 16	2,666. 70	-74. 54
Total	12,098. 11	15,893. 99	-3795. 88	33,583. 64	22,624. 42	10,959. 22

During the year 2001-02 mutual funds were net sellers in the equity segment to the tune of Rs. 3,795.9 crores and net buyers in the debt segment to the tune of Rs. 10,959.2 crore. The month-wise details of purchases and sales in the market during the year are given in Table 10.6.

Check Your Progress 5

State whether the following statements are true or false:

1. Investment objectives vary from person to person.
2. A mutual fund is a trust that pools the savings of a number of investors who share a common financial goal.
3. A mutual fund is the most suitable investment for the common person as it offers an opportunity to invest in a diversified, professionally managed portfolio at a relatively low cost.
4. A person with a maximum surplus of one thousand rupees can invest in mutual funds.

10.25 CHALLENGES

The mutual fund industry very much depends on the investors' trust. It is important to win them rather than their wallet. The Indian mutual fund industry does not perform up to the mark in gaining investor confidence. The AUM has stagnated at around Rs. 1,00,000 crore over last five years. This stagnation is partly attributed to industry's inability to instill confidence in the minds of potential investors in India. Possible areas to be checked are given below:

- (a) Most of the products introduced in the mutual fund market do not suit to the needs of the potential investors. Principle Protected Funds, Floating Interest Rate Funds, High Yield Bond or Equity Funds, Real Estate Mutual Funds are some of the products gaining momentum among investors. SEBI and RBI can also introduce the international products under the newly permitted guidelines. Indian investor is very much worried about the safety of his investment.
- (b) The fund must be managed professionally. Investor believes that the fund managers are simply momentum chasers.
- (c) Poor service is another bottleneck for the growth of mutual fund industry in India. Though they manage large sums of money, they do not reach the retail investors. The facilities for collecting money from B and C categories are not in existence. The technology alone can bring these two ends together.
- (d) Investor education is must at this point of time. Many learnt lessons from the deeds of UTI. Investors generally feel that the mutual fund managers are experts and they are professionally trained. In fact, most of the fund managers do not know the difference between relative return and absolute return. The well-managed fund is generally defensive to the vicious fluctuations of the stock market. This is the basic investment strategy of a genuine fund manager. On the other hand, investor predicts that such fund performs poorly. This demands indoctrination through investor education.
- (e) Undue importance should not be given to any particular asset in the asset allocation exercise.
- (f) Liquidity is the ability of an investor to convert investments into cash readily. The investor can sell the units at the prevailing net asset value to the Mutual Fund itself. Therefore, Mutual funds are considered liquid investments.

10.26 LET US SUM UP

Mutual funds allow investors to invest small amounts of money on a regular basis. Instead of needing large amounts of capital to diversify a portfolio, investors can gradually add to their investment through automatic investment plans.

A mutual fund must offer several products, such as a growth fund, a balanced fund, a bond fund, a money market fund, etc. An investor can usually switch his investment from one fund to another, within the same family at little or no charge. This gives the investor the option to switch funds if their objectives change.

Investor must get regular information on the value of his investment in addition to disclosure on the specific investments made by his scheme, the proportion invested in each class of assets and the fund manager's investment strategy and outlook.

10.27 LESSON END ACTIVITY

Write a study note the mutual funds in India and also mention their types.

10.28 KEYWORDS

Balanced Fund: Some mutual funds are called as 'Balanced Funds' where assets are a mixture of equity shares and debentures.

Money Market or Liquid Fund: The aim of this money market fund is to provide easy liquidity, preservation of capital and moderate income.

Gilt Fund: These funds invest exclusively in government securities. Government securities have no default risk.

Tax Saving Schemes: These schemes offer tax rebates to the investors under tax laws as prescribed from time to time.

Load Funds: A Load Fund is one that charges a commission for entry or exit, that is, each time you buy or sell units in the fund, a commission will be payable.

Industry Specific Schemes: Industry Specific Schemes invest only in the industries specified in the offer document.

Pure Growth Funds (Growth-Oriented Funds): Unlike the Income Funds, Growth Funds concentrate mainly on long run gains i.e., capital appreciation.

Taxation Funds: A taxation fund is basically a growth oriented fund. But it offers tax rebates to the investors either in the domestic or foreign capital market.

Leveraged Funds: These funds are also called borrowed funds since they are used primarily to increase the size of the value of portfolio of a mutual fund.

Dual Funds: This is a special kind of closed-end fund. It provides a single investment opportunity for two different types of investors.

Index Funds: Index funds refer to those funds where the portfolios are designed in such a way that they reflect the composition of some broad-based market index.

Bond Funds: These funds have portfolios consisting mainly of fixed income securities like bonds. The main thrust of these funds is mostly in income rather than capital gains.

Aggressive Growth Funds: These funds are just the opposite of bond funds. These funds are capital gains oriented and thus the thrust area of these funds is 'capital gains'.

Off-shore Mutual Funds: Off-shore mutual funds are those funds that are meant for non-residential investors.

Trustees: Trustees are people with long experience and good integrity in their respective fields. They carry the crucial responsibility of safeguarding the interest of investors.

Cost of Operation: Mutual funds seek to do a better job of the investible funds at a lower cost than the individuals could do for themselves.

Investor Servicing: The most important factor to be considered is prompt and efficient servicing. Services like quick response to investor queries, prompt despatch of unit certificates, quick transfer of units, immediate encashment of units etc. will go a long way in creating a lasting impression in the minds of investors.

10.29 QUESTIONS FOR DISCUSSION

1. Write a note on the origin, evolution and growth of mutual funds in India.
2. What do you understand by the concept of mutual funds.
3. Define different types of mutual funds.
4. Write a brief note on the type of mutual fund schemes.
5. What do you understand by various types of funds in India?

Check Your Progress: Model Answers

CYP 1

1. Mutual funds represent pooled savings of numerous investors invested by professional fund managers as diversified portfolio to obtain optimum return on investments with least risk to the investors.
2. Unit Trust of India was the first mutual fund set up in India in the year 1963. In early 1990s, Government allowed public sector banks and institutions to set up mutual funds.

CYP 2

Income fund is established to maximise the current income (i. e. interest and dividend) of investors. Such schemes generally invest in fixed income securities such as bonds, corporate debentures, Government securities and money market instruments.

CYP 3

The structure of mutual fund operations in India envisages a three-tier establishment namely:

- (i) A sponsor institution to promote the fund
- (ii) A team of trustees to oversee the operations and to provide checks for the efficient, profitable and transparent operations of the fund and
- (iii) An Asset Management Company (AMC) to actually deal with the funds.

CYP 4

1. This Index is a ratio of return generated by the fund over and above risk free rate of return (generally taken to be the return on securities backed by the government, as there is no credit risk associated), during a given period and systematic risk associated with it (beta).
2. It is a ratio of returns generated by the fund over and above risk free rate of return and the total risk associated with it.

CYP 5

1. T, 2. T, 3. T, 4. F.

10.30 SUGGESTED READINGS

Sudhindra Bhat, *Security Analysis and Portfolio Management*, Excel Books, Delhi.

Preeti Singh, *Security Analysis and Portfolio Management*.

V.A. Avadhani, *Investment Management*.

M.Y. Khan, *Financial Services*.

V.K. Bhalla, *Financial Services*.

G.S. Batra, *Financial Services and Markets*.

Mahana Rao, *Financial Services, Cases and Strategies*.

L. M. Bhole, *Financial Markets and Services*.

LESSON

11

FINANCIAL INSTITUTIONS IN INDIA – UTI, LIC

CONTENTS

- 11.0 Aims and Objectives
- 11.1 Introduction
- 11.2 UTI
 - e11.2.1 Performance
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- 11.4 Let us Sum up
- 11.5 Lesson End Activity
- 11.6 Keywords
- 11.7 Questions for Discussion
- 11.8 Suggested Readings

11.0 AIMS AND OBJECTIVES

After studying this lesson, you should be able to:

- Understand the meaning, scope and features of UTI
- Know about the aims of Unit Trust of India
- Understand meaning, functions and objectives of LIC

11.1 INTRODUCTION

Unit Trust of India (UTI) is the India's largest mutual fund organisation. UTI manages funds over Rs. 58,221 crore as on 30/6/2001 and over 41.80 million investors account under 85 schemes.

UTI is a trust without ownership capital and independent Board of Trustees. The first scheme was Unit Scheme 1964 (US-64). The contributors of initial capital of Rs. 5 crores for US-64 scheme were RBI, LIC, SBI and some foreign banks. Under the provision of the Act, the Government of India would appoint chairman of the board. Today it has 54 branch offices, 266 chief representatives and about 67,000 agents. It provides complete range of services to its investors.

UTI has set up associate companies in the field of banking, securities, trading, investor servicing, investment advice and training, meeting investor's varying needs under a common umbrella.

11.2 UTI

UTI was set up in 1964 by an Act of Parliament. It commenced its operation from July 1964, with a view to encouraging saving and investment and participation in the income, profit and gain accruing to corporation from the acquisition, holding, management and disposal of securities.

11.2.1 Performance

1. UTI was a lonely player with just one scheme in 1964. Now it competes with as many as 400 odd products and 34 players in the market. In spite of the stiff competition and losing market share, UTI remains a formidable force to reckon with.
2. UTI has shown a large outflow of funds of Rs. 7,284 crores during the financial year 2001-02 as against net inflow of Rs. 323 crores during 2000-01 and net inflow of Rs. 4,548 crores during the year 1999-2000.
3. When we compare the net assets as on March 31, 2002 with that of March 31, 2001, the share of net assets of UTI has declined substantially from 64.0 per cent to 51.1 per cent. On the other hand, net assets of private sector mutual funds have risen substantially from 28.6 per cent to 41.2 per cent.

Table 11.1: Unit Holding Pattern of UTI

Category	No. of Investors	% to Total Investors	NAV (in Rs. Crores)	% to Total NAV
Individuals	2,40,16,586	98.37	37,345.74	72.61
NRIs/OCBs	1,13,869	0.47	729.88	1.42
FIs	132	0.00	11.06	0.02
Corporates/ Institutions/Others	2,83,689	1.16	13,346.93	25.95
Total	2,44,14,276	100.00	51,433.61	100.00

Source: SEBI

4. Out of 3.08 crore investors in the mutual funds industry, 2.44 crores or 79.15 per cent of the total investors are in UTI. The percentage of total investors in private sector mutual funds is 13.50% (0.41 crore) and public sector mutual funds is 7.35% (0.23 crore).
5. Comparison of the performance of UTI with other mutual fund institutions is given in Table 11.2. Of total value of AUM Rs. 1,22,600 crores as on Dec. 2002, the share of UTI constitutes Rs. 45,899 crores. When the number of schemes introduced by UTI is compared with number of schemes introduced by foreign players, it is a dismal performance on the part of UTI. Of total 30,868 schemes, UTI has only 460 schemes whereas the foreign players have 12,514 schemes. That shows to what extent the foreign institutions are able to understand the sentiments of the potential investors of Indian Market.

Table 11.2 (a): Mutual Fund Data for the Month Ended - Dec 31, 2002 (Rs. in Crores)

	Category	No. of new schemes launched during the month	New schemes	Sales Existing schemes	Total	Redemption Total	Assets Under Management as on Dec 31, 2002	Assets Under Management as on Nov 30, 2002	Net inflow/ Out-flow
A	Unit Trust of India	0	0	460	460	872	45,899	45,549	350
C	Institutions	0	0	1,832	1,832	1,508	6,840	6,374	466
B	Bank Sponsored	0	0	1,242	1,242	1,040	5,553	5,302	251
D	Private Sector & Joint Venture:								
	\\ Predominantly Indian	0	0	7,583	7,583	7,722	18,971	19,010	-39
	I Indian	1	237	7,743	7,980	8,162	10,058	9,901	157
	III Predominantly Foreign	4	920	10,851	11,771	12,514	35,279	35,257	22
	Grand Total (A+B+C+D)	5	1,157	29,711	30,868	31,818	1,22,600	1,21,393	1,207

Table 11.2 (b): Mutual Funds & Assets Under Management-UTI

Mutual Fund Name	No. of Schemes	Corpus Under Management				
		As on	Corpus	As on	Corpus	Net inc/dec in corpus
Unit Trust of India	96	Nov 30, 2002	45,549.00	Oct 31, 2002	44,703.00	846

6. Out of 3.02 crore investors under the category of 'individuals', the total number of individual investors is the largest in UTI with 79.43 per cent. It is followed by private sector mutual funds with 13.23 per cent and public sector mutual funds with 7.34 per cent. Thus, it is observed that UTI has the largest number of small individual investors who contribute 72.61 per cent to UTI's total net assets.

Table 11.3: Cumulative Net Assets of Mutual Funds (As on December 31, 2001)

Sector	Amount (Rs. crores)	Percent to total
Private	42,582	41.8
Public	8,059	7.9
UTI	51,181	50.3
Total	1,01,822	100.0

Source: SEBI.

7. However, in case of private and public sector mutual funds the corporates and institutions are the largest contributors to the net assets to the tune of 61.80 per cent and 57.59 per cent respectively.
8. In July 2001, the Trust suspended the US-64 scheme amidst a blaze of negative publicity dragging its problems to Centre stage.
9. Analysis of the trends in market share of mutual funds revealed that UTI suffered significant loss in market share from around 85 per cent in 1996 to 50 per cent in 2001.
10. Product innovation is now passed with the game shifting to performance delivery in fund management as well as service. Those directly associated with the fund

management industry like distributors, registrars and transfer agents, and even the regulators have become more mature and responsible.

11. While UTI has always been a dominant player on the bourses as well as the debt markets, the new generation of private funds which have gained substantial mass are now seen flexing their muscles.
12. The private sector, especially those in which foreign AMCs are involved, will together start matching UTI for market share.
13. The reasons for UTI's problems are varied and have been well documented. First was the US-64 mess and now it is the turn of the assured returns schemes.
14. Even if UTI is able to survive these adverse developments, it is unlikely that its fortunes will substantially improve, especially under the present system of management. Privatisation is being discussed loudly. However, by the time a final decision is taken a great deal of goodwill will be lost.

11.2.2 Financial Intervention

In order to arrest the poor performance and to instil confidence in the investing public and unitholders, UTI with the help of the Government of India, resorted to the following measures:

Period	Type of Intervention
1. June 29, 1999	(a) Government of India did a buy back. It bought from UTI PSU shares at book Value. It was higher than the then prevailing market value. This effectively constituted a transfer of Rs. 1528 Crores to the investors in US-64.
2. August, 2001	(b) Investors were given an assurance that up to 3000 units (per investor) could be sold back to UTI at an administratively determined price. It started from Rs. 10 in August 2001. It would go by Rs. 0. 10 per month until it will reach Rs. 12 in May 2003.
	(c) UTI has to repurchase the units at a price above NAV due to the promises made. Government of India makes up the difference to UTI. The programme covered roughly 40 per cent of the assets of US – 64.
3. Dec, 2001	(a) The limit of 3000 units was raised to 5000 units.
	(b) In addition, investors above 5000 units were given an assurance that if they exited in May 2003, they would get the higher of NAV or Rs. 10.
	(c) Again, Government would make up the gap between the repurchase price and NAV experienced by UTI, if any.
4. March 2002	(a) Government of India paid Rs. 1000 crore for the US - 64 scheme in two sections of Rs. 500 crores each, as part of its batch of supplementary demand for grants for Rs 8007. 16 crores for 2002.
	(b) Ministry of Finance promised to meet the UTI liabilities arising out of the assured return schemes. The commitment costs Rs. 11000 crores according to a conservative estimate. The cabinet committee on economic reforms did it.
	(c) UTI received the permission for sale of its portfolio of blue chips to mitigate the burden said above.
	(d) The agreed sale includes its 13. 49 per cent in tobacco major ITC.

Contd....

5. 31st August 2002	1.	The government has decided to split the Unit Trust of India into UTH and UTI-II.
	2.	It extended tax sops to US-64 investors and to provide support to US-64 and assured return schemes (ARS).
	3.	UTI after bifurcation will thus consist of two parts - sick and the healthy.
	4.	UTI-I will comprise US-64 and ARSs. Government-appointed administrator and a team of advisers nominated by the government will manage it.
	5.	The current shortfall in case of US-64 scheme has been estimated at Rs 6,000 crores. In respect of ARS, the current shortfall is likely to be Rs 8,561 crores. The government would take on all the liabilities arising out of UTI -I.
	6.	The government will provide necessary monetary support to the US-64 scheme and plan to provide certain tax concessions to US-64 investors with a view to prompting them to remain invested with the scheme. The tax sops will include exemption from dividend tax and capital gains tax.
	7.	On the assured return schemes, the Cabinet has also approved interest reset on the assured return scheme. It has also authorised the government to consider foreclosure where possible. Both these measures would be considered in consultation with SEBI.
	8.	UTI-II, which will manage other net asset value (NAV) based

The Government hopes to address not only UTI's problems but also the concerns of the investing community and the capital market at large. Now, that the UTI has been assured of full support from government irrespective of the size of funds required, a financial restructuring package is indeed being worked out helping the once-venerated institution regain investor confidence.

UTI Mutual Fund is managed by UTI Asset Management Company Private Limited (Estb: Jan. 14, 2003) who has been appointed by the UTI Trustee Company Private Limited for managing the schemes of UTI Mutual Fund and the schemes transferred / migrated from UTI Mutual Fund.

The UTI Asset Management Company has its registered office at: UTI Tower, Gn Block, Bandra - Kurla Complex, Bandra (East), Mumbai - 400 051 will provide professionally managed back office support for all business services of UTI Mutual Fund (excluding fund management) in accordance with the provisions of the Investment Management Agreement, the Trust Deed, the SEBI (Mutual Funds) Regulations and the objectives of the schemes. State-of-the-art systems and communications are in place to ensure a seamless flow across the various activities undertaken by UTI AMC.

UTI AMC is a registered portfolio manager under the SEBI (Portfolio Managers) Regulations, 1993 on February 3, 2004, for undertaking portfolio management services and also acts as the manager and marketer to offshore funds through its 100 % subsidiary, UTI International Limited, registered in Guernsey, Channel Islands.

Check Your Progress 1

State whether the following statements are true or false:

1. UTI was set up in 1964 by an Act of Parliament.
2. UTI has to repurchase the units at a price above NAV due to the promises made.
3. The government has decided to split the unit trust of India into two parts UTH and UTI –III.
4. UTI mutual fund is managed by UTI Asset Management Company Private Limited.
5. UTI Mutual fund has come into existence from second February 2003.

11.3 LIC

The story of insurance is probably as old as the story of mankind. The same instinct that prompts modern businessmen today to secure themselves against loss and disaster existed in primitive men also. They too sought to avert the evil consequences of fire and flood and loss of life and were willing to make some sort of sacrifice in order to achieve security. Though the concept of insurance is largely a development of the recent past, particularly after the industrial era – past few centuries – yet its beginnings date back almost 6000 years.

11.3.1 History of Life Insurance

Life Insurance in its modern form came to India from England in the year 1818. Oriental Life Insurance Company started by Europeans in Calcutta was the first life insurance company on Indian Soil. All the insurance companies established during that period were brought up with the purpose of looking after the needs of European community and Indian natives were not being insured by these companies. However, later with the efforts of eminent people like Babu Muttylal Seal, the foreign life insurance companies started insuring Indian lives. But Indian lives were being treated as sub-standard lives and heavy extra premiums were being charged on them. Bombay Mutual Life Assurance Society heralded the birth of first Indian life insurance company in the year 1870, and covered Indian lives at normal rates. Starting as Indian enterprise with highly patriotic motives, insurance companies came into existence to carry the message of insurance and social security through insurance to various sectors of society. Bharat Insurance Company (1896) was also one of such companies inspired by nationalism. The Swadeshi movement of 1905-1907 gave rise to more insurance companies. The United India in Madras, National Indian and National Insurance in Calcutta and the Co-operative Assurance at Lahore were established in 1906. In 1907, Hindustan Co-operative Insurance Company took its birth in one of the rooms of the Jorasanko, house of the great poet Rabindranath Tagore, in Calcutta. The Indian Mercantile, General Assurance and Swadeshi Life (later Bombay Life) were some of the companies established during the same period. Prior to 1912 India had no legislation to regulate insurance business. In the year 1912, the Life Insurance Companies Act, and the Provident Fund Act were passed. The Life Insurance Companies Act, 1912 made it necessary that the premium rate tables and periodical valuations of companies should be certified by an actuary. But the Act discriminated between foreign and Indian companies on many accounts, putting the Indian companies at a disadvantage.

The first two decades of the twentieth century saw lot of growth in insurance business. From 44 companies with total business-in-force as Rs. 22.44 crore, it rose to 176 companies with total business-in-force as Rs. 298 crore in 1938. During the mushrooming of insurance companies many financially unsound concerns were also floated which failed miserably. The Insurance Act 1938 was the first legislation governing not only life insurance but also non-life insurance to provide strict state control over insurance business. The demand for nationalization of life insurance industry was made repeatedly in the past but it gathered momentum in 1944 when a bill to amend the Life Insurance Act 1938 was introduced in the Legislative Assembly. However, it was much later on the 19th of January, 1956, that life insurance in India was nationalized. About 154 Indian insurance companies, 16 non-Indian companies and 75 provident were operating in India at the time of nationalization. Nationalization was accomplished in two stages; initially the management of the companies was taken over by means of an Ordinance, and later, the ownership too by means of a comprehensive bill. The Parliament of India passed the Life Insurance Corporation Act on the 19th of June 1956, and the Life Insurance Corporation of India was created on 1st September, 1956, with the objective of spreading life insurance much more widely and in particular to the rural areas with a view to reach all insurable persons in the country, providing them adequate financial cover at a reasonable cost.

LIC had 5 zonal offices, 33 divisional offices and 212 branch offices, apart from its corporate office in the year 1956. Since life insurance contracts are long term contracts and during the currency of the policy it requires a variety of services need was felt in the later years to expand the operations and place a branch office at each district headquarter. Re-organization of LIC took place and large numbers of new branch offices were opened. As a result of re-organisation servicing functions were transferred to the branches, and branches were made accounting units. It worked wonders with the performance of the corporation. It may be seen that from about 200.00 crores of New Business in 1957 the corporation crossed 1000.00 crores only in the year 1969-70, and it took another 10 years for LIC to cross 2000.00 crore mark of new business. But with re-organisation happening in the early eighties, by 1985-86 LIC had already crossed 7000.00 crore Sum Assured on new policies.

Today LIC functions with 2048 fully computerized branch offices, 100 divisional offices, 7 zonal offices and the Corporate office. LIC's Wide Area Network covers 100 divisional offices and connects all the branches through a Metro Area Network. LIC has tied up with some Banks and Service providers to offer on-line premium collection facility in selected cities. LIC's ECS and ATM premium payment facility is an addition to customer convenience. Apart from on-line Kiosks and IVRS, Info Centres have been commissioned at Mumbai, Ahmedabad, Bangalore, Chennai, Hyderabad, Kolkata, New Delhi, Pune and many other cities. With a vision of providing easy access to its policyholders, LIC has launched its SATELLITE SAMPARK offices. The satellite offices are smaller, leaner and closer to the customer. The digitalized records of the satellite offices will facilitate anywhere servicing and many other conveniences in the future.

LIC continues to be the dominant life insurer even in the liberalized scenario of Indian insurance and is moving fast on a new growth trajectory surpassing its own past records. LIC has issued over one crore policies during the current year. It has crossed the milestone of issuing 1,01,32,955 new policies by 15th Oct, 2005, posting a healthy growth rate of 16.67% over the corresponding period of the previous year.

From then to now, LIC has crossed many milestones and has set unprecedented performance records in various aspects of life insurance business. The same motives which inspired our forefathers to bring insurance into existence in this country inspire us

at LIC to take this message of protection to light the lamps of security in as many homes as possible and to help the people in providing security to their families.

Some of the important milestones in the life insurance business in India are:

1818: Oriental Life Insurance Company, the first life insurance company on Indian soil started functioning.

1870: Bombay Mutual Life Assurance Society, the first Indian life insurance company started its business.

1912: The Indian Life Assurance Companies Act enacted as the first statute to regulate the life insurance business.

1928: The Indian Insurance Companies Act enacted to enable the government to collect statistical information about both life and non-life insurance businesses.

1938: Earlier legislation consolidated and amended to by the Insurance Act with the objective of protecting the interests of the insuring public.

1956: Indian and foreign insurers and provident societies are taken over by the central government and nationalised. LIC formed by an Act of Parliament, viz. LIC Act, 1956, with a capital contribution of Rs. 5 crore from the Government of India.

The General insurance business in India, on the other hand, can trace its roots to the Triton Insurance Company Ltd., the first general insurance company established in the year 1850 in Calcutta by the British.

Some of the important milestones in the general insurance business in India are:

1907: The Indian Mercantile Insurance Ltd. set up, the first company to transact all classes of general insurance business.

1957: General Insurance Council, a wing of the Insurance Association of India, frames a code of conduct for ensuring fair conduct and sound business practices.

1968: The Insurance Act amended to regulate investments and set minimum solvency margins and the Tariff Advisory Committee set up.

1972: The General Insurance Business (Nationalisation) Act, 1972 nationalised the general insurance business in India with effect from 1st January 1973.

Insurers amalgamated and grouped into four companies viz. the National Insurance Company Ltd., the New India Assurance Company Ltd., the Oriental Insurance Company Ltd. and the United India Insurance Company Ltd. GIC incorporated as a company.

11.3.2 Objectives of LIC

- Spread Life Insurance widely and in particular to the rural areas and to the socially and economically backward classes with a view to reaching all insurable persons in the country and providing them adequate financial cover against death at a reasonable cost.
- Maximize mobilization of people's savings by making insurance-linked savings adequately attractive.
- Bear in mind, in the investment of funds, the primary obligation to its policyholders, whose money it holds in trust, without losing sight of the interest of the community as a whole; the funds to be deployed to the best advantage of the investors as well as the community as a whole, keeping in view national priorities and obligations of attractive return.

- Conduct business with utmost economy and with the full realization that the moneys belong to the policyholders.
- Act as trustees of the insured public in their individual and collective capacities.
- Meet the various life insurance needs of the community that would arise in the changing social and economic environment.
- Involve all people working in the Corporation to the best of their capability in furthering the interests of the insured public by providing efficient service with courtesy.
- Promote amongst all agents and employees of the Corporation a sense of participation, pride and job satisfaction through discharge of their duties with dedication towards achievement of Corporate Objective.

11.3.3 Life Insurance vs Other Savings

Contract of Insurance

A contract of insurance is a contract of utmost good faith technically known as *uberrima fides*. The doctrine of disclosing all material facts is embodied in this important principle, which applies to all forms of insurance.

At the time of taking a policy, policyholder should ensure that all questions in the proposal form are correctly answered. Any misrepresentation, non-disclosure or fraud in any document leading to the acceptance of the risk would render the insurance contract null and void.

Protection

Savings through life insurance guarantee full protection against risk of death of the saver. Also, in case of demise, life insurance assures payment of the entire amount assured (with bonuses wherever applicable) whereas in other savings schemes, only the amount saved (with interest) is payable.

Aid to Thrift

Life insurance encourages 'thrift'. It allows long-term savings since payments can be made effortlessly because of the 'easy instalment' facility built into the scheme. (Premium payment for insurance is either monthly, quarterly, half yearly or yearly).

For example: The Salary Saving Scheme popularly known as SSS, provides a convenient method of paying premium each month by deduction from one's salary.

In this case the employer directly pays the deducted premium to LIC. The Salary Saving Scheme is ideal for any institution or establishment subject to specified terms and conditions.

Liquidity

In case of insurance, it is easy to acquire loans on the sole security of any policy that has acquired loan value. Besides, a life insurance policy is also generally accepted as security, even for a commercial loan.

Tax Relief

Life Insurance is the best way to enjoy tax deductions on income tax and wealth tax. This is available for amounts paid by way of premium for life insurance subject to income tax rates in force. Assesses can also avail of provisions in the law for tax relief. In such cases the assured in effect pays a lower premium for insurance than otherwise.

Money when you Need it

A policy that has a suitable insurance plan or a combination of different plans can be effectively used to meet certain monetary needs that may arise from time-to-time. Children's education, start-in-life or marriage provision or even periodical needs for cash over a stretch of time can be less stressful with the help of these policies. Alternatively, policy money can be made available at the time of one's retirement from service and used for any specific purpose, such as, purchase of a house or for other investments. Also, loans are granted to policyholders for house building or for purchase of flats (subject to certain conditions).

Check Your Progress 2

What is the current state of Life Insurance Corporation (LIC)?

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11.4 LET US SUM UP

UTI Mutual Fund has come into existence with effect from 1st February, 2003. UTI Asset Management Company presently manages a corpus of over Rs. 34500 Crore.

UTI Mutual Fund has a track record of managing a variety of schemes catering to the needs of every class of citizenry. It has a nationwide network consisting 70 UTI Financial Centers (UFCs) and UTI International offices in London, Dubai and Bahrain. With a view to reach to common investors at district level, 4 satellite offices have also been opened in select towns and districts. It has a well-qualified, professional fund management team, who have been highly empowered to manage funds with greater efficiency and accountability in the sole interest of unit holders. The fund managers are also ably supported with a strong in-house equity research department. To ensure better management of funds, a risk management department is also in operation.

It has reset and upgraded transparency standards for the mutual funds industry. All the branches, UFCs and registrar offices are connected on a robust IT network to ensure cost-effective quick and efficient service. All these have evolved UTI Mutual Fund to position as a dynamic, responsive, restructured, efficient, and transparent and SEBI compliant entity.

11.5 LESSON END ACTIVITY

Write a study note on the aims and performance of UTI in India.

11.6 KEYWORDS

UTI Mutul Fund: Managed by UTI Asset Management Company Private Limited.

Contract of Insurance: A contract of insurance is a contract of utmost good faith technically known as uberrima fides.

Protection: Savings through life insurance guarantee full protection against risk of death of the saver.

Aid to Thrift: Life insurance encourages 'thrift'. It allows long-term savings since payments can be made effortlessly because of the 'easy instalment' facility built into the scheme.

11.7 QUESTIONS FOR DISCUSSION

1. What do you know about the UTI mutual fund?
2. What do you understand by the financial intervention?
3. Discuss the aims and performance of UTI.
4. Write a note on LIC and its objectives.

Check Your Progress: Model Answers

CYP 1

1. T, 2. T, 3. F, 4. T, 5. F.

CYP 2

LIC continues to be the dominant life insurer even in the liberalized scenario of Indian insurance and is moving fast on a new growth trajectory surpassing its own past records. LIC has issued over one crore policies during the current year. It has crossed the milestone of issuing 1,01,32,955 new policies by 15th Oct, 2005, posting a healthy growth rate of 16.67% over the corresponding period of the previous year.

11.8 SUGGESTED READINGS

Sudhindra Bhat, *Security Analysis and Portfolio Management*, Excel Books, Delhi.

Preeti Singh, *Security Analysis and Portfolio Management*.

V.A. Avadhani, *Investment Management*.

M.Y. Khan, *Financial Services*.

V.K. Bhalla, *Financial Services*.

G.S. Batra, *Financial Services and Markets*.

Mahana Rao, *Financial Services, Cases and Strategies*.

L. M. Bhole, *Financial Markets and Services*.

LESSON

12

SBI AND OTHER COMMERCIAL BANKS

CONTENTS

- 12.0 Aims and Objectives
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 - 12.2.1 From World War I to Independence
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12.0 AIMS AND OBJECTIVES

After studying this lesson, you should be able to:

- Understand meaning, functions and objectives of LIC.

12.1 INTRODUCTION

Banking in India originated in the first decade of 18th century. The first banks were The General Bank of India, which started in 1786, and Bank of Hindustan, both of which are now defunct. The oldest bank in existence in India is the State Bank of India, which originated in the “The Bank of Bengal” in Calcutta in June 1806. This was one of the three presidency banks, the other two being the Bank of Bombay and the Bank of Madras. The presidency banks were established under charters from the British East India Company. They merged in 1925 to form the Imperial Bank of India, which, upon India’s independence, became the State Bank of India. For many years the Presidency banks acted as quasi-central banks, as did their successors. The Reserve Bank of India formally took on the responsibility of regulating the Indian banking sector from 1935. After India’s independence in 1947, the Reserve Bank was nationalized and given broader powers.

A couple of decades later, foreign banks such as Credit Lyonnais started their Calcutta operations in the 1850s. At that point of time, Calcutta was the most active trading port, mainly due to the trade of the British Empire, and due to which banking activity took roots there and prospered.

12.2 HISTORY OF BANKING IN INDIA

The first fully Indian owned bank was the Allahabad Bank, established in 1865. However, at the end of late-18th century, there were hardly any banks in India in the modern sense of the term. At the time of the American Civil War, a void was created as the supply of cotton to Lancashire stopped from the Americas. Some banks were opened at that time to finance industry, including speculative trading in cotton. With large exposure to speculative ventures, most of the banks opened in India during that period failed. The depositors lost money and lost interest in keeping deposits with banks. Subsequently, banking in India remained the exclusive domain of Europeans for next several decades until the beginning of the 20th century.

The *Bank of Bengal*, which later became the State Bank of India.

At this time, the Indian economy was passing through a relative period of stability. Around five decades have elapsed since the India’s First war of Independence, and the social, industrial and other infrastructure have developed. At that time there were very small banks operated by Indians, and most of them were owned and operated by particular communities.

The presidency banks dominated banking in India. There were also some exchange banks and a number of Indian joint stock banks. All these banks operated in different segments of the economy. The exchange banks, mostly owned by Europeans, concentrated on financing foreign trade. Indian joint stock banks were generally under capitalized and lacked the experience and maturity to compete with the presidency and exchange banks. This segmentation let Lord Curzon to observe, “*In respect of banking it seems we are behind the times. We are like some old fashioned sailing ship, divided by solid wooden bulkheads into separate and cumbersome compartments.*”

By the 1900s, the market expanded with the establishment of banks such as Punjab National Bank, in 1895 in Lahore and Bank of India, in 1906, in Mumbai - both of which were founded under private ownership. The Swadeshi movement in particular inspired local businessmen and political figures to found banks of and for the Indian community. A number of banks established then have survived to the present such as Bank of India, Corporation Bank, Indian Bank, Bank of Baroda, Canara Bank and Central Bank of India.

12.2.1 From World War I to Independence

The period during the First World War (1914-1918) through the end of the Second World War (1939-1945), and two years thereafter until the independence of India were challenging for Indian banking. The years of the First World War were turbulent, and it took its toll with banks simply collapsing despite the Indian economy gaining indirect boost due to war-related economic activities. At least 94 banks in India failed between 1913 and 1918 as indicated in the following table:

Years	Number of banks that failed	Authorised capital (Rs. Lakhs)	Paid-up Capital (Rs. Lakhs)
1913	12	274	35
1914	42	710	109
1915	11	56	5
1916	13	231	4
1917	9	76	25
1918	7	209	1

12.2.2 Post-independence

The partition of India in 1947 adversely impacted the economies of Punjab and West Bengal, paralyzing banking activities for months. India's independence marked the end of a regime of the Laissez-faire for the Indian banking. The Government of India initiated measures to play an active role in the economic life of the nation, and the Industrial Policy Resolution adopted by the government in 1948 envisaged a mixed economy. This resulted into greater involvement of the state in different segments of the economy including banking and finance. The major steps to regulate banking included:

- In 1948, the Reserve Bank of India, India's central banking authority, was nationalized, and it became an institution owned by the Government of India.
- In 1949, the Banking Regulation Act was enacted which empowered the Reserve Bank of India (RBI) "to regulate, control, and inspect the banks in India."
- The Banking Regulation Act also provided that no new bank or branch of an existing bank may be opened without a license from the RBI, and no two banks could have common directors.

However, despite these provisions, control and regulations, banks in India except the State Bank of India, continued to be owned and operated by private persons. This changed with the nationalization of major banks in India on 19th July, 1969.

12.2.3 Nationalisation of Banks

By the 1960s, the Indian banking industry has become an important tool to facilitate the development of the Indian economy. At the same time, it has emerged as a large employer, and a debate has ensued about the possibility to nationalize the banking industry.

Indira Gandhi, the-then Prime Minister of India expressed the intention of the GOI in the annual conference of the All India Congress Meeting in a paper entitled “*Stray thoughts on Bank Nationalisation.*” The paper was received with positive enthusiasm. Thereafter, her move was swift and sudden, and the GOI issued an ordinance and nationalised the 14 largest commercial banks with effect from the midnight of July 19, 1969. Jayaprakash Narayan, a national leader of India, described the step as a “*masterstroke of political sagacity.*” Within two weeks of the issue of the ordinance, the Parliament passed the Banking Companies (Acquisition and Transfer of Undertaking) Bill, and it received the presidential approval on 9th August, 1969.

A second dose of nationalisation of 6 more commercial banks followed in 1980. The stated reason for the nationalisation was to give the government more control of credit delivery. With the second dose of nationalisation, the GOI controlled around 91% of the banking business of India.

After this, until the 1990s, the nationalised banks grew at a pace of around 4%, closer to the average growth rate of the Indian economy.

12.2.4 Liberalisation

In the early 1990s the then Narsimha Rao government embarked on a policy of liberalisation and gave licences to a small number of private banks, which came to be known as *New Generation tech-savvy banks*, which included banks such as Global Trust Bank (the first of such new generation banks to be set up) which later amalgamated with Oriental Bank of Commerce, UTI Bank (now re-named as Axis Bank), ICICI Bank and HDFC Bank. This move, along with the rapid growth in the economy of India, kick-started the banking sector in India, which has seen rapid growth with strong contribution from all the three sectors of banks, namely, government banks, private banks and foreign banks.

The next stage for the Indian banking has been setup with the proposed relaxation in the norms for Foreign Direct Investment, where all Foreign Investors in banks may be given voting rights which could exceed the present cap of 10%, at present it has gone up to 49% with some restrictions.

The new policy shook the Banking sector in India completely. Bankers, till this time, were used to the 4-6-4 method (Borrow at 4%; Lend at 6%; Go home at 4) of functioning. The new wave ushered in a modern outlook and tech-savvy methods of working for traditional banks. All this led to the retail boom in India. People not just demanded more from their banks but also received more.

12.2.5 Current Situation

Currently, banking in India is generally fairly mature in terms of supply, product range and reach-even though reach in rural India still remains a challenge for the private sector and foreign banks. In terms of quality of assets and capital adequacy, Indian banks are considered to have clean, strong and transparent balance sheets relative to other banks in comparable economies in its region. The Reserve Bank of India is an autonomous body, with minimal pressure from the government. The stated policy of the Bank on the Indian Rupee is to manage volatility but without any fixed exchange rate-and this has mostly been true.

With the growth in the Indian economy expected to be strong for quite some time-especially in its services sector-the demand for banking services, especially retail banking, mortgages and investment services are expected to be strong. One may also expect M&As, takeovers, and asset sales.

In March 2006, the Reserve Bank of India allowed Warburg Pincus to increase its stake in Kotak Mahindra Bank (a private sector bank) to 10%. This is the first time an investor has been allowed to hold more than 5% in a private sector bank since the RBI announced norms in 2005 that any stake exceeding 5% in the private sector banks would need to be vetted by them.

Currently, India has 88 scheduled commercial banks (SCBs) - 28 public sector banks (that is with the Government of India holding a stake), 29 private banks (these do not have government stake; they may be publicly listed and traded on stock exchanges) and 31 foreign banks. They have a combined network of over 53,000 branches and 17,000 ATMs. According to a report by ICRA Limited, a rating agency, the public sector banks hold over 75 percent of total assets of the banking industry, with the private and foreign banks holding 18.2% and 6.5% respectively.

Check Your Progress 1

Describe, in brief, the evolution of banking in India.

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12.3 SBI

State Bank of India (SBI) is a Public Sector Banking Organisation (PSB), in which the Government of India is the biggest shareholder. It is the largest bank in India and is ranked at 380 in 2008 Fortune Global 500 list, and ranked 219 in 2008 Forbes Global 2000. Measured by the number of branch offices, SBI is the second largest bank in the world. SBI traces its ancestry back to the Bank of Calcutta, which was established in 1806; this makes SBI the oldest commercial bank in the Indian subcontinent. SBI provides various domestic, international and NRI products and services, through its vast network in India and overseas. With an asset base of \$126 billion and its reach, it is a regional banking behemoth.

In recent years the bank has focused on four priorities, first, reducing its huge staff through the Golden handshake scheme known as the Voluntary Retirement Scheme, second, computerizing its operations, third, implementation of Business Process Re-engineering (BPR), and fourth, trying to change the rude attitude of its staff through a program aptly named 'Parivartan' or 'change'. On the whole, the Bank has been successful in the first three initiatives but has failed in Parivartan.

After a 20 year hiatus, the Bank is recruiting 20000 clerks and 3500 officers. The pick of the universities aspire to join the Bank and more than 2.5 million applications have been received.

12.3.1 History of SBI

- **1806:** On June 2, the Bank of Calcutta was established.
- **1809:** On January 2, the Bank of Calcutta changed its name to the Bank of Bengal.
- **1840:** On April 15, the Bank of Bombay was established.
- **1843:** On July 1, the Bank of Madras was established.

These three banks — Bank of Bengal, Bank of Bombay, and Bank of Madras — were known as Presidency banks, were the result of *royal charters*, and were incorporated as joint stock companies.

- **1861:** The government passed the Paper Currency Act, limiting the right to issue paper currency to the three Presidency banks,
- **1921:** On January 27, the government amalgamated the three Presidency banks to form the Imperial Bank of India. The Imperial Bank of India continued as a joint stock company. Until the establishment of a central bank in India, the Imperial Bank and its early predecessors served as India's central bank, at least with respect to the issuing of currency.
- **1955:** On 30 April, the Parliament of India enacted the State Bank of India Act authorizing the Reserve Bank of India (RBI), which is the central bank, to acquire a controlling interest in the Imperial Bank of India. The RBI then took a 60% ownership stake. On July 1, Imperial Bank of India became State Bank of India.
- **1959:** the Government of India passed the State Bank of India (Subsidiary Banks) Act, which enabled SBI to take over eight former State-associated banks as its subsidiaries.
- **1980s:** When Bank of Cochin in Kerala faced a financial crisis, the government merged it with State Bank of India.
- **2007:** On June 29, the Government of India acquired the entire Reserve Bank of India (RBI) shareholding in State Bank of India (SBI), consisting of over 314 million equity shares, with a market value of over 355 billion rupees.
- **2008:** 9 March 2008 State Bank of India on Sunday became the second bank in the world to have 10,000 branches when Union Finance Minister P Chidambaram inaugurated its latest branch at his native place Pudukkottai.

12.3.2 Associate Banks

There are seven other associate banks that fall under SBI. They all use the “State Bank of” name followed by the regional headquarters’ name. These were originally banks belonging to *princely states* before the government nationalized them in 1959. In tune with the first Five Year Plan, emphasizing the development of rural India, the government integrated these banks with the State Bank of India to expand its rural outreach. The State Bank group refers to the seven associates and the parent bank. All the banks use the same logo of a blue keyhole. Currently, the group is merging all the associate banks into SBI, which will create a “mega bank”, and one hopes, streamline operations and unlock value.

- State Bank of Bikaner & Jaipur
- State Bank of Hyderabad
- State Bank of Indore
- State Bank of Mysore
- State Bank of Patiala
- State Bank of Saurashtra
- State Bank of Travancore

12.3.3 Foreign Offices

State Bank of India is present in 32 countries, where it has 84 offices serving the international needs of the bank's foreign customers, and in some cases conducts retail operations. The focus of these offices is India-related business.

Foreign Branches [C]: SBI has branches in these countries:

- Australia
- Bahrain
- Bangladesh
- Belgium
- Canada
- France
- Germany
- Hong Kong
- Israel
- Japan
- People's Republic of China
- Republic of Maldives
- Singapore
- South Africa
- Sri Lanka
- Sultanate of Oman
- The Bahamas
- United Arab Emirates
- U.K.
- U.S.A

Subsidiaries and Joint Ventures

In addition to the foreign branches above, SBI has these wholly owned subsidiaries and joint ventures:

- Nepal State Bank Limited is an Indo-Nepalese joint venture between State Bank of India, the Employees Provident Fund, and the Agricultural Development Bank of Nepal. It commenced operations on July 7, 1993, and now has 21 branches throughout Nepal.
- SBI Mauritius is an offshore bank, incorporated in 1990.
- Indian Ocean International Bank (Mauritius) has been operating in Mauritius since 1978. SBI acquired a majority stake in the bank in April 2005. The bank is a commercial bank with 11 branches in major cities/towns in Mauritius, including Rodrigues.
- SBI Canada has been operating for more than a decade and has a number of branches in the Toronto and Vancouver areas.
- State Bank of India established SBI California in 1982. The bank has six branches within the state.

12.3.4 Growth

State Bank of India has often acted as guarantor to the Indian Government, most notably during Chandra Shekhar's tenure as Prime Minister of India. With 10,000 branches^[1] and a further 4000+ associate bank branches, the SBI has extensive coverage. Following its arch-rival ICICI Bank, State Bank of India has electronically networked most of its metropolitan, urban and semi-urban branches under its Core Banking System (CBS), with over 4500 branches being incorporated so far. The bank has the largest *ATM* network in the country having more than 5600 *ATMs*. The State Bank of India has had steady growth over its history, though the Harshad Mehta scam in 1992 marred its image.

In recent years, the bank has sought to expand its overseas operations by buying foreign banks. It is the only Indian bank to feature in the top 100 world banks in the Fortune Global 500 rating and various other rankings. According to the *Forbes 2000* listing it tops all Indian companies.

12.3.5 Fortune Global 500 Ranking - 2008

In 2008 SBI was ranked 380 from a rank of 495 in 2007. As per fortune 500-2008 following are the data for SBI in \$ million.

Revenues: 22,402.2

Profits: 2,225.0

Assets: 255,854.9

Stockholders' Equity: 15,263.3

12.3.6 Group Companies

- SBI Capital Markets Ltd
- SBI Mutual Fund (A Trust)
- SBI Factors and Commercial Services Ltd
- SBI DFHI Ltd
- SBI Cards and Payment Services Pvt. Ltd
- SBI Life Insurance Co. Ltd - Bancassurance (Life Insurance)
- SBI Funds Management Pvt Ltd
- SBI Canada

12.3.7 IT Initiatives

According to PM Network (December 2006, Vol. 20, No. 12), State Bank of India launched a project in 2002 to network more than 14,000 domestic and 70 foreign offices and branches. The first and the second phases of the project have already been completed and the third phase is still in progress. As of December 2006, over 10,000 branches have been covered.

The new infrastructure serves as the bank's backbone, carrying all applications, such as the IP telephone network, *ATM* network, *Internet banking* and internal e-mail. The new infrastructure has enabled the bank to further grow its *ATM* network with plans to add another 3,000 by the end of 2007 raising the total number to 8,600. As of September 20, 2007 SBI has 7236 *ATMs*.

Check Your Progress 2

What are the associate banks of the State Bank of India?

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12.4 LIST OF COMMERCIAL BANKS IN INDIA

- ABN AMRO
- Abu Dhabi Commercial Bank - Personal and corporate banking with specialised services for nonresident Indians.
- Allahabad Bank - Public sector bank in India, which offers depository services, education loans, international banking, Visa debit cum ATM cards, and tenders. Also offers deposit schemes to Non-Resident Indians.
- Andhra Bank - Nationalised commercial bank in India, offering a range of banking products and services including deposit schemes, loans, corporate and NRI banking, and other related services.
- Bank of Baroda
- Bank of India - Includes list of services for businesses and exporters, and more for customers in the U.S.
- Bank of Maharashtra - Offers personal banking services including checking and savings accounts, debit cards, ATMs, deposits, and card services.
- Bank of Punjab
- Bank of Rajasthan
- Banknetindia - Features banking, finance, jobs, and policies.
- Barclays India - Offers retail and commercial banking services, including loans and financing, payments and cash management, and trade finance.
- Central Bank of India
- **Citibank (I)**
- Corporation Bank
- Dena Bank
- Dhanalakshmi Bank - Offers deposit, loan, fund transfer, home financing, and foreign exchange services.
- Export-Import Bank of India - Engaged in the promotion of international trade.
- Federal Bank Limited - Features loans, on-line banking, depository, and NRI services.
- First Leasing Company Of India - Covers corporate leasing, mutual funds, and consumer credit.
- Guardian Sahakara Bank Niyamita
- HDFC Bank

- HSBC - Offers personal banking services including checking and savings accounts, debit cards, ATMs, deposits, and card services. Also features business, corporate, and institutional banking.
- ICICI Bank - Offers a range of banking products and services to corporate and retail customers throughout India.
- IDBI Ltd. - Complete personal, business, and institutional banking solutions in India.
- Indian Bank - State-owned bank based in Chennai with offices and correspondent banks worldwide.
- Indian Overseas Bank
- Indusind Bank Limited
- Industrial Development Bank of India (IDBI) - Promoting industrial and financial growth, entrepreneurship, and economic upliftment.
- ING Vysya Bank - Official site for the bank based in Bangalore, India.
- Jammu & Kashmir Bank Ltd.
- Karnataka Bank Ltd. - Private sector Bank in India, provides various financial products like retail banking, corporate banking, loans, and demat services. Provides on-line banking services.
- Kotak Mahindra Bank - Private sector bank in India provides personal banking, commercial, and corporate services. Also provides net banking facility.
- Lord Krishna Bank (LKB) - Private sector bank in India, offers personal, corporate and forex banking services. Also offers retail loans for home, education, and vehicle purchase.
- National Bank for Agriculture and Rural Development - Involved in lending to agriculture and allied activities.
- Oriental Bank Of Commerce
- Punjab and Maharashtra Co-operative Bank Ltd.
- ***Punjab National Bank (3)***
- South Indian Bank Ltd.
- Standard Chartered, India - International bank with business operations in Delhi, Mumbai, Bangalore, Chennai, and Kolkata. Offers personal banking, SME, and commercial banking.
- ***State Bank of India@***
- State Bank of Mysore
- State Bank of Saurashtra
- Syndicate Bank - Wholly owned by the government of India.
- Thane Janta Sahakari Bank, Ltd.
- UCO Bank
- Union Bank of India (UBI)
- UTI Bank
- Vijaya Bank - Offers banking services in India. Website provides loan details, savings bank details, and term deposit rates. Also provides branch locator.

- Yes Bank - Private sector bank in India that offers corporate, institution, retail banking and corporate finance services. Site provides branch locator.

12.5 ENTRY OF PRIVATE FINANCING COMPANIES IN MUTUAL FUND SCHEMES

In the past decade, Indian mutual fund industry had seen a dramatic improvements, both quality wise as well as quantity wise. Before, the monopoly of the market had seen an ending phase, the Assets Under Management (AUM) was Rs. 67bn. The private sector entry to the fund family rose the AUM to Rs. 470 bn in March 1993 and till April 2004, it reached the height of 1,540 bn.

Putting the AUM of the Indian Mutual Funds Industry into comparison, the total of it is less than the deposits of SBI alone, constitute less than 11% of the total deposits held by the Indian banking industry.

The main reason of its poor growth is that the mutual fund industry in India is new in the country. Large sections of Indian investors are yet to be intellectuated with the concept. Hence, it is the prime responsibility of all mutual fund companies, to market the product correctly abreast of selling.

The mutual fund industry can be broadly put into four phases according to the development of the sector. Each phase is briefly described as under.

First Phase - 1964-87: Unit Trust of India (UTI) was established on 1963 by an Act of Parliament. It was set up by the Reserve Bank of India and functioned under the Regulatory and administrative control of the Reserve Bank of India. In 1978 UTI was de-linked from the RBI and the Industrial Development Bank of India (IDBI) took over the regulatory and administrative control in place of RBI. The first scheme launched by UTI was Unit Scheme 1964. At the end of 1988 UTI had Rs.6,700 crores of assets under management.

Second Phase - 1987-1993 (Entry of Public Sector Funds): Entry of non-UTI mutual funds. SBI Mutual Fund was the first followed by Canbank Mutual Fund (Dec 87), Punjab National Bank Mutual Fund (Aug 89), Indian Bank Mutual Fund (Nov 89), Bank of India (Jun 90), Bank of Baroda Mutual Fund (Oct 92). LIC in 1989 and GIC in 1990. The end of 1993 marked Rs.47,004 as assets under management.

Third Phase - 1993-2003 (Entry of Private Sector Funds): With the entry of private sector funds in 1993, a new era started in the Indian mutual fund industry, giving the Indian investors a wider choice of fund families. Also, 1993 was the year in which the first Mutual Fund Regulations came into being, under which all mutual funds, except UTI were to be registered and governed. The erstwhile Kothari Pioneer (now merged with Franklin Templeton) was the first private sector mutual fund registered in July 1993.

The 1993 SEBI (Mutual Fund) Regulations were substituted by a more comprehensive and revised Mutual Fund Regulations in 1996. The industry now functions under the SEBI (Mutual Fund) Regulations 1996.

The number of mutual fund houses went on increasing, with many foreign mutual funds setting up funds in India and also the industry has witnessed several mergers and acquisitions. As at the end of January 2003, there were 33 mutual funds with total assets of Rs. 1,21,805 crores. The Unit Trust of India with Rs. 44,541 crores of assets under management was way ahead of other mutual funds.

Fourth Phase - since February 2003: This phase had bitter experience for UTI. It was bifurcated into two separate entities. One is the Specified Undertaking of the Unit Trust of India with AUM of Rs. 29,835 crores (as on January 2003). The Specified Undertaking of Unit Trust of India, functioning under an administrator and under the rules framed by Government of India and does not come under the purview of the Mutual Fund Regulations.

The second is the UTI Mutual Fund Ltd, sponsored by SBI, PNB, BOB and LIC. It is registered with SEBI and functions under the Mutual Fund Regulations. With the bifurcation of the erstwhile UTI which had in March 2000 more than Rs. 76,000 crores of AUM and with the setting up of a UTI Mutual Fund, conforming to the SEBI Mutual Fund Regulations, and with recent mergers taking place among different private sector funds, the mutual fund industry has entered its current phase of consolidation and growth. As at the end of September, 2004, there were 29 funds, which manage assets of Rs. 153108 crores under 421 schemes.

12.5.1 Birla Mutual Fund (BMF)

Birla Mutual Fund (BMF) has been set up as a trust under the Indian Trust Act, 1882. Sponsors: Sun Life (India) AMC Investments Inc. and Birla Global Finance Ltd. (liability restricted to seed corpus of Rs. 1 lakh) Trustee: Birla Sun Life Trustee Co. Pvt. Ltd. Investment Manager: Birla Sun Life Asset Management Company Ltd.

12.5.2 Reliance Mutual Fund (RMF)

Reliance Mutual Fund (RMF) is one of India's leading Mutual Funds, with Average Assets Under Management (AAUM) of Rs. 90,813.45 Crores (AAUM for June 30th 08) and an investor base of over 67.39 Lakhs.

Reliance Mutual Fund, a part of the Reliance - Anil Dhirubhai Ambani Group, is one of the fastest growing mutual funds in the country. RMF offers investors a well-rounded portfolio of products to meet varying investor requirements and has presence in 118 cities across the country. "Reliance Mutual Fund schemes are managed by Reliance Capital Asset Management Limited., a subsidiary of Reliance Capital Limited, which holds 93.37% of the paid-up capital of RCAM, the balance paid up capital being held by minority shareholders."

Reliance Capital Ltd. is one of India's leading and fastest growing private sector financial services companies, and ranks among the top 3 private sector financial services and banking companies, in terms of net worth. It has interests in asset management, life and general insurance, private equity and proprietary investments, stock broking and other financial services.

Check Your Progress 3

Write a very brief note on the entry of private sectore mutual funds.

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12.6 LET US SUM UP

State Bank of India (SBI) is a Public Sector Banking Organisation (PSB), in which the Government of India is the biggest shareholder. It is the largest bank in India and is ranked at 380 in 2008 Fortune Global 500 list, and ranked 219 in 2008 Forbes Global

2000. Measured by the number of branch offices, SBI is the second largest bank in the world. SBI traces its ancestry back to the Bank of Calcutta, which was established in 1806; this makes SBI the oldest commercial bank in the Indian subcontinent. SBI provides various domestic, international and NRI products and services, through its vast network in India and overseas. With an asset base of \$126 billion and its reach, it is a regional banking behemoth.

12.7 LESSON END ACTIVITY

Write a study note the role and functioning of SBI and commercial banks in India.

12.8 KEYWORDS

Function of RBI: The main functions of the RBI, as laid down in the statutes are: (a) issue of currency, (b) banker to Government, including the function of debt management, and (c) banker to other banks.

Objective of RBI: A clear objective of the development role of the RBI was to raise the savings ratio to enable the higher investment necessary for growth, in the absence of efficient financial intermediation and of a well developed capital market.

Expansion of Banking: In the initial years of the RBI, considerable progress was made in extending the banking system but there was continuing concern about the overall accessibility of banking to the needy.

Development of the Payments System: The development of a payments system is one development role that is common to most central banks.

12.9 QUESTIONS FOR DISCUSSION

1. What do you understand by the commercial banking in India?
2. Write a note on the history of SBI.
3. Give an analysis of the entry of private financing companies in mutual fund in India.

Check Your Progress: Model Answers

CYP 1

Banking in India originated in the first decade of 18th century. The first banks were The General Bank of India, which started in 1786, and Bank of Hindustan, both of which are now defunct. The oldest bank in existence in India is the State Bank of India, which originated in the “The Bank of Bengal” in Calcutta in June 1806. This was one of the three presidency banks, the other two being the Bank of Bombay and the Bank of Madras. The presidency banks were established under charters from the British East India Company. They merged in 1925 to form the Imperial Bank of India, which, upon India’s independence, became the State Bank of India. For many years the Presidency banks acted as quasi-central banks, as did their successors. The Reserve Bank of India formally took on the responsibility of regulating the Indian banking sector from 1935. After India’s independence in 1947, the Reserve Bank was nationalized and given broader powers.

Contd...

CYP 2

- State Bank of Bikaner & Jaipur
- State Bank of Hyderabad
- State Bank of Indore
- State Bank of Mysore
- State Bank of Patiala
- State Bank of Saurashtra
- State Bank of Travancore

CYP 3

With the entry of private sector funds in 1993, a new era started in the Indian mutual fund industry, giving the Indian investors a wider choice of fund families. Also, 1993 was the year in which the first Mutual Fund Regulations came into being, under which all mutual funds, except UTI were to be registered and governed. The erstwhile Kothari Pioneer (now merged with Franklin Templeton) was the first private sector mutual fund registered in July 1993.

12.10 SUGGESTED READINGS

Sudhindra Bhat, *Security Analysis and Portfolio Management*, Excel Books, Delhi.

Preeti Singh, *Security Analysis and Portfolio Management*.

V.A. Avadhani, *Investment Management*.

M.Y. Khan, *Financial Services*.

V.K. Bhalla, *Financial Services*.

G.S. Batra, *Financial Services and Markets*.

Mahana Rao, *Financial Services, Cases and Strategies*.

L. M. Bhole, *Financial Markets and Services*.

UNIT V

LESSON

13

CREDIT RATING

CONTENTS

- 13.0 Aims and Objectives
- 13.1 Introduction
- 13.2 Credit Rating: The Concept
- 13.3 Objectives of Credit Rating
- 13.4 Benefits of Credit Rating
- 13.5 Rating Process
- 13.6 Global Credit Rating Agencies
- 13.7 Factors Contributing to the Success of the Rating System
 - 13.7.1 Independent and Credible Structure and Procedures
 - 13.7.2 Corporate Disclosure and Credit Education
 - 13.7.3 Reliance on the Market Mechanism
 - 13.7.4 Creation of Active Market
- 13.8 Role of Credit Rating Agencies: CSRIIL and ICRA
 - 13.8.1 Credit Analysis & Research Ltd. (CARE)
 - 13.8.2 Investment Information and Credit Rating Agency of India Ltd. (ICRA)
 - 13.8.3 Credit Rating Information Services of India Ltd. (CRISIL)
- 13.9 Credit Rating – A Case Study of CRISIL
 - 13.9.1 Rating Process
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- 13.10 Let us Sum up
- 13.11 Lesson End Activity
- 13.12 Keywords
- 13.13 Questions for Discussion
- 13.14 Suggested Readings

ANNEXURE 1

13.0 AIMS AND OBJECTIVES

After studying this lesson, you should be able to:

- Understand the objectives of credit rating
- Learn about the institutions engaged in credit rating
- Know the purpose and procedure of rating for debentures
- Understand the role of credit rating agencies CRISIL and ICRA

13.1 INTRODUCTION

The role of financial markets in a market economy is that of an efficient intermediary, mediating between savers and investors, mobilizing capital on one hand and efficiently allocating them between competing uses on the other. Such an allocative role hinges crucially on the availability of reliable information. Various sources of information are available to the investor – research reports, public documents, media reports, advertisements etc. In addition to these sources, Credit Rating Agencies (CRAs) have come to occupy an important role as information providers, particularly for credit related opinions in respect of debt instruments. The perception is that the opinion of CRAs is independent, objective, well researched and credible.

The origins of credit rating can be traced to the 1840s. Following the financial crisis of 1837, Louis Tappan established the first mercantile credit agency in New York in 1841. The agency rated the ability of merchants to pay their financial obligations. It was subsequently acquired by Robert Dun and its first rating guide was published in 1859. Another similar agency was set up by John Bradstreet in 1849, which published a ratings book in 1857. Dun and Bradstreet was formed in 1933, which became the owner of Moody's Investors Service in 1962. The history of Moody's itself goes back about a 100 years. In 1900 John Moody founded Moody's Investors Service, and in 1909 published his 'Manual of Railroad Securities'.

Further expansion of the credit rating industry took place in 1916. The Standard Statistics Company and the Poor's Publishing company merged in 1941 to form Standard and Poor's which was subsequently taken over by McGraw Hill in 1966. In the 1970s, a number of credit rating agencies commenced operations all over the world. These included the Canadian Bond Rating Service (1972), Thomson Bankwatch (1974), Japanese Bond Rating Institute (1975), McCarthy Crisanti & Maffei (1975 acquired by Duff & Phels in 1991) Dominican Bond Rating Service (1977), IBCA Limited (1978), and Duff & Phels Credit Rating Company (1980).

In India, the Credit Rating & Information Service of India Ltd. (CRISIL) was set up as the first credit rating agency in 1987, followed by ICRA Ltd. (formerly known as Investment Information and credit Rating Agency of India Limited) in 1991, and Credit Analysis and Research Limited (CARE) in 1994. The ownership pattern of all the three agencies is institutional.

13.2 CREDIT RATING: THE CONCEPT

Credit rating is a symbolic indicator of the current opinion of the relative capability of the issuer to service its debt obligation in a timely fashion, with specific reference to the instrument being rated. It is focused on communicating to the investors, the relative ranking of the default loss probability for a fixed income investment, in comparison with other rated instruments.

The primary objective of rating is to provide guidance to investors/credit obligation. It does not amount to a recommendation to buy, hold or sell an instrument as it does not take into consideration factors such as market prices, personal risk preferences and other considerations which may influence an investment decision. The rating process is itself based on certain “givens”. The agency, for instance, does not perform an audit. Instead, it is required to rely on information provided by the issuer and collected by analysts from different sources, including interactions in person with various entities. Consequently, the agency does not guarantee the completeness or accuracy of the information on which the rating is based.

According to Standard and Poor, “In determining a rating, both quantitative and qualitative analyses are employed. The judgment is qualitative in nature and the role of quantitative analysis is to make the best possible overall qualitative judgment because, ultimately, a rating is an opinion.”

Some of the factors leading to the growing importance of the credit rating system in many parts of the world over the last two decades are:

1. the increasing role of capital and money markets consequent to disintermediation;
2. increased securitization of borrowing and lending consequent to disintermediation;
3. globalization of the credit market;
4. the continuing growth of information technology;
5. the growth of confidence in the efficiency of the market mechanism.

13.3 OBJECTIVES OF CREDIT RATING

The objective of credit rating is to determine an institution’s ability to repay its obligations on a timely basis. Rating agencies play a critical role in financial markets. The primary objective of a rating agency is to provide user with an objective, unbiased opinion on rated entities and instrument. In recent years, credit ratings have also been used to adjust insurance premiums, determine employment eligibility, and establish the amount of a utility or leasing deposit. A ratings company can help you do this. Providing independent objective assessments of the credit worthiness of companies and countries, a credit ratings company helps investors decide how risky it is to invest money in a certain country and/or security. Ratings can be assigned to short-term and long-term debt obligations as well as securities, loans, preferred stock and insurance companies. Long-term credit ratings tend to be more indicative of a country’s investment surroundings and/or a company’s ability to honor its debt responsibilities.

Check Your Progress 1

What are the causes of growing importance of credit rating system?

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13.4 BENEFITS OF CREDIT RATING

The primary benefit of rating is to provide *guidance* to investors/creditors in determining a credit risk associated with a debt instrument/credit obligation. It does not amount to a recommendation to buy, hold or sell an instrument as it does not take into consideration factors such as market prices, personal risk preferences and other considerations which

may influence an investment decision. The rating process is itself based on certain given variables. The agency, for instance, does not perform an audit. Instead it is required to rely on information provided by the issuer and collected by analysis from different sources, including interactions in-person with various entities. Consequently, the agency does not guarantee the completeness or accuracy of the information on which the rating is based. It has been rightly pointed out by Standard and Poor that in determining a rating, both quantitative and qualitative analyses are employed. The judgment is qualitative in nature and the role of the quantitative analysis is to help make the best possible overall qualitative judgment because, ultimately, a rating is an opinion.

The benefit of credit rating for issuers stems from the faith placed by the market on the opinions of the rating provided, and the widespread use of ratings as an access to a much wider investor base as compared to unrated securities. As a large majority of investors, do not have the required resources and skills to analyze each and every investment opportunity, they prefer to rely on the opinion of a rating agency. The opinion of a rating agency enjoys investor confidence and enables the issuers of highly rated instruments to access the market even under adverse market conditions.

For the investor, the rating is an information service, communicating the relative ranking of the default loss probability for a given fixed income investment in comparison with other rated instruments. In the absence of a credit rating system, the risk perception of a common investor vis-à-vis debt instruments largely depends on his/her familiarity with the names of the promoters or the collaborators. Such “name recognition”, often used to evaluate credit quality in underdeveloped markets can not be an effective surrogate for systematic risk evaluation; it suffers from a number of avoidable limitations. It is not true that every venture promoted by a well known name will be successful and free from default risk. Nor is it true that every venture promoted by a relatively lesser known entity is disproportionately risk prone.

A professional credit rating agency is equipped with the required skills, the competence and the credibility, all of which eliminates, or at least minimizes the role of ‘name recognition’ and replaces it with well researched and scientifically analyzed opinions as to the relative ranking of different debt instruments in terms of their credit quality. Moreover, these rating are symbolic and therefore easier to understand and use, once their definitions/meanings are clearly enunciated. The rating seeks to establish a link between risk and return. The investor uses the rating to assess the risk level of the instrument and compares the offered rate of return with his expected rate of return (for the particular level of risk) to optimize his risk-return preference.

A rating provided by a professional credit rating agency is of significance not just for the individual/small investor but also for an organized institutional investor. Rating for them provides low cost supplement to their own in-house appraisal system. Large investors may use credit rating for portfolio diversification by selecting appropriate instruments from abroad spectrum of investment option. Such investors could use the information provided by rating changes, by carefully watching upgrades and downgrades and altering their portfolio mix by operating in the secondary market. Banks in some developed countries use the ratings of other banks and financial intermediaries for their decisions regarding inter-bank lending, swap agreements, and other counter-party risks.

13.5 RATING PROCESS

Rating is an interactive process with a perspective approach. It involves series of steps. The main points are described as below:

- (a) **Rating request:** Ratings in India are initiated by a formal request (or mandate) from the prospective issuer. This mandate spells out the terms of the rating

assignment. Important issues that are covered include: binding the credit rating agency to maintain confidentiality, the right to the issuer to accept or not credit rating agency for rating and subsequent surveillance.

- (b) **Rating team:** The team usually comprises two members. The composition of the team is based on the expertise and skills required for evaluating the business of the issuer.
- (c) **Information requirements:** Issuers are provided a list of information requirements and the broad framework for discussions. These requirements are derived from the experience of the issuers business and broadly conform to all the aspects which have a bearing on the rating. These factors have been discussed in details under rating framework.
- (d) **Secondary information:** The credit rating agency also draws on the secondary sources of information including its own research division. The credit rating agency also has a panel of industry experts who provide guidance on specific issues to the rating team. The secondary sources generally provide data and trends including policies about the industry.
- (e) **Management meetings and plant visits:** Rating involves assessment of number of qualitative factors with a view to estimate the future earnings of the issuer. This requires intensive interactions with issuers' management specifically relating to plans, future outlook, and competitive position and funding policies.

Plant visits facilitate understanding of the production process, assess the state of equipment and main facilities, evaluate the quality of technical personnel and form an opinion on the key variables that influence level, quality and cost of production. These visits also help in assessing the progress of projects under implementation.

- (f) **Preview meeting:** After completing the analysis, the findings are discussed at length in the internal committee, comprising senior analysis of the credit rating agency. All the issues having a bearing on the rating are identified. At this stage, an opinion on the rating is also formed.
- (g) **Rating Committee meeting:** This is the final authority for assigning ratings. A brief presentation about the issuers business and the management is made by the rating team. All the issues identified during discussions in the internal committee are discussed. The rating committee also considers the recommendation of the internal committee for the rating. Finally, a rating is assigned and all the issues which influence the rating are clearly spelt out.
- (h) **Rating communication:** The assigned rating along with the key issues if communicated to the issuer's top management for acceptance. The ratings which are not accepted are either rejected or reviewed. The rejected rating is not disclosed and complete confidentiality is maintained.
- (i) **Rating Reviews:** If the rating is not acceptable to the issuer, he has a right to appeal for a review of the rating. These reviews are usually taken up only if the issuer provides fresh inputs on the issues that were considered for assigning the rating. Issuer's response is presented to the Rating Committee. If the inputs are convincing, the Committee can revise the initial rating decision.
- (j) **Surveillance:** It is obligatory on the part of the credit rating agency to monitor the accepted ratings over the tenure of the rated instrument. As has been mentioned earlier, the issuer is bound by the mandate letter to provide information to the credit rating agency. The ratings are generally reviewed every year, unless the

circumstances of the case warrant an early review. In all surveillance review the initial rating could be retained or revised (upgrade or downgrade). The various factors that are evaluated in assigning the ratings have been explained under rating framework.

13.6 GLOBAL CREDIT RATING AGENCIES

The credit rating mechanism has become an important part of the investment operations in the investment segments of developed economies like United States, Euro Zone, United Kingdom, Canada, Japan, etc. Consequently, in these countries, specialized agencies equipped with all the assessment expertise have come up.

The major agencies renowned globally are:

- Moody's Investors Service (Moody's)
- Standard and Poor's Corporation (S&P)
- Duff and Phelps Credit Rating Co. (DCR)
- Japan Credit Rating Agency (JCR)
- Thomas Bank Watch
- Fitch-IBCA,

As the credit rating agencies are an integral part of modern capital markets their assessments on sovereign and corporate entities have been increasingly used as benchmarks by regulators and investors. The rating industry counts—Moody's and Standard & Poor's (S&P), as important global credit rating agencies following the dramatic growth of international financial markets. But how do these global rating agencies convey to market high-quality information on borrowers in both developed and emerging economies?

This question has become pertinent after the harsh criticism rating agencies received following the East Asian financial crises. Besides, their expected worldwide influence will certainly be further expanded by the new Basel criteria linking bank capital asset requirements to corporate and sovereign ratings (Basel Committee on Banking Supervision, 2001). Indeed, in the course of the recent financial crises, rating agencies have been criticized for their pro-cyclical rating behaviors, which to a certain extent may have exacerbated the massive capital outflows from crisis countries. Given the considerable influence rating agencies exert on financial markets, their rating behavior and methodologies have also come under close scrutiny. Studies on rating agencies' sovereign rating assignments have been extensive. However, the understanding has so far been limited as to how credit rating agencies rate firms differently around the world. Specifically, cursory evidence and some research findings underline that rating criteria used for firms in developing countries differ with respect to those reserved to firms in developed countries.

The process to obtain a credit rating on a particular issue usually starts with a request from the firm who has expressed an interest in securing a rating before a bond issuance. After signing a letter of rating agreement, a series of meetings between the issuer and the rating agency ensues. Analysts and corporate financial officers then exchange queries, views and information relevant to coming up with a credit rating of the firm. The time needed to assign the rating will usually take about 6 to 12 weeks for S&P (S&P, 1998) and a similar length of time for Moody's. Fees charged on the issuer vary with the nature of issues or issuers and time to come up with the rating. However, the standard time

could be reduced if there is an urgent market need or if the firm is forthcoming with its information disclosure as well as its financial statements is highly accurate. Credit rating agencies will also ensure confidentiality if sensitive information of the rated firm is provided. In this sense, rating agencies do have information that other market participants do not have. Such ratings will better reflect the firm's ability to honor its debt obligations. However, in most cases, credit ratings assignments are mainly based on publicly available information.

13.7 FACTORS CONTRIBUTING TO THE SUCCESS OF THE RATING SYSTEM

Credit rating indicates to the investors the ability and willingness of the borrower to repay the interest and principal amount of the rated instrument on time. The rating agency assigns the rating on the basis of its analysis of the company's business and financial risks as well as its evaluation of the company's management. The driving force behind the rating industry is essentially the question of reputation for analytical credibility. The factors contributing to the success of the rating system are:

13.7.1 Independent and Credible Structure and Procedures

Ratings are of value only as long as they are credible. Some critical factors that enhance the credibility of a rating agency are objectivity and impartiality of opinions; analytical integrity and consistency; professionalism and relevant expertise across industry; strict rules of confidentiality relating to the sensitive and confidential information of issuer; timeliness of rating review and announcement of changes; ability to reach a wide range of investors by means of press reports, investor friendly research services.

According to Standard & Poor, 'Credibility arises primarily from the objectivity which results from the rater being independent of the issuer's business. The investor is willing to accept the rater's judgment only where such credibility exists. When enough investors are willing to accept the judgment of a particular rater, that rater gains recognition as a rating agency.' Moody's view is that 'the rating agency must do all it can to preserve its credibility and integrity in the market place. As a primary ingredient of credibility the agency must maintain independence from all interested market forces – including issuers, securities underwriters, or government.'

13.7.2 Corporate Disclosure and Credit Education

Rating agencies are not and should not assume the role of regulators. They are mostly carrying out an assignment on the mandate of an issuer and, in some countries, the issuer has the option of publishing or not publishing the rating assigned. This may result in investors not having all essential information required for his decision. The regulatory guidelines for mandatory disclosure of ratings ensure that the information reaches the users. However, it is not sufficient for the information to reach the investor, he must be capable of arriving at meaningful conclusions by interpreting the assigned rating. He should also be aware of the limitations of credit rating and should not assume that the rating amounts to an insurance or guarantee against default risk.

13.7.3 Reliance on the Market Mechanism

Reliance on the capital market for resource allocation generates a strong demand for investment related information. Rating agencies provide this information. An investor would be willing to look at rating as an important input for his investment decision only when there is a perceived default risk.

13.7.4 Creation of Active Market

The continued growth and evolution of the credit rating business would depend on the size and growth of the debt market. An active primary and secondary debt market is crucial for rating agencies to continue to provide their services.

13.8 ROLE OF CREDIT RATING AGENCIES: CSRIL AND ICRA

Credit rating is a system, which makes it clear to the investors the credit or default risk associated with the investment under consideration by the investors. Moody's has defined credit rating as "an opinion on the future ability and legal obligation of the 'issuer' to make timely payments of principal and interest on a specific fixed income security. The rating measures the probability that the 'issuer' will default on the security over its life.

In India, there are three major credit rating agencies that operate. They are:

- CRISIL – Credit Rating and Information Services of India Ltd.
- ICRA – Investment Information and Credit Rating Agency of India Ltd.
- CARE – Credit Analysis and Research Limited.

In addition, there are two more credit rating agencies

- Duff & Phelps Credit Rating India Private Ltd. (DCR India)
- ONICRA Credit Rating Agency of India Ltd.

The three credit rating agencies process the data provided to them and arrive at their own conclusions in respect of the safety of risk involved in the particular instrument. The assessment is then converted into a rating symbol and is conveyed to the company. For every level of safety or risk say, from highest safety to the level of the possibility of default in the servicing of obligations by the issuer, the rating agencies use alphabets or alpha numeric. For the benefit of the investors, the ratings are broadly divided into levels like high safety, moderate safety, inadequate safety, and default.

The credit rating symbols used by the three CRAs are given in Table 13.1.

Table 13.1: Credit Rating symbols

Rating Agencies	Highest Safety	Moderate Safety	Substantial Risk	Default
ICRA	LAAA	LBBB	LC	LD
CRISIL	AAA	BBB	C	D
CARE	CARE AAA	CARE BBB	CARE C	CARE D

A brief description of the three credit rating agencies is presented.

13.8.1 Credit Analysis & Research Ltd. (CARE)

CARE incorporated in April 1993, is a credit rating, information and advisory services company promoted by Industrial Development Bank of India (IDBI), Canara Bank, Unit Trust of India (UTI) and other leading banks and financial services companies. In all CARE has 14 shareholders.

CARE assigned its first rating in November 1993, and up to March 31, 2006, had completed 3175 rating assignments for an aggregate value of about Rs 5231 billion. CARE's ratings are recognized by the Government of India and all regulatory authorities including the Reserve Bank of India (RBI), and the Securities and Exchange Board of India (SEBI).

CARE has been granted registration by SEBI under the Securities & Exchange Board of India (Credit Rating Agencies) Regulations, 1999.

The rating coverage has extended beyond industrial companies, to include public utilities, financial institutions, infrastructure projects, special purpose vehicles, state governments and municipal bodies. CARE's clients include some of the largest private sector manufacturing and financial services companies as well financial institutions of India. CARE is well equipped to rate all types of debt instruments like Commercial Paper, Fixed Deposit, Bonds, Debentures and Structured Obligations.

CARE's Information and Advisory services group prepares credit reports on specific requests from banks or business partners, conducts sector studies and provides advisory services in the areas of financial restructuring, valuation and credit appraisal systems. CARE was retained by the Disinvestment Commission, Government of India, for assistance in equity valuation of a number of state owned companies and for suggesting divestment strategies for these companies.

13.8.2 Investment Information and Credit Rating Agency of India Ltd. (ICRA)

ICRA Limited (an Associate of Moody's Investors Service) was incorporated in 1991 as an independent and professional company. ICRA is a leading provider of investment information and credit rating services in India. ICRA's major shareholders include Moody's Investors Service and leading Indian financial institutions and banks. With the growth and globalisation of the Indian capital markets leading to an exponential surge in demand for professional credit risk analysis, ICRA has been proactive in widening its service offerings, executing assignments including credit ratings, equity gradings, specialised performance gradings and mandated studies spanning diverse industrial sectors. In addition to being a leading credit rating agency with expertise in virtually every sector of the Indian economy, ICRA has broad-based its services for the corporate and financial sectors, both in India and overseas.

13.8.3 Credit Rating Information Services of India Ltd. (CRISIL)

CRISIL is India's leading ratings, financial news, risk and policy advisory company. Since 1987 when CRISIL was incorporated, CRISIL has played an integral role in India's development milestones. CRISIL's majority shareholder is Standard & Poor's, the world's foremost provider of independent credit ratings, indices, risk evaluation, investment research and data. CRISIL's association with Standard & Poor's, a division of The McGraw-Hill Companies, dates back to 1996 when both companies started working together on rating methodologies and joint projects. CRISIL ratings are the only ratings agency in India to operate on the basis of sectoral specialisation. CRISIL ratings plays a leading role in the development of the debt markets in India. CRISIL has also spearheaded the formation of the CariCRIS, the world's first regional credit rating agency.

CRISIL rates all rupee denominated debt obligations. Its comprehensive offerings include ratings for long term instruments such as debentures/bonds, preference shares, structured obligations (including asset backed securities), fixed deposits and short term instruments such as commercial paper programmes and short term deposits. CRISIL undertakes credit assessments of various entities including state governments. CRISIL also assigns financial strength ratings to insurance companies.

CRISIL through the years has continued to innovate and play the role of a pioneer in the development of the Indian debt market. CRISIL has pioneered the rating of subsidiaries and joint ventures of multinationals in India and has rated several multinational entities,

both start-up entities as well as players with a well established track record in India. Over the years, CRISIL has also developed several structured ratings for multinational entities based on Guarantees and Letters of Comfort from the parent as well as Standby Letter of Credit arrangements from bankers. The rating agency has also developed a methodology for credit enhancement of corporate borrowing programmes through the use of partial guarantees. In essence, CRISIL is uniquely placed in its experience in understanding the extent of credit enhancement arising out of such structures.

CRISIL's Strength: CRISIL is India's premier credit rating agency and ranks amongst the top five in the world. CRISIL's core competencies are in the areas of risk identification, classification and assessment. CRISIL's capabilities have been further reinforced by its strategic alliance with Standard and Poor's, USA, the world's leading rating agency. CRISIL has many firsts to its credit. These include introduction of ratings for entities like banks, financial institutions, Greenfield projects and new instruments like asset-backed securities and other structured obligations; development of performance rating methodologies for various business segments like real estate developers and parallel marketers of liquefied petroleum gas (LPG) and ratings of debt issues of large infrastructure projects, mutual funds and municipal bonds.

As an important credit agency, CRISIL commands the following strengths:

1. **Strong knowledge:** CRISIL possesses a brilliant understanding of the Indian economy, industries and companies and their inter-relationship. An exhaustive information base on the Indian economy, 80 industries, 3,000 companies, 300 commodities satisfying the information needs of a large and diverse set of India's leading economic decision makers is available with CRISIL.
2. **Efficient forecasting:** CRISIL's experiment in building indigenous research methodologies has enabled it to make an accurate forecast of future trends and performance in industries. It maintains a vast nationwide primary source network spanning 1,200 companies, intermediaries, government bodies and consultants.
3. **Professionalism:** CRISIL maintains a team of highly qualified and experienced multi-disciplinary professionals from diverse streams such as business management, chartered accountancy and library sciences.
4. **Reliable opinion:** CRISIL provides independent, unbiased views and analysis. This is very much useful for the investors to make a realistic assessment of the issue of bonds and other securities.
5. **Others:** CRISIL also provides access to the client servicing facility, the information base, as well as the team of analysts.

Check Your Progress 2

Mention the names of credit rating agencies operating in India.

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13.9 CREDIT RATING – A CASE STUDY OF CRISIL

The section now discusses the rating process adopted and CRISIL's approach to financial ratios.

13.9.1 Rating Process

The rating process starts with a rating request from the issuer followed by the signing of the rating agreement. CRISIL employs a multi-layered decision-making process while assigning a rating. It delegates a team of at least two analysts, who interact with the company's management.

Management Meeting: CRISIL strongly believes that the interests of investors are best served if an open dialogue is maintained with the issuer. Engaging the issuer in a direct dialogue not only enables CRISIL to incorporate non-public information in a rating decision but also allows the rating to be forward looking. The topics discussed during the management meeting are wide-ranging and include the issuer's competitive position, strategies, financial policies, historical performance and near and long-term financial and business outlook. Equal importance is placed on the issuer's business risk profile and strategies apart from reviewing the financial data.

CRISIL's ratings are not based on the issuer's financial projections or its view of what the future may hold. Rather, the ratings are based on the analysts' assessment of the issuer's prospects. The management's financial projections are, however, a valuable input in the rating process as they indicate its plans for the future, how the management assesses the company's challenges and how it plans to deal with problems.

From the initial management meeting to the assignment of the rating, the entire rating process normally takes two to four weeks.

A detailed flow chart of CRISIL's rating process is as under:

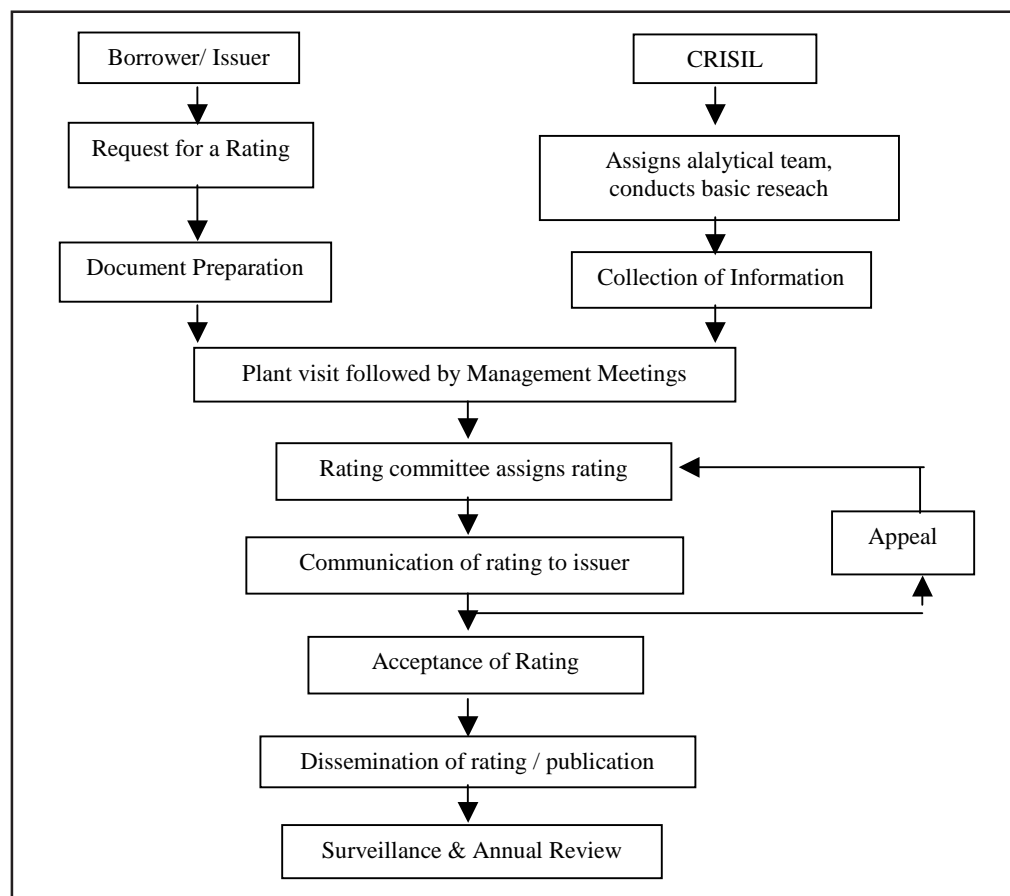


Figure 13.1

Confidentiality: A substantial portion of the information set forth in company presentations is highly sensitive and is provided by the issuer to CRISIL only for the purpose of arriving at the ratings. The Ratings group maintains such information in strict confidence and it is not used for any other purpose.

Advice to Issuer: When the committee has arrived at the rating decision, it is first communicated to the issuer and subsequently, the rationale for the rating is forwarded. It is important that the issuer understands the critical analytical factors that the committee focused on in determining the rating outcome, it has the opportunity to appeal against the decision. Additional facts or data may be submitted to the analyst for this based on which a note is put up before the Rating Committee. Issuers appealing against a rating decision should provide new or additional information, which is material to the appeal and specifically addresses the concerns expressed in the rating rationale. Upon submission of this additional information, the Rating Committee is re-convened. At this stage, the rating may or may not change. The client has a right to reject the rating and the whole exercise is kept confidential.

Publication: Once a final rating is assigned and the issuer has accepted the same, it is disseminated to CRISIL's subscriber clientele as well as to the local and international news media. In addition, CRISIL publishes detailed analytical reports and a range of information products, which subscribers find useful in understanding the credit risk profile of borrowers.

Surveillance and Annual Review: After a rating has been assigned, CRISIL monitors the issuer's on-going performance and the economic environment in which it operates. Surveillance also enables analysts to stay abreast to current developments, discuss potential problem areas and be apprised of any changes in the issuer's plan. The primary analyst maintains periodic contact with the issuer and ensures that financial and other information is regularly shared with CRISIL. All ratings are under continuous surveillance and even where there is no obvious reason to change the rating, CRISIL has a policy of conducting a formal annual review, which involves a meeting with the issuer. These review meetings focus on developments over the period since the last meeting and an outlook for the coming year and incremental data is sought from the issuer.

In some instance, a credit rating may be placed on "Rating Watch". A Rating watch listing highlights an emerging situation, which may materially affect the profile of a rated entity and can be designated positive, developing, or with negative implications. Following a full review, the rating may either be reaffirmed or changed. Instances where an entity's rating may be placed on Rating Watch include the announcement of a merger or acquisition or the occurrence of an event that could result in a substantial change in the issuing entity's risk profile.

13.9.2 CRISIL's Approach to Financial Ratios

The analysis of a company's financial ratios is a core element of CRISIL's rating process. Hence, it is important to understand CRISIL's approach to analyzing various financial ratios for manufacturing companies and the formulae for computing these ratios. While the broad philosophy behind the evaluation is the same across sectors, the ratios used in sectors such as financial services are different from those used in the manufacturing sector and as such, are not discussed here.

In CRISIL's view, a manufacturing company's overall financial health is captured to a large extent by eight primary financial parameters. These are capital structure, interest coverage, debt service coverage, net worth profitability margin, return on capital employed, current ratio and net cash accrual to debt ratio. Although CRISIL looks at

other financial ratios (such as asset turnover ratio, inventory turnover ratio, dividend pay-out, debtor position, return on net worth and the like), these eight parameters broadly define a company's overall financial position. Median values of these key ratios across rating categories are used by CRISIL as a part of its quantitative assessment of financial profile.

The credit rating of a debt program is not determined solely on the basis of financial ratios; several other aspects play an equally important role in determining the credit rating. These include business risk evaluation, operational efficiencies, management risk evaluation, financial flexibility, support from a strong parent if any, credit enhancements provided for rated debt, etc. CRISIL also takes into consideration risks associated with project implementation, if any large projects are undertaken by the entity being rated. The financial ratios and medians indicated here are used only as one of the input of determining the financial risk rating.

The relative importance of the ratios may vary, on a case-specific basis and CRISIL does not adopt a mathematical approach in translation these ratios into a financial risk assessment. Instead, a meaningful subjective assessment is made regarding the importance of each ratio on a case-specific basis while assessing the financial risk. Presented below is a detailed discussion on each of these ratios.

Capital Structure: A company's capital structure commonly referred to as gearing, leverage or the debt/equity ratio, reflects the extent of borrowed funds in the company's funding mix. The equity component in a company's capital employed has no fixed repayment obligations and returns to the investor depend on the profits made by a company. Debt on the other hand, carries specified obligations of interest and principal, which will have to be necessarily honored, irrespective of the vicissitudes of the business.

A company's funding mix, which denotes the gearing level, is generally a function of its management's strategy. Although a high dependence on borrowed funds (and thus a high gearing level) may result in higher return on shareholder's funds, it translates into high fixed costs in terms of the interest burden, which adversely affects the company's financial position. In fact, in situations of weak business performance, a high gearing can aggravate the company's deterioration in profitability, resulting in pressures on its ability to repay its various debt obligations. Thus, gearing denotes the extent of the financial risk taken by a company.

Since a credit rating is meant to inform investors about an issuer's ability to ensure the timely fulfillment of the rated debt obligation, a high financial risk in the form of high gearing has an adverse impact on the company's credit rating. At the same time, the rating depends on the mix of business and financial risks born by a company. For instance, companies in cyclical industries implying a high business risk cannot afford to have a high gearing level.

The ratio used to compute gearing is:

Gearing = Total debt/Tangible net worth

CRSIL includes all forms of debt such as short-term and long-term debt, off-balance sheet liabilities, preference shares, subordinated debt, optionally convertible debentures, deferred payment credit and bills discounted in 'total debt'.

CRISIL adopts a conservative approach in determining the 'tangible net worth' of a company. So it excludes revaluation reserves, intangible assets, goodwill, miscellaneous expenditure not written off and the like from the reported net worth. Instruments such as compulsorily convertible preference shares, share application money and fully-convertible debentures are treated as part of the 'tangible net worth'. CRISIL also

excludes provision for deferred tax liability (DTL) from calculation of tangible net worth. As DTL represents timing differences in tax on book profits vs. profits computed under the income tax act, it may eventually reverse and therefore constitutes a liability. Though the timeframe for such reversal is uncertain, CRISIL believes the excluding such external liability is a prudent practice.

It should be noted that what is regarded as debt and equity for the purpose of ratio calculations is not always simple. In the case of hybrid securities, the classification is based on their specific characteristics.

The median values of gearing ratio across various rating categories are given below:

Rating Category	Median for Gearing
AAA	0.23
AA	0.51
A	0.78
BBB	1.74

These median values are not applied mechanically but are intended to convey ranges that characterize levels of credit quality as represented by the rating categories. In other words, it does not mean that a company with a gearing that is less than 0.23 will always get a 'AAA' rating just as it does not imply that a company with a gearing that is higher than 0.23 will never qualify for a 'AAA' rating. Moreover, strengths evidenced in one financial measure can offset, or balance, relative weaknesses in another.

Interest Coverage: Interest cover is defined as the “extent of cushion or comfort that a company has in meeting its interest obligations from any surplus generated from its operations”. The interest coverage ratio links a company’s financial charges to its ability to service them from cash generated out of its operations.

The interest coverage ratio’s importance in the rating process arises from the fact that the rating reflects the firm’s ability to fulfill its repayment obligations in a timely manner. This implies that the company should be generating adequate income so as to be able to meet its interest obligations. Companies with a higher interest coverage ratio are more likely to meet their debt obligations on time.

Interest coverage is a consequence of a company’s profitability as well as its level of gearing and cost of borrowings. For businesses that have an intrinsically low level of profit margins, a high interest burden, either on account of a high gearing level or high cost of funds, or both, may have an adverse impact on the rating.

The ratio used to compute this parameter is as follows:

$$\text{Interest Cover} = \frac{\text{Profit before depreciation, interest and tax (PBDIT)}}{\text{Interest and finance charges}}$$

‘Interest and finance charges’ refer to the total interest payable by the company during the financial year under assessment, which also includes the interest component of lease liabilities and non-funded capitalized interest.

The median values for interest cover for various rating categories are given below. CRISIL observes a three-year moving average interest coverage ratio for this purpose to incorporate stability in the financial risk assessment and to avoid the possibility of sudden short-term deviations adversely impacting the rating.

Rating Category	Median for Interest cover
AAA	12.02
AA	5.42
A	3.43
BBB	1.70

Debt-Service Coverage Ratio (DSCR): The DSCR indicates a company's ability to service its debt obligations, both principal as well as interest, from text-book definition of DSCR assumes debt repayments to have a higher priority over working capital expansion. In practice, however, such a priority could not be clearly established. Hence, CRISIL uses a modified version of this ratio, namely the cash debt service coverage ratio (CDSCR). This ratio assumes that 25% of the incremental net working capital will be funded through cash accruals prior to meeting debt obligations.

According to the simple definition of DSCR, a ratio of greater than one implies that a company would be able to service its debt obligations, including principal as well as interest, from accruals generated in a year. On the other hand, a ratio of less than one might appear unfavorable, as it would imply that cash accruals of one year are insufficient to meet all of the company's immediate debt obligations. CRISIL, however, views a low DSCR in conjunction with the company's financial flexibility on account of the following reasons:

- Debt taken for a project is typically of a lower tenure than the payback period of the project due to the poor appetite for long-tenor papers in the Indian market. This implies that the company would have to refinance the maturing debt with fresh debt and not necessarily out of cash accruals.
- A growing company would constantly require debt for its business requirements. The company may not use all its cash generation to repay its debt obligations and instead, plough it back to enhance its business. This is particularly true for Indian companies that are still in a growing stage compared to their counterparts in the developed world.

CRISIL recognizes that companies need to refinance debt and hence a low DSCR may not necessarily have an unfavorable impact on a rating. Rather the company's ability to replace its existing debt with fresh funds, either in the form of equity or debt, assumes significance from the rating point of view. The financial flexibility available to the company to access such funds, either from the equity or debt markets, is influenced by factors such as a low gearing, strong parentage, healthy operating cash flows and the like.

The equation for calculating CDSCR is as follows:

$$\text{CDSCR} = \frac{\text{Profit tax} + \text{Depreciation} + \text{Interest charges} - 25\% \text{ of incremental NWC}^*}{\text{Debt payable within one year} + \text{Interest and finance charges}}$$

Q. Incremental net working capital over the previous year

'Debt payable within one year' primarily constitutes the current portion of long-term debt, i.e. the portion of long-term debt that matures during the current year, and the short-term obligations (excluding bank borrowings) which are due for maturity in the next one-year period.

The median values for CDSCR across various rating categories are:

Rating Category	Median for CDSCR
AAA	4.98
AA	2.65
A	1.69
BBB	0.98

Net Worth: A company's net worth represents owner's capital that does not have any fixed repayment or servicing obligation. It therefore provides a cushion from any shocks or adverse business conditions. As explained earlier, CRISIL calculates "tangible net worth" after adjusting intangible assets, revaluation reserves, etc. The tangible net worth therefore represents true equity funding which is available for absorbing losses or temporary financial problems.

The median values for net worth across various rating categories are as follows:

Rating Category	Median for Net-worth
AAA	Rs. 20.80 billion
AA	Rs. 2.09 billion
A	Rs. 0.84 billion
BBB	Rs. 0.67 billion

Profitability Margin: Profitability margins broadly indicate both a company's competitive position in its industry as well as the industry's characteristics in terms of the extent of competition, pricing flexibility and the like. Profitability margins, observed over a period of time, also indicate the sustainability of the cash accruals that a company is currently reporting.

Profit after tax to operating income (PAT margin) is more important from a ratings point of view than other ratios like operating profit before interest, depreciation and tax/operating income (OPBDIT) margins or operating profit before tax/operating income (OPBT) margins. While other ratios tend to be more influenced by industry-specific characteristics and hence, do not lend themselves to comparison across industries, PAT margins offset, to some extent, the effect of business risk and the corresponding financial risk. When used for evaluation low-value-added industries like trading, however, PAT margins too display this lacuna. This is appropriately factored in while analyzing such low-value added industries.

The PAT margin is defined as:

$$\text{PAT margin} = \text{Profit after tax} / \text{Operating income}$$

CRISIL uses 3-year moving average PAT margins. The median values for three-year average PAT margins, across various rating categories, are:

Rating Category	Median for PAT margins
AAA	11.68%
AA	7.60%
A	4.63%
BBB	0.18%

Return on Capital Employed (ROCE): The ROCE indicates the returns generated by a company on the total capital employed in the business. This ratio is unaffected by the

extent of leveraging of a company and thus, comprehensively indicates how well the company is run by its managers. A consistently low ROCE affects the company's viability in the long run. CRISIL uses 3-year moving average ROCE.

ROCE is computed as:

$$\text{ROCE} = \frac{\text{Profit before interest and tax (PBIT)}}{\text{Total debt + Tangible networth + Deferred tax liability}}$$

The median values for 3-year average ROCE are indicated below:

Rating Category	Median for ROCE
AAA	20.10%
AA	18.48%
A	13.83%
BBB	9.51%

Net cash accruals to debt: This ratio indicates the level of cash accruals from the company's operations in relation to its total outstanding debt. Looked at another way, this ratio is a reflection of the number of years that a company would take to repay all its debt obligations, at its current level of cash generation. The ratio is computed as:

$$\text{NCA/TD} = \frac{\text{PAT} - \text{Dividend} + \text{Depreciation}}{\text{Total debt}}$$

The median values for this ratio, across various rating categories, are given below:

Rating Category	Median for NCA/Total Debt
AAA	59%
AA	35%
A	21%
BBB	11%

Current Ratio: The current ratio indicates a company's overall liquidity position and is widely used by banks for assessing working capital credit decisions. The current ratio broadly indicates the matching profiles of the short- and long-term assets and liabilities. A healthy current ratio indicates that all long-term assets and a portion of the short-term assets are funded with long-term liabilities which will ensure adequate liquidity for the company's normal operations.

The current ratio is computed as:

$$\text{Current ratio} = \frac{\text{Current assets (including marketable securities)}}{\text{Current liabilities (including CPLTD)}}$$

Where CPLTD is the current portion on long-term debt.

The median values for this ratio, across various rating categories, are as follows:

Rating Category	Median for Current Ratio
AAA	1.55
AA	1.50
A	1.18
BBB	0.92

As mentioned earlier, while these ratios are crucial in analyzing a company's credit quality, they alone do not capture its financial health in its entirety. CRISIL also observes several other financial parameters over a number of years as well as the company's estimated future financial performance and financial flexibility while assessing its overall financial risk. Moreover, the final rating assessment is a much more complex exercise and involves an assessment of not just the financial risk but also of other key risk elements such as business risk, project risk, and parentage and management risk.

Check Your Progress 3

1. Fill in the blanks:
 - a. In India, the was set up as the first credit rating agency in 1987, followed by in 1991, and in 1994.
 - b. Credit rating is a indicator of the current opinion of the relative capability of the issuer to service its in a timely fashion, with specific reference to the being rated.
 - c. Ratings in India are initiated by a from the prospective issuer that spells out the of the rating assignment.
 - d. The investor uses the rating to assess the risk level of the instrument and compares the rate of return with his rate of return (for the particular level of risk) to optimize his
 - e. For the investor, the rating is a, communicating the relative ranking of the probability for a given fixed income investment in comparison with other rated instruments.
2. State whether the following are true or false:
 - a. CRISIL employs a multi-layered decision-making process while assigning a rating.
 - b. In CRISIL's view, a manufacturing company's overall financial health is captured to a large extent by eight primary financial parameters.
 - c. According to the existing empirical data, a rating of 'A' and above on Standard & Poor's (S&P) global scale would tend to 'map' to a 'AAA' rating on the CRISIL scale while a 'BBB' category rating on the global scale would tend to map to the 'AA' category on the CRISIL scale.
 - d. Where the parent company provides no explicit guarantee for the rated debt, CRISIL's rating would still depend solely on its assessment of the credit quality of the guarantor.
 - e. Since a credit rating is meant to inform investors about an issuer's ability to ensure the timely fulfillment of the rated debt obligation, a high financial risk in the form of high gearing has an adverse impact on the company's credit rating.

13.9.3 Translating Global Scale Ratings into CRISIL's Scale

In an increasingly globalized investment environment one of the issues that Indian investors frequently face is the correlation between the rating symbols of domestic rating agencies and of global rating agencies. CRISIL faces the same issue while assessing the credit quality of instruments that carry an element of foreign credit risk. In such instances

CRISIL's assessment of the foreign credit risk involves an element of 'translation', whereby the foreign company's rating on the global rating scale is mapped onto CRISIL's own rating scale. CRISIL's methodology for such a translation is based on the "first principles" of correlating the 'default rates' of both scales. This is backed by CRISIL's extensive in-house research efforts and an over 10-year-old rating database.

According to the existing empirical data, a rating of 'A' and above on Standard & Poor's (S&P) global scale would tend to 'map' to a 'AAA' rating on the CRISIL scale while a 'BBB' category rating on the global scale would tend to map to the 'AA' category on the CRISIL scale. As a direct outcome of this translation, global rating changes by international rating agencies may, at times, result in a rating change of domestic companies that carry an element of foreign credit risk.

The need for such a translation has also gained importance as multinationals have steadily increased their share in CRISIL's portfolio from less than 7% in 1995 to around 17% in 2002. CRISIL's ratings of these entities are influenced, in varying degrees, by the credit quality of their parents as indicated by their outstanding credit ratings from global rating agencies like S&P. In CRISIL's analytical framework, these international ratings are used while rating the debt issued by the related Indian entities, both when an explicit guarantee is provided by the MNC parent and even when it is not.

In cases where the parent company provides an explicit guarantee for the rated debt, CRISIL's rating would depend solely on its assessment of the credit quality of the guarantor. In instances where there is no explicit guarantee, CRISIL takes a view on the stand-alone rating of the Indian entity and the credit quality of the MNC parent and makes an assessment of the relationship's strength determines the extent to which the Indian entity's stand-alone rating would be "notched-up" to reflect the credit strength of its parent. In both instances, the MNC's credit quality is assessed after 'translating' its rating on the global scale onto CRISIL's scale.

13.10 LET US SUM UP

The origins of credit rating can be traced to the 1840's. Following the financial crisis of 1837, Louis Tappan established the first mercantile credit agency in New York in 1841.

In India, the Credit Rating & Information Service of India Ltd. (CRISIL) was set up as the first credit rating agency in 1987, followed by ICRA Ltd. (formerly known as Investment Information and credit Rating Agency of India Limited) in 1991, and Credit Analysis and Research Limited (CARE) in 1994.

Credit rating is a symbolic indicator of the current opinion of the relative capability of the issuer to service its debt obligation in a timely fashion, with specific reference to the instrument being rated.

The primary benefit of rating is to provide *guidance* to investors/creditors in determining a credit risk associated with a debt instrument/credit obligation.

As the credit rating agencies are an integral part of modern capital markets their assessments on sovereign and corporate entities have been increasingly used as benchmarks by regulators and investors.

In India, there are three major credit rating agencies that operate. They are: CRISIL – Credit Rating and Information Services of India Ltd., ICRA – Investment Information and Credit Rating Agency of India Ltd. and CARE – Credit Analysis and Research Limited. In addition, there are two more credit rating agencies: Duff & Phelps Credit Rating India Private Ltd. (DCR India) and ONICRA Credit Rating Agency of India Ltd.

13.11 LESSON END ACTIVITY

Write a study note the concept and objectives of credit rating, mentioning the agencies involved in credit rating operations in India.

13.12 KEYWORDS

Credit Bureau: It is an agency which collects and sells information about the creditworthiness of individuals.

Credit Risk: It is the risk of loss due to a debtor's non-payment of a loan or other line of credit (either the principal or interest coupon or both).

Credit History: Credit history or credit report is, in many countries, a record of an individual's or a company's past borrowing and repaying, including information about late payments and bankruptcy.

Credit Score: A credit score is a numerical expression based on a statistical analysis of a person's credit files, to represent the creditworthiness of that person, which is the likelihood that the person will pay his or her debts. A credit score is primarily based on credit report information, typically sourced from credit bureaus/credit reference agencies.

13.13 QUESTIONS FOR DISCUSSION

1. Define the term 'credit rating' and how is it used as an indicator for making investment decisions?
2. Which are the credit rating agencies in operation in India?
3. What is the process employed by the credit rating agencies for assigning a rating to a financial instrument?
4. Explain the concept of credit rating.
5. Briefly mention the factors leading to the growing importance of the credit rating system in India in the last few years.
6. 'The rating is an information service, communicating the relative ranking of the default loss probability for a given fixed income investment in comparison with other rated instruments.' Elucidate.
7. Mention four global rating agencies.
8. Is it obligatory on the part of the credit rating agency to monitor the accepted ratings over the tenure of the rated instrument? Discuss.
9. 'If the rating is not acceptable to the issuer, he has a right to appeal for a review of the rating.' Comment.
10. Discuss the factors contributing to the success of the rating system in India.
11. Discuss some important ratios used by CRISIL in its rating process.
12. 'Ultimately, credit rating is an opinion'. Comment.

Check Your Progress: Model Answers

CYP 1

Some of the factors leading to the growing importance of the credit rating system in many parts of the world over the last two decades are:

1. the increasing role of capital and money markets consequent to disintermediation;
2. increased securitization of borrowing and lending consequent to disintermediation;
3. globalization of the credit market;
4. the continuing growth of information technology;
5. the growth of confidence in the efficiency of the market mechanism;

CYP 2

In India, there are three major credit rating agencies that operate. They are:

- CRISIL – Credit Rating and Information Services of India Ltd.
- ICRA – Investment Information and Credit Rating Agency of India Ltd.
- CARE – Credit Analysis and Research Limited.

CYP 3

1. (a) CRISIL, ICRA, CARE; (b) symbolic, debt obligation, instrument; (c) mandate, terms; (d) offered, expected, risk-return preference; (e) information service, default loss
2. a. T, b. T, c. T, d. F, e. T.

13.14 SUGGESTED READINGS

Sudhindra Bhat, *Security Analysis and Portfolio Management*, Excel Books, Delhi.

Preeti Singh, *Security Analysis and Portfolio Management*.

V.A. Avadhani, *Investment Management*.

M.Y. Khan, *Financial Services*.

V.K. Bhalla, *Financial Services*.

G.S. Batra, *Financial Services and Markets*.

Mahana Rao, *Financial Services, Cases and Strategies*.

L. M. Bhole, *Financial Markets and Services*.

CRISIL Rating Symbols

CRISIL assigns ratings only to rupee denominated debt instruments. Instruments which have the same rating are of similar but not identical investment quality. This is because the number of rating categories is limited and hence cannot reflect small differences in the degree of risks.

For preference shares, the letters 'pf' are prefixed to the debenture rating symbols. The fixed deposit rating symbols commence with 'F' and the short-term instruments use the letter 'P' from the concept of 'Prime'.

The term 'debentures' includes all securities with an original maturity of more than one year. The term 'short-term instruments' refers to securities with an original maturity of up to one year.

CRISIL Rating Symbols for Debentures

High investment grades: AAA (Triple A) * Highest Safety – Debentures rated 'AAA' are judged to offer highest safety of timely payment of interest and principal. Though the circumstances providing this degree of safety are likely to change, such changes as can be envisaged are most unlikely to affect adversely the fundamentally strong position of such issues.

AA (Double A) * High Safety – Debentures rated 'AA' are judged to offer high safety of timely payment of interest and principal. They differ in safety from 'AAA' issues only marginally.

Investment grades: A * Adequate Safety – Debentures rated 'A' are judged to offer adequate safety of timely payment of interest and principal. However, changes in circumstances can adversely affect such issues more than those in the higher rated categories.

BBB (Triple B) * Moderate Safety – Debentures rated 'BBB' are judged to offer moderate safety of timely payment of interest and principal for the present; however, changing circumstances are more likely to lead to a weakened capacity to pay interest and repay principal than for debentures in higher rated categories.

Speculative grades

BB (Double B) * Inadequate Safety: Debentures rated 'BB' are judged to carry inadequate safety of timely payment of interest and principal; while they are less susceptible to default than other speculative grade debentures in the immediate future, the uncertainties that the issuer faces could lead to inadequate capacity to make timely interest and principal payments.

B * High Risk: Debentures rated 'B' are judged to have greater susceptibility to default; while currently interest and principal payments are met, adverse business or economic conditions would lead to lack of ability or willingness to pay interest or principal.

C * Substantial Risk: Debentures rated 'C' are judged to have factors present that make them vulnerable to default; timely payment of interest and principal is possible only if favorable circumstances continue.

D * Default: Debentures rated 'D' are in default and in arrears of interest or principal payments or are expected to default on maturity. Such debentures are extremely speculative and returns from these debentures may be realized only on reorganization or liquidation.

NM * Not Meaningful: Instruments rated 'N.M' are in default or are expected to default on maturity or are vulnerable to default. Such instruments have factors present in them, which render the rating outstanding meaningless. Such instruments are extremely speculative and returns from these instruments may be realized only on reorganization or liquidation.

Note:

1. CRISIL may apply '+' (plus) or '-' (minus) signs for ratings from 'AA' to 'C' to reflect comparative standing within the category.
2. The contents within parenthesis are a guide to the pronunciation of the rating symbols.
3. Preference share rating symbols are identical to debenture rating symbols except that the letters 'pf' are prefixed to the debenture.

CRISIL Rating Symbols for Fixed Deposits Investment Grades

FAAA (F Triple A) * Highest Safety: This rating indicates that degree of safety regarding timely payment of interest and principal is very strong.

FAF (F Double A) * High Safety: This rating indicates that the degree of safety regarding timely payment of interest and principal is strong. However, the relative degree of safety is not as high as for fixed deposits with 'FAAA' rating.

FA * Adequate Safety: This rating indicates that the degree of safety regarding timely payment of interest and principal is satisfactory. Changes in circumstances can affect such issues more than those in the higher rated categories.

Speculative Grades

FB * Inadequate Safety: This rating indicates inadequate safety of timely payment of interest and principal. Such issues are less susceptible of default than fixed deposits rated below this category, but the uncertainties that the issuer faces could lead to inadequate capacity to make timely interest and principal payments.

FC * High Risk: This rating indicates that the degree of safety regarding timely payment of interest and principal is doubtful. Such issues have factors at present that make them vulnerable to default; adverse business or economic conditions would lead to lack of ability or willingness to pay interest or principal.

FD * Default: This rating indicates that the issue is either in default or is expected to be in default upon maturity.

NM * Not Meaningful: Instruments rated 'NM' are in default or are expected to default on maturity or are vulnerable to default. Such instruments have factors present in them, which render the rating outstanding meaningless. Such instruments are extremely speculative and returns from these instruments may be realized only on reorganization or liquidation.

Note:

1. CRISIL may apply '+' (plus) or '-' (minus) signs for ratings from FAA to FC to indicate the relative position within the rating category of the company raising fixed deposits.
2. The contents within parenthesis are a guide to the pronunciation of the rating symbols.

CRISIL Rating Symbols for Short Term Instruments

- P-1 This rating indicates that the degree of safety regarding timely payment on the instrument is very strong.
- P-2 This rating indicates that the degree of safety regarding timely payment on the instrument is strong; however, the relative degree of safety is lower than that for instruments rated 'P-1'.
- P-3 This rating indicates that the degree of safety regarding timely payment on the instrument is adequate; however, the instrument is more vulnerable to the adverse effects of changing circumstances than an instrument rated in the two higher categories.
- P-4 This rating indicates that the degree of safety regarding timely payment on the instruments is minimal and it is likely to be adversely affected by short-term adversity or less favorable conditions.
- P-5 This rating indicates that the instrument is expected to be in default on maturity or is in default.

Note:

CRISIL may apply '+' (plus) sign for ratings for 'P-1' to 'P-3' to reflect a comparatively higher standing within the category.

LESSON

14

VENTURE CAPITAL

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 - 14.12.8 India Co Innovation Center
 - 14.12.9 Indian Venture Capital and Private Equity Association
 - 14.12.10 Mantra Consultants
 - 14.12.11 Nova Star Funds
 - 14.12.12 Techcap India Private Limited
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 - 14.12.14 The Aavishkaar India Micro Venture Capital Fund
 - 14.12.15 The View Group
 - 14.12.16 UTI Venture Funds
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14.0 AIMS AND OBJECTIVES

After studying this lesson, you should be able to:

- Understand the meaning and features of venture capital
- Learn about the stages of venture capital financing
- Attempt on the venture capital financing process
- Have an understanding of the disinvestment mechanism
- Know about the difference between the venture capital and conventional funding
- Learn about the venture capital schemes and legal aspects relating to them
- Know about the agencies involved in providing the venture capital

14.1 INTRODUCTION

The advent of knowledge economy and the rise of entrepreneurship as a driving force of business has been a paradigm shift in business, India has witnessed in the last few years. The venture capital comes in as a method of financing these entrepreneurs, who have defied traditional methods of funding. All they have is an idea and venture capitalists build that dream into a thriving business. Venture capital rests on the basic tenet of a business plan, which can propel the firm into a high growth path.

In venture capital, the focus is on a narrow market segment, namely, the financing of new start-up projects and expansion projects where the entrepreneur advances into new stages in the production and distribution process. In the market segment, venture capital investments frequently concentrate on new operations such as the commercialization of new technologies and innovative services.

Venture capital can be defined as investment in small or medium-sized unlisted companies with the investors participating, in some degree, in the management process. A venture capital firm is a financial intermediary between investors looking for high potential returns and entrepreneur who need some institutional capital as they are not yet ready or able to go to the public for raising finance. Venture capitalists are sources of expertise for the companies they finance.

In India, venture capital is of fairly recent origin. They commenced operations in the late 1980s. The initial steps for the institutionalization of venture capital were taken by the government. In November 1988, the Government of India announced the venture capital guidelines. Institutions conforming to the guidelines were entitled to tax relief on capital gains under the Indian Income Tax Act.

14.2 VENTURE CAPITAL FINANCING

Venture Capital funding is different from traditional sources of financing. Venture capitalists finance innovation and ideas that have potential for high growth but are also high risk. Apart from finance, venture capitalists provide the requisite support in other areas—networking, management and marketing. In the global venture capital industry, this very blend of risk financing and hand holding helps to focus on value creating ideas. This helps the venture capitalists to drive the industry through ownership of the levers of control in return for the provision of capital, skills, information and complementary resources.

The venture capital industry has four players, viz:

- Entrepreneurs, who need funding
- Investors, who want high returns
- Investment bankers, who need companies to sell
- Venture capitalists, who make money for themselves by making a market for the other three

Venture capital is money provided by professionals who invest alongside management in young, rapidly growing companies that have the potential to develop into significant economic contributors. They mitigate the risk of investing by developing a portfolio of young companies and also co-investing with other professionals in the same line of business.

A venture capitalist is an equity partner who is driven by the desire of wealth maximization. Generally the venture capitalists perform the following functions.

- Finance new and rapidly growing companies
- Purchase equity securities
- Assist in the development of new products or services
- Add value to the company through active participation
- Take higher risks with the expectation of higher rewards
- Have a long-term orientation

Check Your Progress 1

1. Define venture capital.

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.....

2. Mention the players involved in venture capital industry.

.....
.....

14.3 DIFFERENCE BETWEEN VENTURE CAPITAL AND CONVENTIONAL FINANCING

The venture capital investment helps for the growth of innovative entrepreneurship in India. Venture capital has developed as a result of the need to provide non-conventional, risky finance to new ventures based on innovative entrepreneurship. Venture capital is an investment in the form of equity, quasi-equity and sometimes debt-straight or conditional, made in new or untried concepts, promoted by a technically or professionally qualified entrepreneur. Venture capital means risk capital. It refers to capital investment, both equity and debt, which carries substantial risk and uncertainties. The risk envisaged may be very high may be so high as to result in total loss or very less so as to result in high gains.

The notion of risk encompasses a wide range of meanings across different disciplines, notably the social sciences and business administration fields. Within academic finance, the focal point of traditional (or standard) finance researchers involves the objective nature of risk. This traditional finance viewpoint encompasses a quantitative measure of risk (e.g., beta, standard deviation) which is based on a macro-level assessment of risk incorporating all the participants in the financial markets. A fundamental assumption in traditional finance is the linear (positive) relationship between risk and return. In contrast, behavioral finance academics provide an extensive examination in which risk is based on a combination of both subjective and objective factors. The behavioral finance perspective incorporates a qualitative aspect of risk (e.g., the influence of cognitive issues and emotional factors) that is highly significant if on a micro level it is acknowledged that the decision maker is an essential aspect of defining and understanding risk. An emerging topic of interest and exploration by researchers in the behavioral finance camp has been the assessment of an inverse (negative) relationship between perceived risk and expected return (perceived gain). Ultimately, financial and investment risk is a situational, multidimensional judgment process that is dependent on the specific characteristics of the investment product or financial service.

Traditional debt finance is typically unsuitable for a start-up company. This is because the company often requires large amounts of money to be spent early to establish the business before a revenue stream can be established and the company may not be able to make the regular interest payments demanded by debt finance and may not have the assets necessary to secure a loan.

The following sets out the relative differences between debt and venture capital financing from the investors perspective:

Debt Financing

- The investor's source of return is interest
- The return on investment is 5-10% per annum.
- The protection for the investor is the mortgage over the assets of the company.
- The risk is low (as secured assets can be sold if the company defaults).
- The consideration for investors is the adequacy of collateral.
- The time before investor generates income is usually one month.
- The means of exit for the investor is a loan repayment.
- The company borrows money which it has to repay later, with interest.

Venture Capital Financing

- In return for the funds, the investor receives a percentage stake in the capital of the company.
- The investor's source of return is the growth in the value of the investor's shares.
- An internal rate of return (IRR) of 35-40% is expected.
- Protection for the investor is board seats, preferential shareholder rights, put/call options.
- The risk is high to very high.
- The considerations for the investor is the management team and market potential of the company.
- The time before investor generates income is typically 2-6 years.
- Means of exit for investor is IPO or trade sale.

Venture Capital involves the provision of funding, by way of an equity or debt investment, to rapidly growing companies. Venture capital investors not only provide capital but also offer value added services in the form of strategic advice, introducing alliance networks and negotiating exit strategies.

Venture capital investments tend to have the following key characteristics:

- new marketing ideas, innovative technology and new product application potential;
- a significant, although not necessarily controlling, participation by the venture capitalist in the company's management;
- and professional;
- products which have passed through the early prototype stage and are adequately protected by patents, copyright or confidentiality arrangements;
- businesses with the potential to mature within a few years to the point of an IPO or trade sale;

- opportunities for the venture capitalist to make a contribution beyond the capital investment.

14.4 ANGELS

Angels are important links in the entire process of venture capital funding. An angel is an experienced industry-bred individual with high net worth. They provide the required support to the enterprise mostly at a very early stage - sometime even before commercialization of the product or service offering.

The “first round” of financing for risky investments is provided by Angels. The investments are risky because they are a young/start-up company or because their financial track record is unstable. The venture capital financing is typically used to prepare the company for “second round” financing in the form of an initial public offering (IPO). An example of a company requiring the first round of financing would be to

- develop a new product line, for example, a new drug which would require significant research & development funding or
- make a strategic acquisition to achieve certain levels of growth & stability.

It is important to choose the right Angel because they will be involved in all major decisions and will also sit on the board of directors, often for the duration of their investment. They will also assist in getting “second round” financing. When choosing an ‘Angel’, it is imperative to consider their experience in a relevant industry, reputation, qualifications and track record.

Angels are people with less money orientation, but who play an active role in making an early-stage company work. They are people with enough hand-on experience and are experts in their fields. They understand the field from an operational perspective. An entrepreneur needs this kind of expertise. He also needs money to make things happen. Angels bring both to the table of an entrepreneur.

14.5 VENTURE CAPITAL FINANCING IN INDIA

Traditionally, the role of venture capital was an extension of the development financial institutions like IDBI, ICICI, SIDBI and state Finance Corporations (SFCs). The first origins of modern venture capital in India can be traced to the setting up of a Technology Development Fund (TDF) in the year 1987-88. TDF was meant to provide financial assistance- to innovative and high-risk technological programs through the Industrial Development Bank of India. This measure was followed up in November 1988, by the issue of guidelines by the (then) Controller of Capital Issues (CCI). These stipulated the framework for the establishment and operation of funds/companies that could avail of the fiscal benefits extended to them.

The industry’s growth in India can be considered in two phases. The first phase was spurred on soon after the liberalization process began in 1991. That was the year in which the Technical Development and Information Corporation of India (TDICI, now ICICI ventures) was set up, soon followed by Gujarat Venture Finance Limited (GVFL). Both these organizations were promoted by financial institutions. Sources of these funds were the financial institutions, foreign institutional investors or pension funds and high net-worth individuals. Though an attempt was also made to raise funds from the public and fund new ventures, the venture capitalists had hardly any impact on the economic scenario for the next eight years.

However, it was realized that the concept of venture capital funding needed to be institutionalized and regulated. This funding requires different skills in assessing the proposal and monitoring the progress of the fledging enterprise. In 1996, the Securities and Exchange Board of India (SEBI) came out with guidelines for venture capital funds has to adhere to, in order to carry out activities in India. This was the beginning of the second phase in the growth of venture capital in India. The move liberated the industry from a number of bureaucratic hassles and paved the path for the entry of a number of foreign funds into India. Increased competition brought with it greater access to capital and professional business practices from the most mature markets.

The Indian Venture Capital Association (IVCA) is the nodal center for all venture activity in the country. The association was set up in 1992 and over the last few years, has built up an impressive database.

14.6 STAGES OF VENTURE CAPITAL FINANCING

There are five stages in venture capital financing.

Stage I: the seed stage, which is the stage of conceptualization or planning.

Stage II: the start-up stage, which is the period of production and the commencement of operations of the firm.

Stage III: the expansion stage, which is the endeavor on part of the organization to get together its marketing act in order to build its image.

Stage IV: the mezzanine stage, which precedes the stage of buy out stage.

Stage V: the buy-out stage, which is the acquisition of a product line or business and consequently marks the end of the funding process.

The stages mentioned above can be clubbed under three stages as discussed below.

14.6.1 Early Stage Financing

This stage covers the seed, start-up and the expansion stage in venture capital financing. The stage starts with seed financing for supporting a concept or idea and for giving it a commercial shape. This is the primary stage connected with research and development (R&D) financing for product development. In the early stage, general awareness is created among the public about the product before launching it and efforts are made to test the product prior to commercialization. The process for the establishment of the business by the entrepreneur is initiated. Seed capital is warranted when there is enough evidence to show that the entrepreneur has used up his own resources in carrying his idea to the point of acceptance and initiating research.

In the start up stage, start up capital for initial production and marketing is provided. The start-up stage involves the launching of a new business that could be based on experiences of industry experts or joint venture partners. Venture capitalists, anticipating capital gains through equity appreciation, are eager to finance such projects, even though traditionally, the start-up stage is exposed to high risk. Research shows that 50% of start-ups fail in the first two years, whereas in the USA, 20% fail in the first two years. However, a careful analysis of the managerial abilities of the firm is carried out before the process of disbursement begins.

Venture capitalists so as to evaluate start-ups should consider the following:

- Well researched and viable business plan along with a study of the relevant market size, growth and market share.

- Potential market for products and services and what are the prospects for this market.
- Who are the competitors and what is their strategic positioning.
- What are the financial projections and the growth prospects of the company in the next three to five years.
- The company's approach to research and development.
- An experienced management team to turn business plans into reality.
- How much of finance is required by the business and from what sources.
- Expectation of higher capital gains through realization via the exit route. Possible exit strategies for the investors need to be researched.

14.6.2 Second Stage Financing

If a start-up is successful and the business has been evaluated as viable, the second round of financing is carried out, for the purpose of expansion. The firm now explores the possibility of establishing itself in the marketplace via promotional exercises, for which it requires funds. The stage is set for second stage financing for working capital and initial expansion. As the indications are that the firm is growing at a satisfactory pace, the path for higher growth and consequently acquisition of the firm via a public offering is set.

14.6.3 Later Stage Financing

Later stage financing is also known as mezzanine financing. This stage refers to a stage of financing when a project has firmly established itself. Most venture capital firms in India and in developed countries prefer investing in the later stage of a project to earn higher gains and immediate income. This stage encompasses management buyout financing for enabling operating group to acquire firm for further growth as well as attain greater control of the firm by increasing the equity base. Later stage financing includes

- Expansion Finance
- Replacement Finance and
- Turnaround financing

Expansion of an undertaking or enterprise may be through an organic growth or by way of acquisition or take-over. For the venture capitalist, there is no difference between the two in terms of investment. In case of organic development the entrepreneur retains maximum equity holding. In case of acquisition, equity holding of the purchaser and the investor would be in the ratio 50:50. The growth and expansion of an enterprise imply larger workshops or factories, new products or even new markets. These can take place either through fresh investment in infrastructure or by mergers and amalgamations with synergic firms.

Replacement Finance aims at enhancing the equity base of an enterprise, resulting in a change of owners of the enterprise. Venture capitalists make finance available by purchasing existing shares from entrepreneurs or their associates to reduce their holdings in the unlisted company.

Turnaround implies the recovery of a business, which is not profitable. The company may be under debt and in need of funds to recover. The venture capitalist plays an active role in such a situation by providing more equity investments and deploying managerial experts.

14.7 METHODS OF VENTURE CAPITAL FINANCING

Venture finance, generally being risk finance, is available in the form of equity or quasi-equity (conditional or convertible loans). A conventional loan, with regular fixed payments, is unsuitable for providing assistance to a new, risky venture. New ventures face difficulties in servicing debt in the early years of their incorporation. This is due to the uncertainties associated with the cash flows. However, this kind of requirement for assistance could still arise in a few cases, especially during the second stage of financing after the venture has taken off.

Venture capital financing in India generally is in two forms: equity and conditional loans. Conventional loan has also been a quite popular source of funds made available by VCFs in India in the past.

14.7.1 Equity

The most common mode of financing by a venture capitalist is through equity. When a venture capitalist contributes equity capital, he retains majority ownership and effective control of the company. The advantage of equity financing is that ownership remains with the venture capitalist and his fortunes are linked with the performance of the company. He becomes entitled to share both in the prosperity and losses of the company.

14.7.2 Conditional Loan

Another unique mode of financing is through a conditional loan, repayable in the form of a royalty after the venture is able to generate sales. Interest is not paid on such loans. Royalty ranging between 2 to 15 per cent is charged in India depending on other crucial factors of the venture such as gestation period, cash-flow pattern, and risk.

In addition to the above two mentioned sources other innovative financing methods are also used. The 'participating debenture' is an example of innovative financial security. This security charges interest in three phases: No interest is charged in the start-up phase. This is the stage before the venture attains operations to a minimum level. After this, a low rate of interest is charged up to a particular level of operation. Once the operations are successful and the venture starts operating completely, a high rate of interest is required to be paid. A change here could be in terms of paying a certain share of the post-tax profits instead of royalty.

Venture capitalists in India also provide venture finance through partially or fully convertible debentures and cumulative convertible preference shares. An active secondary market is needed for the investors to buy these two securities. The cumulative convertible preference shares could be particularly attractive for the Indian market since cumulative convertible preference shareholders do not have a right to vote. They are, however, entitled to voting if they do not receive dividend consecutively for two years.

Check Your Progress 2

What do you understand by 'participating debenture' in the context of venture capital financing?

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.....

14.8 VENTURE CAPITAL FINANCING PROCESS

The activities involved in appraising a venture capital financing process are:

14.8.1 Generating a Deal Flow

In generating a deal flow, the venture capital investor receives a large number of investment opportunities that he would consider investing in. From the proposals received, he selects a few good investments that have a high probability of succeeding. Researches have shown that successful venture capital investors in the USA examine hundreds of business plans in order to make three or four investments in a year.

The deal flow composition and the technique of generating a deal flow can vary from country to country. Venture capitalists are aware that network is crucial to the success of the venture capital investor. The composition of the network normally depends on the investment focus of the venture capital funds/company. It is common for venture capitalists to develop working relationships with R&D institutions, academia, etc., which could potentially lead to business opportunities. In India, different venture capital funds/companies have their own methods varying from promotional seminars with R&D institutions and industry associations to direct advertising campaigns targeted at various segments.

14.8.2 Appraisal of the Business Plan

A venture capitalist must be satisfied that the business plan he has selected has the necessary management team to achieve the stated goals within the specified time. Due diligence is the industry jargon for all the activities that are associated with evaluation an investment proposal. It includes performing a market analysis, carrying out reference checks on the proposal related aspects such as management team, products, technology. For example, the plan should demonstrate that the company has the quality of management to be able to turn the business plan into reality. The plan should also mention financial projections – for example, the company's growth rate, level of gearing, budgets, cash flow analysis.

A venture capitalist tries to structure his investment in such a manner that he can get the benefit of the upside potential i.e. he would like to exit at a time when he can get maximum return on his investment in the project. Hence his due diligence appraisal has to keep this fact in mind so that possible exit strategies for the investors also can be worked out.

Analysis of Management: Venture capitalists in India and elsewhere judge a business proposition by assessing the management. Current and potential skills of the management should be identified in terms of the following criteria:

- Mental Attributes, in terms of professional independence, functional autonomy and the power to lead, combined with self-confidence and an accurate perception of risk.
- Behavioral Attributes, in terms of high levels of energy, strong communication skills, honesty and integrity.

The past record and performance of the management is also taken into account when awarding him the loan contract. This is important from the point of view of the high risk involved in funding such projects.

Analysis of Organization Structure

An analysis of the organization is carried out in terms of

- Organization Chart, which gives a representation of the firm's hierarchy and responsibility streams.
- Management team, which is crucial of the success of the project.
- A list of the Equity holders in the firm is procured and their profiles studied because the future of the organization would depend largely on their decisions and policies.
- Strengths and weaknesses, ascertained by calculating ratio with reference to average salary, sales per employee, employee turnover etc.

Analysis of Marketing and Sales: A venture capitalist needs to study the commercial opportunity for the business and its products. The strength of the product being marketed needs to be examined with regard to its seasonality, customer profile, advertising, customer awareness, size of the market, profile of the competitors and the growth rate of the market. The analysis of marketing and sales is carried out by ratio analysis with the help of ratios like:

- Sales per salesman
- Gross profit per salesman
- Gross profit as a percentage of marketing expenses
- Marketing expenses as a percentage of sales
- Returns as a percentage of sales
- Discounts as a percentage of sales, and other criteria

Analysis of Business Processes: The factors to be taken into account when a venture capitalist studies the business processes of a firm are:

- Level of skill and availability of personnel
- Ways to measure customer satisfaction
- Approach to research and development
- Source of raw materials
- Labour requirements

Financial Analysis and Projections: Financial analysis of the organization would encompass future projections of cash-flows and other measures of profitability. For existing organizations, annual accounts of the firm, cash flow statements and financial projections for the future would be carried out.

14.8.3 Structuring the Deal

The instruments to be used in structuring deals are many and varied. The instruments could be loans, preference shares, warrants, common shares.

The objective in selecting the instrument would be to maximize the venture capital's returns and yet satisfy the entrepreneur's requirements.

14.8.4 Monitoring and Follow Up

The role of the venture capitalist is an ongoing one as they are not just financiers or subscribers to the equity of the project they fund. They are actively involved in the management of the unit and provide expert business counsel, to ensure its survival and growth. They give advice to the promoters and monitor the project continuously by

keeping a hand on the pulse of the project. Any deviations may alert them to potential problems and they can suggest remedial actions or measures to avoid these problems.

14.8.5 Exit

Venture capitalist tries to make long term gains from the proposals they finance. They help a company in arriving at good exit routes from the investment. There are several exit routes that companies can adopt - a sell-off to another venture capital fund, management buy-outs, IPO, promoter buybacks. In all cases specialists will work out the method of exit and decide on what is most profitable and suitable to both the venture capitalist and the investee unit and the promoters of the project.

A venture capitalist seeks to liquidate his investment in an investee company for two reasons:

1. The venture capitalist's money belongs to other investors who may be owners or creditors or contributors of the venture fund. Such money is meant for investment for a limited period and thereafter should be withdrawn and reinvested in other ventures depending upon the objectives of the fund. Such exit is from a profitable situation.
2. The venture capitalist may wish to save his investment and come out of a difficult and disappointing situation with minimal loss using the pre agreed exit option. Such exit is from a loss-making situation.

14.9 DISINVESTMENT MECHANISM

The various disinvestment options available to the venture capitalist are:

- buy-back by the promoters,
- sale to another venture capitalist
- Initial Public Offering
- Acquisition by another company
- Sale in the over-the-counter market.

Two disinvestment mechanisms are explained below:

14.9.1 Initial Public Offering

The main reason for a venture capitalist to choose this alternative are improved marketability and liquidity, better prospects for capital gains, and the probability to obtain a higher price. If the stock market is developed, it is likely that the equity shares of the investee can be sold at a higher price than in a private placement. The stocks of the company get listed at the stock exchanges with initial public offering, and are traded in the secondary market. This creates liquidity for the shareholder and also makes it easier for a listed company to raise additional equity capital from the public.

In some circumstances a venture capitalist may not find it worthwhile to opt for IPO as the exit route. This could be when:

- Disclosures and transparency required for public offerings might not be in the interests of the investee company.
- Compliance with increased formalities for a public and listed company under different corporate laws and regulatory enactment is not feasible.

- If the performance of the company is below expectations.
- The expenses of going public are very high in terms of underwriters' and brokers' commissions, statutory and other legal fees, publicity expenses, etc. which the company might not be able to afford.

14.9.2 Sale in the OTC Market

A well developed and buoyant secondary capital market is a necessary impetus to the success of venture capital. Investors should be able to trade shares freely and conveniently for the venture capitalist to adopt this option. USA has a well-developed OTC market where dealers trade in shares on telephones or terminals and not on the exchange floor. This mechanism helps new, small companies which are not otherwise eligible to be listed on the stock exchanges to enlist in the OTC markets and provide liquidity to investors.

14.10 VENTURE CAPITAL SCHEMES

14.10.1 Venture Capital Scheme for Agri-business Projects

The Central Government, to promote agri-business project development, has approved a scheme with an outlay of Rs. 48 crore during 2005-06 and 2006-07, to provide venture capital assistance to agri-business projects.

The scheme envisages setting up of a project development facility (PDF) to assist producer groups/organisations in preparation of economically viable detailed project reports. It promotes a single-window approach for extending Venture Capital along with bank term loan/working capital to the beneficiary.

It will be operated by Small Farmer's Agri-business Consortium (SFAC) and implemented in close association with nationalised banks, State Bank of India, its subsidiaries and other commercial banks.

Venture capital assistance will be available to projects that are dependant on agricultural or allied produce, provide assured market to producers, encourage farmers to diversify to high value crops and are accepted by lending banks for grant of project term loan after satisfactory techno-commercial feasibility. The amount of venture capital that SFAC will ordinarily provide to qualifying projects will be 10 per cent of the total project cost or 26 per cent of the project equity of Rs. 75 lakh, whichever is lower.

Higher venture capital assistance may be provided to "deserving projects" on merit and/or to projects that are located in remote and backward areas, North Eastern and Hilly States and projects sponsored by States/State SFACs.

The beneficiary is expected to repay back the Venture Capital in lump sum to SFAC after full repayment of the Bank's term loan. The SFAC's PDF will also provide financial support to farmers, producer groups, agri-preneurs, units in agri-export zones, organisations and agriculture graduates for preparing bankable detailed project reports (DPRs).

The beneficiary will need to obtain an in-principle recommendation from the area lending banks, evincing their interest in funding such projects. DPRs will be prepared by consulting firms/institutions who have established local area competence and have been empanelled by SFAC.

The cost of the proposed agri-business project would have to be above Rs. 50 lakh. However, projects valuing Rs. 25 lakh and above, proposed to be located in backward, hilly and north-eastern States could also be considered for PDF and venture capital assistance.

14.10.2 NABARD Venture Capital Fund for Poultry Development

With a considerable segment of the poultry sector still being unorganised, the National Bank for Agriculture and Rural Development (NABARD), Andhra Pradesh region, has come out with a scheme to create a capital venture fund for poultry development. As part of this, operational guidelines have been released for a scheme aimed at providing financial assistance to the poultry industry spread over urban and rural areas. The scheme comes in the wake of new efforts being made by the Central and the State Governments, Indian Council of Agricultural Research (ICAR), various financial institutions and private sector to ensure an equal growth of poultry farms in far-flung areas. The new thrust is given in view of the significant role played by poultry industry in rural economy.

Having released the guidelines at a recent meet with poultry industry, NABARD officials say that the venture capital fund will be used to provide financial assistance to individuals, NGOs, public and private sector undertakings and cooperatives for establishing farms and other related units.

The new scheme is set to not only fund poultry units, but also generate self-employment among the poor.

Different components have been identified for funding and the guidelines have been issued for the same. For a unit of an egg grading, packing and storage for export capacity, a financial assistance of Rs.80 lakhs may be extended.

The quantum of funds suggested for other units is Rs.25 lakhs for marketing of poultry products, Rs.16 lakhs for establishment of feed godown, feed mixing unit and feed analytical units, Rs.30 lakhs for establishing poultry breeding farms and Rs.5 lakhs for retail poultry dressing unit.

14.10.3 Unit Trust of India - Technology Venture Unit Scheme

Unit Trust of India-Technology Venture Unit Scheme has been designed with a view to generate a fund of Rs.150 crore from the domestic market. The fund has received the necessary permission from the Securities and Exchange Board of India. The fund promoted by UTI is expected to generate the money by placing units of the cutting-edge technology fund for the private sector. These units are not meant for public because the amount of expected investment is very high.

The Unit Trust of India-Technology Venture Unit Scheme is a close-ended fund and the time period is 10 years. The minimum application size that is determined by Unit Trust of India is Rs.5 crore. The investors in this fund are large-scale companies or corporations and some of the government institutions. Some of these investors are Life Insurance Corporation of India, Bank of Baroda, Andhra Bank, General Insurance Corporation, Technology Development Board and so on.

Unit Trust of India-Technology Venture Unit Scheme has been designed to invest in the technology stakes with potential high growth rate. At the same time, the risks involved in these investments are also very high. Because of this high risk factor, this fund is not meant for short-term investors.

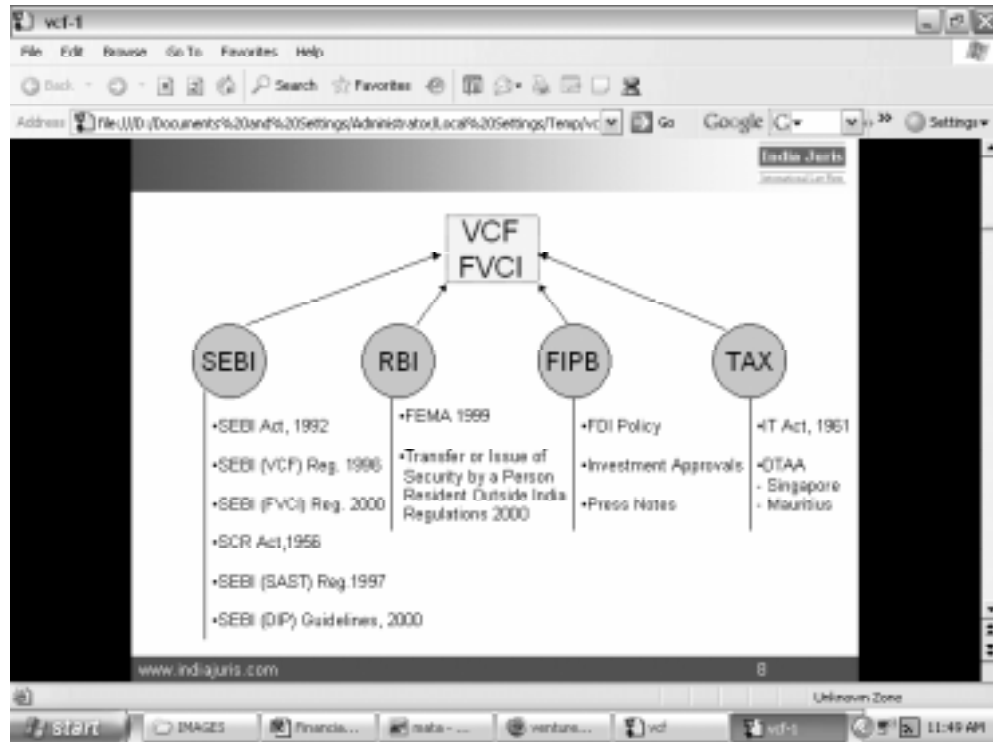
The prospective investment sectors of the Unit Trust of India-Technology Venture Unit Scheme are the companies that are in their start-up phase. The preferred companies are those that are from the information technology sector. At the same time, the fund is also meant for the areas such as telecommunications, health care, entertainment, biotechnology, media pharmaceuticals and many more.

The Unit Trust of India-Technology Venture Unit Scheme is also unique because this is the first time that Unit Trust of India is managing any fund outside Bangalore on its own. The concept of Venture Capital in India is implemented for the first time by Unit Trust of India in 1989. The venture capital schemes that are implemented by UTI previously are Vecaus-I, Vecaus-II and Vecaus-III. These funds generated Rs. 225 crores and the money is managed by TDICI.

Check Your Progress 3

1. Fill in the blanks:
 - (a) Venture capital rests on the basic tenet of a, which can propel the firm into a path.
 - (b) A venture capital firm is a between looking for high potential returns and who need some institutional capital as they are not yet ready or able to go to the public for raising finance.
 - (c) An is an experienced industry-bred individual with high net worth.
 - (d) The venture capital financing is typically used to prepare the company for subsequent financing in the form of
 - (e) The venture capital industry has four key players i.e,, and
2. State whether the following statements are true or false:
 - (a) New ventures face difficulties in servicing debt in the early years of their incorporation due to the uncertainties associated with the cash flows.
 - (b) A venture capitalist tries to structure his investment in such a manner that he can exit at a time when he can get maximum return on his investment in the project.
 - (c) Venture capitalists in India and elsewhere judge a business proposition by assessing the management.
 - (d) The role of the venture capitalist is confined to act as a financier or subscriber to the equity of the project he funds.
 - (e) Venture capitalists in India do not provide venture finance through partially or fully convertible debentures and cumulative convertible preference shares.

14.11 VENTURE CAPITAL – LEGAL ASPECTS



Securities and Exchange Board of India (Venture Capital Funds) Regulations 1996 lays down the overall regulatory framework for the registration and operations of venture capital funds in India. As per these regulations, the term ‘venture capital fund’ means “a fund established in the form of a trust or a company including a body corporate and registered under these regulations which:- (i) has a dedicated pool of capital; (ii) raised in a manner specified in the regulations; and (iii) invests in accordance with the regulations”.

The main provisions of the SEBI (Venture Capital Funds) Regulations 1996 are given as under:

Securities and Exchange Board of India (Venture Capital Funds) Regulations, 1996

In exercise of the powers conferred by section 30 of the Securities and Exchange Board of India Act, 1992 (15 of 1992) the Securities and Exchange Board of India hereby, makes the following regulations:

PRELIMINARY**1. Short title and commencement.**

- (1) These regulations may be called the Securities and Exchange Board of India (Venture Capital Funds) Regulations, 1996.
- (2) They shall come into force on the date of their publication in the Official Gazette.

2. Definitions.

In these regulations, unless the context otherwise requires,—

- (a) “**Act**” means the Securities and Exchange Board of India Act, 1992 (15 of 1992);
- 1[(aa) “**associate company**”, means a company in which a director or trustee or sponsor or settlor of the venture capital fund or asset management company holds either individually or collectively, equity shares in excess of 15 per cent of the paid-up equity share capital of venture capital undertaking;]
- (b) “**certificate**” means a certificate of registration granted by the Board under regulation 7;
- (c) “**company**” means a company incorporated under the Companies Act, 1956 (1 of 1956);
- (d) “**economic offence**” means an offence to which the Economic Offences (Limitation of Prosecutions) Act, 1974 (12 of 1974), applies for the time being;
- (e) ²[***]

¹Substituted by the SEBI (Venture Capital Funds) (Second Amendment) Regulations, 2000, w.e.f. 31-12-2000. Prior to its substitution, clause (aa) was inserted by the SEBI (Venture Capital Funds) (Second Amendment) Regulations, 2000, w.e.f. 15-09-2000.

Prior to its substitution clause (aa) read as under:

“(aa) ‘associate’ in relation to venture capital fund means a person,—

- (i) who, directly or indirectly, by himself, or in combination with relatives, exercises control over the venture capital fund; or
- (ii) in respect of whom the venture capital fund, directly or indirectly, by itself, or in combination with other persons, exercises control; or
- (iii) whose director, is also a director, of the venture capital fund.”

²Omitted by SEBI (Procedure for Holding Enquiry by Enquiry Officer and Imposing Penalty) Regulations, 2002, w.e.f. 27-09-2002.

Prior to its omission clause (e) read as under:

“Enquiry Officer” means an enquiry officer appointed by the Board under regulation 33;

- 1[(*ee*) “**equity linked instruments**” includes instruments convertible into equity shares or share warrants, preference shares, debentures compulsorily 2[*or optionally*] convertible into equity;]
- (f) “**Form**” means any of the forms set out in the First Schedule;
- (h) 4[“**inspecting or investigating officer**” means an inspecting or investigating officer appointed by the Board under regulation 25;]
- 5[(*hh*) “**investible funds**” means corpus of the fund net of expenditure for administration and management of the fund;]
- (i) “**Schedule**” means a Schedule annexed to these regulations;
- (j) 6[“**negative list**” means a list of items specified in the Third Schedule;]
- (k) “**trust**” means a trust established under the Indian Trusts Act, 1882 (2 of 1882) 7[or under an Act of Parliament or State Legislation];
- (l) 8[“**unit**” means beneficial interest of the investors in the scheme or fund floated by trust or 9[shares] issued by a company including a body corporate;
- (m) “**venture capital fund**” means a fund established in the form of a trust or a company including a body corporate and registered under these regulations which—
- (i) has a dedicated pool of capital;
- (ii) raised in a manner specified in the regulations; and

¹Inserted by the SEBI (Venture Capital Funds) Amendment Regulations, 2000, w.e.f. 15-09-2000.

²Inserted by the SEBI (Venture Capital Funds) Amendment Regulations, 2000, w.e.f. 05-04-2004.

³Omitted by the SEBI (Venture Capital Funds) Amendment Regulations, 2000, w.e.f. 15-09-2000. Prior to its omission clause (g) read as under:

“**Government of India guidelines** means the guidelines dated Septemeber 20, 1995 issued by the Government of India for Overseas Venture Capital Investments in India as amended from time to time.”

⁴Substituted by *Ibid*.

Prior to substitution clause (h) read as under:

“**inspecting officer** means an inspecting officer appointed by the board under regulations 25;”

⁵Inserted by *Ibid*.

⁶Substituted by *Ibid*.

Prior to substitution clause (j) read as under:

“**sick industrial company** has the same meaning as is assigned to it in clause (o) of sub-section (1) of Section (3) of the Sick Industrial Companies (Special Provisions) Act, 1985 (1 of 1986);”

⁷Inserted by the SEBI (Venture Capital Funds) Amendment Regulations, 1999, w.e.f. 17-11-1999.

⁸Substituted by the SEBI (Venture Capital Funds) Amendment Regulations, 2000, w.e.f. 15-09-2000.

Prior to substitution clause (l) and (m) read as under:

“(l) **units** means the interest of the investors in a scheme of a venture capital fund set up as a trust, which consist of each unit representing one undivided share in the assets of the scheme;

(m) “**venture capital fund**” means a fund established in the form of a company or trust which raises monies through loans, donations, issue of securities or units as the case may be, and makes or proposes to make investments in accordance with these regulations.”

⁹Substituted for “any other securities” by the SEBI (Venture Capital Funds) Amendment Regulations, 2000, w.e.f. 30-12-2000.

(iii) invests ¹[***] in accordance with the regulations;]

²[(ma) “*a foreign company*” means a foreign company within the meaning of section 591 of the Companies Act, 1956;]

³[(n) “**venture capital undertaking**” means a domestic company—

(i) whose shares are not listed on a recognized stock exchange in India;

(ii) which is engaged in the business for providing services, production or manufacture of article or things or does not include such activities or sectors which are specified in the negative list by the Board with the approval of the Central Government by notification in the Official Gazette in this behalf.]

CHAPTER II

REGISTRATION OF VENTURE CAPITAL FUNDS

3. Application for Grant of Certificate.

(1) Any company or trust ⁴[or a body corporate] proposing to carry on any activity as a venture capital fund on or after the commencement of these regulations shall make an application to the Board for grant of a certificate.

(2) Any company or trust ⁵[or a body corporate], who on the date of commencement of these regulations is carrying any activity as a venture capital fund without a certificate shall make an application to the Board for grant of a certificate within a period of three months from the date of such commencement:

Provided that the Board, in special cases, may extend the said period upto a maximum of six months from the date of such commencement.

(3) An application for grant of certificate under sub-regulation (1) or sub-regulation

(2) shall be made to the Board in Form A and shall be accompanied by a nonrefundable application fee as specified in Part A of the Second Schedule to be paid in the manner specified in Part B thereof.

(4) Any company or trust ⁶[or a body corporate] referred to in sub-regulation (2) who fails to make an application for grant of a certificate within the period specified therein shall cease to carry on any activity as a venture capital fund.

(5) The Board may in the interest of the investors issue directions with regard to the transfer of records, documents or securities or disposal of investments relating to its activities as a venture capital fund.

¹Words “in venture capital undertaking” omitted by the SEBI (Venture Capital Funds) Amendment Regulations, 2004, w.e.f. 05-04-2004.

²Inserted by the SEBI (Venture Capital Funds) Amendment Regulations, 2006, w.e.f. 25-01-2006.

³Inserted by the SEBI (Venture Capital Funds) Amendment Regulations, 2000, w.e.f. 15-09-2000.

⁴*Ibid.*

⁵*Ibid.*

⁶*Ibid.*

- (6) The Board may in order to protect the interests of investors appoint any person to take charge of records, documents, securities and for this purpose also determine the terms and conditions of such an appointment.

4. Eligibility Criteria.

For the purpose of the grant of a certificate by the Board the applicant shall have to fulfil in particular the following conditions, namely:—

- (a) if the application is made by a company :—
- (i) memorandum of association as has its main objective, the carrying on of the activity of a venture capital fund;
 - (ii) it is prohibited by its memorandum and articles of association from making an invitation to the public to subscribe to its securities;
 - (iii) its director or principal officer or employee is not involved in any litigation connected with the securities market which may have an adverse bearing on the business of the applicant;
 - (iv) its director, principal officer or employee has not at any time been convicted of any offence involving moral turpitude or any economic offence;
- ¹[(v) it is a fit and proper person;]
- (b) if the application is made by a trust—
- (i) the instrument of trust is in the form of a deed and has been duly registered under the provisions of the Indian Registration Act, 1908 (16 of 1908);
 - (ii) the main object of the trust is to carry on the activity of a venture capital fund;
 - (iii) the directors of its trustee company, if any or any trustee is not involved in any litigation connected with the securities market which may have an adverse bearing on the business of the applicant;
 - (iv) the directors of its trustee company, if any, or a trustee has not at any time, been convicted of any offence involving moral turpitude or of any economic offence;
- ²[(v) the applicant is a fit and proper person;]
- ³[(c) if the application is made by a body corporate—
- (i) it is set up or established under the laws of the Central or State Legislature,

¹Inserted by the SEBI (Venture Capital Funds) Amendment Regulations, 1998, w.e.f. 05-01-1998.

²*Ibid.*

³Inserted by the SEBI (Venture Capital Funds) Amendment Regulations, 1999, w.e.f. 17-11-1999.

- (ii) the applicant is permitted to carry on the activities of a venture capital fund,
 - (iii) the applicant is a fit and proper person,
 - (iv) the directors or the trustees, as the case may be, of such body corporate have not been convicted of any offence involving moral turpitude or of any economic offence,
 - (v) the directors or the trustees, as the case may be, of such body corporate, if any, are not involved in any litigation connected with the securities market which may have an adverse bearing on the business of the applicant;]
- ¹[(d)] ²[the applicant] has not been refused a certificate by the Board or its certificate has ³[not] been suspended under regulation 30 or cancelled under regulation 31.

⁴[4A. Applicability of Securities and Exchange Board of India (Criteria for Fit and Proper Person) Regulations, 2004.]

The provisions of the Securities and Exchange Board of India (Criteria for Fit and Proper Person) Regulations, 2004 shall, as far as may be, apply to all applicants or the venture capital funds under these regulations.]

5. Furnishing of information, clarification.

The Board may require the applicant to furnish such further information as it may consider necessary.

6. Consideration of application.

An application which is not complete in all respects shall be rejected by the Board :

Provided that, before rejecting any such application, the applicant shall be given an opportunity to remove, within thirty days of the date of receipt of communication, the objections indicated by the Board:

Provided further that the Board may, on being satisfied that it is necessary to extend the period specified in the first proviso, extend such period by such further time not exceeding ninety days.

¹Renumbered by the SEBI (Venture Capital Funds) Amendment Regulations, 1999, w.e.f. 17-11-1999.

²Substituted for “a company or trust” by the SEBI (Venture Capital Funds) Amendment Regulations, 2000, w.e.f. 15-09-2000.

³Inserted by the SEBI (Venture Capital Funds) (Second Amendment) Regulations, 2000, w.e.f. 30-12-2000.

⁴Inserted by the SEBI (Criteria for Fit and Proper Person) Regulations, 2004, w.e.f. 10-03-2004.

7. Procedure for grant of certificate.

- (1) If the Board is satisfied that the applicant is eligible for the grant of certificate, it shall send an intimation to the applicant.
- (2) On receipt of intimation, the applicant shall pay to the Board, the registration fee specified in Part A of the Second Schedule in the manner specified in Part B thereof.
- (3) The Board shall on receipt of the registration fee grant a certificate of registration in Form B.

8. Conditions of certificate.

The certificate granted under regulation 7 shall be *inter alia*, subject to the following conditions, namely :—

- (a) the venture capital fund shall abide by the provisions of the Act ¹[***] and these regulations;
- (b) the venture capital fund shall not carry on any other activity other than that of a venture capital fund;
- (c) the venture capital fund shall forthwith inform the Board in writing if any information or particulars previously submitted to the Board are found to be false or misleading in any material particular or if there is any change in the information already submitted.

9. Procedure where certificate is not granted.

- (1) After considering an application made under regulation 3, if the Board is of the opinion that a certificate should not be granted, it may reject the application after giving the applicant a reasonable opportunity of being heard.
- (2) The decision of the Board to reject the application shall be communicated to the applicant within thirty days.

10. Effect of refusal to grant certificate.

- (1) Any applicant whose application has been rejected under regulation 9 shall not carry on any activity as a venture capital fund.
- (2) Any company or trust ²[or a body corporate] referred to in sub-regulation (2) of regulation 3, whose application for grant of certificate has been rejected under regulation 9 by the Board shall, on and from the date of the receipt of the

¹Omitted the words “the Government of India Guidelines” by the SEBI (Venture Capital Funds) Amendment Regulations, 2000, w.e.f. 15-09-2000.

²Inserted by *Ibid*.

communication under sub-regulation (2) of regulation 9, cease to carry on any activity as a venture capital fund.

- (3) The Board may in the interest of the investors issue directions with regard to the transfer of records, documents or securities or disposal of investments relating to its activities as a venture capital fund.
- (4) The Board may in order to protect the interests of the investors appoint any person to take charge of records, documents, securities and for this purpose also determine the terms and conditions of such an appointment.

CHAPTER III

INVESTMENT CONDITIONS AND RESTRICTIONS

11. Minimum investment in a Venture Capital Fund.

- (1) A venture capital fund may raise monies from any investor whether Indian, Foreign or non-resident Indian ¹[by way of issue of units].
- (2) No venture capital fund set up as a company or any scheme of a venture capital fund set up as a trust shall accept any investment from any investor which is less than five lakh rupees :

Provided that nothing contained in sub-regulation (2) shall apply to investors who are,—

- (a) employees or the principal officer or directors of the venture capital fund, or directors of the trustee company or trustees where the venture capital fund has been established as a trust;

²[(b) the employees of the fund manager or asset management company; or]

- (c) ³[***]

⁴[(3) Each scheme launched or fund set up by a venture capital fund shall have firm commitment from the investors for contribution of an amount of at least rupees five crores before the start of operations by the venture capital fund.]

⁵[12. Investment conditions and restrictions.

¹Inserted by the SEBI (Venture Capital Funds) Amendment Regulations, 2000, w.e.f. 15-09-2000.

²Substituted by *Ibid*.

Prior to the substitution sub-clause (b) read as under:

“non resident Indians; or”

³Omitted by *Ibid*.

Prior to the omission sub-clause (c) read as under:

“persons or institutions of foreign origin”.

⁴Inserted by *Ibid*.

⁵ Substituted by *Ibid*.

Prior to the substitution Regulation 12 read as under:

“12. **Restrictions on investment by a venture capital fund**-All investments made or to be made by a venture capital fund shall be subject to the following restrictions:

- (a) the venture capital fund shall not invest in the equity shares of any company or institution providing financial services;

All investment made or to be made by a venture capital fund shall be subject to the following conditions, namely:—

- (a) venture capital fund shall disclose the investment strategy at the time of application for registration;
- (b) venture capital fund shall not invest more than 25% corpus of the fund in one venture capital undertaking;
- ¹[(ba) venture capital fund may invest in securities of foreign companies subject to such conditions or guidelines that may be stipulated or issued by the Reserve Bank of India and the Board from time to time.]
- (c) shall not invest in the associated companies; and
- (d) venture capital fund shall make investment ²[***] as enumerated below :
 - (i) at least ³[66.67%] of the investible funds shall be invested in unlisted equity shares or equity linked instruments ⁴[of venture capital undertaking].
⁵[***]
 - (ii) Not more than ⁶[33.33%] of the investible funds may be invested by way of :
 - (a) subscription to initial public offer of a venture capital undertaking whose shares are proposed to be listed ⁷[***];

-
- (b) at least 80 percent of funds raised by a venture capital fund shall be invested in:-
 - (i) the equity shares or equity related securities issued by a company whose securities are not listed on any recognised stock exchange:

Provided that a venture capital fund may invest in equity shares or equity related securities of a company whose securities are to be listed or are listed where the venture capital fund has made these investments through private placements prior to the listing of the securities.

- (ii) the equity shares or equity related securities of a financially weak company or a sick industrial company, whose securities may or may not be listed on any recognised stock-exchange.

Explanation: For the purposes of this regulation, a “financially weak company” means a company, which has at the end of the previous financial year accumulated losses, which has resulted in erosion of more than 50% but less than 100% of its networth as at the beginning of the previous financial year.

- (iii) providing financial assistance in any other manner to companies in whose equity shares the venture capital fund has invested under sub-clause (i) or sub-clause (ii), as the case may be.

Explanation: For the purposes of this regulation, “funds raised” means the actual monies raised from investors for subscribing to the securities of the venture capital fund and includes monies raised from the author of the trust in case the venture capital fund has been established as a trust but shall not include the paid up capital of the trustee company, if any”.

¹Inserted by the SEBI (Venture Capital Funds) (Amendment) Regulations, 2006, w.e.f. 25-01-2006.

²Omitted the words “in venture capital undertaking” by the SEBI (Venture Capital Funds) (Amendment) Regulations, 2004, w.e.f. 05-04-2004.

³Substituted for “75 %” by *Ibid*.

⁴Inserted by *Ibid*.

⁵Proviso omitted by the SEBI (Venture Capital Funds) (Second Amendment) Regulations, 2000, w.e.f. 30-12-2000.

Prior to omission the proviso read as under:

“Provided that if the venture capital fund seeks to avail of benefits under the relevant provisions of the Income Tax Act applicable to a venture capital fund, it shall be required to disinvest from such investments within a period of one year from the date on which the shares of the venture capital undertaking are listed in a recognized Stock Exchange.”

⁶Substituted for “25%” by the SEBI (Venture Capital Funds) (Amendment) Regulations, 2004, w.e.f. 05-04-2004.

⁷Omitted the words “subject to lock-in period of one year” by the SEBI (Venture Capital Funds) (Amendment) Regulations, 2004, w.e.f. 05-04-2004.

- (b) debt or debt instrument of a venture capital undertaking in which the venture capital fund has already made an investment by way of equity.]

¹[(c)preferential allotment of equity shares of a listed company subject to lock in period of one year;

- (d) the equity shares or equity linked instruments of a financially weak company or a sick industrial company whose shares are listed. Explanation 1.— For the purpose of these regulations, a “financially weak company” means a company, which has at the end of the previous financial year accumulated losses, which has resulted in erosion of more than 50% but less than 100% of its networth as at the beginning of the previous financial year;

- (e) Special Purpose Vehicles which are created by a venture capital fund for the purpose of facilitating or promoting investment in accordance with these Regulations.

Explanation.— The investment conditions and restrictions stipulated in clause (d) of regulation 12 shall be achieved by the venture capital fund by the end of its life cycle;]

²[(e)venture capital fund shall disclose the duration of life cycle of the fund.]

13. Prohibition on listing.

³[No venture capital fund shall be entitled to get its units listed on any recognised stock exchange till the expiry of three years from the date of the issuance of units by the venture capital fund.]

CHAPTER IV

GENERAL OBLIGATIONS AND RESPONSIBILITIES

14. Prohibition on inviting subscription from the public.

No venture capital fund shall issue any document or advertisement inviting offers from

¹Inserted by the SEBI (Venture Capital Funds) (Amendment) Regulations, 2004, w.e.f. 05-04-2004.

²*Ibid.*

³Substituted by the SEBI (Venture Capital Funds) (Amendment) Regulations, 2000, w.e.f. 15-09-2000.

Prior to its substitution Regulation 13 read as under:

“No venture capital fund shall be entitled to get its securities or units, as the case may be, listed on any recognized stock exchange till the expiry of three years from the date of the issuance of securities or units, as the case may be, by the venture capital fund.”

the public for the subscription or purchase of any of its ¹[***] units.

15. Private placement.

A venture capital fund may receive monies for investment in the venture capital fund ²[only] through private placement of its ³[***] units.

⁴16. Placement memorandum or subscription agreement.

- (1) The venture capital fund shall—
 - (a) issue a placement memorandum which shall contain details of the terms and conditions subject to which monies are proposed to be raised from investors; or
 - (b) enter into contribution or subscription agreement with the investors which shall specify the terms and conditions subject to which monies are proposed to be raised.
- (2) The Venture Capital Fund shall file with the Board for information, the copy of the placement memorandum or the copy of the contribution or subscription agreement entered with the investors along with a report of money actually collected from the investor.]

17. Contents of placement memorandum.

- (1) The placement memorandum ⁵[or the subscription agreement with investors] referred to in sub-regulation (1) of regulation 16 shall contain the following, namely :—
 - (a) details of the trustees or trustee company ⁶[and the directors or chief executives] of the venture capital fund;

¹Omitted the words “securities or”, by the SEBI (Venture Capital Funds) (Second Amendment) Regulations, 2000, w.e.f. 30-12-2000.

²Inserted by the SEBI (Venture Capital Funds) (Amendment) Regulations, 2000, w.e.f. 15-09-2000.

³Omitted the words “securities or”, by the SEBI (Venture Capital Funds) (Second Amendment) Regulations, 2000, w.e.f. 30-12-2000.

⁴Substituted by the SEBI (Venture Capital Funds) (Amendment) Regulations, 2000, w.e.f. 15-09-2000.

Prior to its substitution Regulation 16 read as under:

- “(1) The venture capital fund established as a trust shall, before issuing any units file with the Board a placement memorandum which shall give details of the terms subject to which monies are proposed to be raised from investors.
- (2) A venture capital fund established as a company shall, before making an offer inviting any subscription to its securities, file with the Board a placement memorandum which shall give details of the terms subject to which monies are proposed to be raised from the investors.”

⁵Inserted by the SEBI (Venture Capital Funds) (Amendment) Regulations, 2000, w.e.f. 15-09-2000.

⁶*Ibid.*

- ¹[(b) (i) the proposed corpus of the fund and the minimum amount to be raised for the fund to be operational;
 - (ii) the minimum amount to be raised for each scheme and the provision for refund of monies to investor in the event of non-receipt of minimum amount;
 - (c) details of entitlements on the ²[***] units of venture capital fund for which subscription is being sought;]
 - (d) tax implications that are likely to apply to investors;
 - (e) manner of subscription to the units ³[⁴[***] of the venture capital fund];
 - (f) the period of maturity, if any, of the ⁵[fund];
 - (g) the manner, if any, in which the ⁶[fund shall] be wound up;
 - (h) the manner in which the benefits accruing to investors in the units of the trust are to be distributed;
 - ⁷[(i) details of the fund manager or asset management company if any, and the fees to be paid to such manager;]
 - ⁸[(j) the details about performance of the fund, if any, managed by the Fund Manager;
 - (k) investment strategy of the fund;
 - (l) any other information specified by the Board.]
- (2) ⁹[***]

¹Substituted by the SEBI (Venture Capital Funds) (Amendment) Regulations, 2000, w.e.f. 15-09-2000.

Prior to the substitution sub-clause (b) read as under:

“details of entitlement on the units of the trust for which subscription is being sought;”

²Omitted the words “securities including” by the SEBI (Venture Capital Funds) (Second Amendment)

Regulations, 2000, w.e.f. 30-12-2000.

³Substituted for “of the trust” by the by the SEBI (Venture Capital Funds) (Amendment) Regulations, 2000, w.e.f. 15-09-2000.

⁴Omitted the words “or securities” by the SEBI (Venture Capital Funds) (Second Amendment) Regulations, 2000, w.e.f. 30-12-2000.

⁵Substituted for “scheme” by the SEBI (Venture Capital Funds) (Amendment) Regulations, 2000, w.e.f. 15-09-2000.

⁶Substituted for “scheme is to” by *Ibid*.

⁷Substituted by *Ibid*.

Prior to the substitution sub-clause (i) read as under:

“details of the asset management company, if any, and of fees to be paid to be paid to such a company.”

⁸Inserted by *Ibid*.

⁹Omitted by *Ibid*.

Prior to the omission sub-regulation (2) read as under:

“(2) The placement memorandum referred to in sub-regulation (2) of regulation 16 shall contain the following, namely:-

- (a) details of the securities that are being offered;
- (b) details of investments that are proposed to be made;
- (c) details of directors of the company;
- (d) tax implications that are likely to apply to investors;
- (e) manner of subscription to the securities that are to be issued;
- (f) manner in which the benefits accruing to investors in the securities are to be distributed;
- and
- (g) details of the asset management company, if any, and of fees to be paid to such a company”

18. Circulation of placement memorandum.

¹[***]

19. Changes in the placement memorandum to be intimated to the board.

²[***]

20. Maintenance of books and records.

- (1) Every venture capital fund shall maintain for a period of ³[eight] years books of account, records and documents which shall give a true and fair picture of the state of affairs of the venture capital fund.
- (2) Every venture capital fund shall intimate the Board, in writing, the place where the books, records and documents referred to in subregulation (1) are being maintained.

21. Power to call for information.

- (1) The Board may at any time call for any information from a venture capital fund with respect to any matter relating to its activity as a venture capital fund.
- (2) Where any information is called for under sub-regulation (1) it shall be furnished ⁴[within the time specified by the Board].

22. Submission of reports to the Board.

The Board may at any time call upon the venture capital fund to file such reports as the Board may desire with regard to the activities carried on by the venture capital fund.

23. Winding-up.

¹Omitted by the SEBI (Venture Capital Funds) (Amendment) Regulations, 2000, w.e.f. 15-09-2000. Prior to the omission Regulation 18 read as under:

“The placement memorandum referred to in regulation 16 may be issued for private circulation only after the expiry of twenty one days of its submission to the Board:

Provided that if, within twenty one days of submission of the placement memorandum, the Board communicates any amendments to the placement memorandum, the venture capital fund shall carry out such amendments in the placement memorandum before such memorandum is circulated to the investors.”

²Omitted by *Ibid.*

Prior to the omission Regulation 19 read as under:

“19. Amendments or changes to any placement memorandum already filed with the Board can be made only if, -

- (a) a copy of the placement memorandum indicating the changes is filed with the Board; and
- (b) within twenty one days of such filing, the Board has not communicated any objections or observations on the said amendments or changes.”

³Substituted for “ten” by *Ibid.*

⁴Substituted for “to the Board within fifteen days” by *Ibid.*

- (1) A scheme of a venture capital fund set up as a trust shall be wound up,
 - (a) when the period of the scheme, if any, mentioned in the placement memorandum is over;
 - (b) if it is the opinion of the trustees or the trustee company, as the case may be, that the scheme shall be wound up in the interests of investors in the units;
 - (c) if seventy-five per cent of the investors in the scheme pass a resolution at a meeting of unitholders that the scheme be wound up; or
 - (d) if the Board so directs in the interests of investors.
 - (2) A venture capital fund set up as a company shall be wound up in accordance with the provisions of the Companies Act, 1956 (1 of 1956).
- ¹[(2A) A venture capital fund set up as a body corporate shall be wound up in accordance with the provisions of the statute under which it is constituted.]
- ²[(3) The trustees or trustee company of the venture capital fund set up as a trust or the Board of Directors in the case of the venture capital fund is set up as a company (including body corporate) shall intimate the Board and investors of the circumstances leading to the winding up of the Fund or Scheme under subregulation (1).]

24. Effect of winding-up.

- (1) On and from the date of intimation under sub-regulation (3) of regulation 23, no further investments shall be made on behalf of the scheme so wound up.
 - (2) Within three months from the date of intimation under sub-regulation (3) of regulation 23, the assets of the scheme shall be liquidated, and the proceeds accruing to investors in the scheme distributed to them after satisfying all liabilities.
- ³[(3) Notwithstanding anything contained in sub-regulation (2) and subject to the conditions, if any, contained in the placement memorandum or contribution agreement or subscription agreement, as the case may be, in specie distribution of assets of the scheme, shall be made by the venture capital fund at any time, including on winding up of the scheme, as per the preference of investors, after obtaining approval of at least 75% of the investors of the scheme.]

¹Inserted by the SEBI (Venture Capital Funds) (Amendment) Regulations, 2000, w.e.f. 15-09-2000.

²Substituted by *Ibid*.

Prior to the substitution Sub-regulation (3) read as under:

“The trustees or trustee company of the venture capital fund set up as a trust shall intimate the Board and investors of the circumstances leading to the winding up of the scheme under subregulation (1).”

³Inserted by the SEBI (Venture Capital Funds) (Amendment) Regulations, 2004, w.e.f. 05-04-2004.

INSPECTION AND INVESTIGATION

25. Board's right to inspect or investigate.

- (1) The Board may ¹[*suo motu* or upon receipt of information or complaint] appoint one or more persons as inspecting or investigating officer to undertake inspection or investigation of the books of account, records and documents relating to a venture capital fund for any of the following reasons, namely :—
 - (a) to ensure that the books of account, records and documents are being maintained by the venture capital fund in the manner specified in these regulations;
 - (b) to inspect or investigate into complaints received from investors, clients or any other person, on any matter having a bearing on the activities of the venture capital fund;
 - (c) to ascertain whether the provisions of the Act and these regulations are being complied with by the venture capital fund; and
 - (d) to inspect or investigate *suo motu* into the affairs of a venture capital fund, in the interest of the securities market or in the interest of investors.

26. Notice before inspection or investigation.

- (1) Before ordering an inspection or investigation under regulation 25, the Board shall give not less than ten days notice to the venture capital fund.
- (2) Notwithstanding anything contained in sub-regulation (1) where the Board is satisfied that in the interest of the investors no such notice should be given, it may by an order in writing direct that the inspection or investigation of the affairs of the venture capital fund be taken up without such notice.
- (3) During the course of an inspection or investigation, the venture capital fund against whom the inspection or investigation is being carried out shall be bound to discharge its obligations as provided in regulation 27.

27. ²[Obligation of venture capital fund on inspection or investigation.

¹Inserted by the SEBI (Venture Capital Funds) (Amendment) Regulations, 2000, w.e.f. 15-09-2000.

²Substituted by *Ibid*.

Prior to the substitution Regulation 27 read as under:

“27. Obligations of venture capital fund on inspection or investigation by the Board

- (1) It shall be the duty of the venture capital fund whose affairs are being inspected or investigated, and of every director, officer and employee thereof, of its asset management company, if any, and of its trustees or directors or the directors of the trustee company, if any, to produce before the inspecting or investigating officer such books, securities, accounts, records and other documents in its custody or control and furnish him with such statements and information relating to the venture capital fund, as the inspecting or investigating officer may require, within such reasonable period as the inspecting officer may specify.
- (2) The venture capital fund shall allow the inspecting or investigating officer to have reasonable access to the premises occupied by such venture capital fund or by any other person on his behalf and also extend reasonable facility for examining any books, records, documents and computer data in the possession of the venture capital fund or

- (1) It shall be the duty of every officer of the Venture Capital Fund in respect of whom an inspection or investigation has been ordered under regulation 25 and any other associate person who is in possession of relevant information pertaining to conduct and affairs of such Venture Capital Fund including Fund Manager or asset management company, if any, to produce to the Investigating or Inspecting Officer such books, accounts and other documents in his custody or control and furnish him with such statements and information as the said Officer may require for the purposes of the investigation or inspection.
- (2) It shall be the duty of every officer of the Venture Capital Fund and any other associate person who is in possession of relevant information pertaining to conduct and affairs of the Venture Capital Fund to give to the Inspecting or Investigating Officer all such assistance and shall extend all such co-operation as may be required in connection with the inspection or investigations and shall furnish such information sought by the Inspecting or Investigating Officer in connection with the inspection or investigation.
- (3) The Investigating or Inspecting Officer shall, for the purposes of inspection or investigation, have power to examine on oath and record the statement of any employees, directors or person responsible for or connected with the activities of venture capital fund or any other associate person having relevant information pertaining to such Venture Capital Fund.
- (4) The Inspecting or Investigating Officer shall, for the purposes of inspection or investigation, have power to obtain authenticated copies of documents, books, accounts of Venture Capital Fund, from any person having control or custody of such documents, books or accounts.]

28. Submission of report to the Board.

The inspecting or investigating officer shall, as soon as possible, on completion of the inspection or investigation submit an inspection or investigation report to the Board:

Provided that if directed to do so by the Board, he may submit an interim report.

such other person and also provide copies of documents or other materials which, in the opinion of the inspecting or investigating officer are relevant for the purposes of the inspection or investigation, as the case may be.

- (3) The inspecting or investigating officer, in the course of inspection or investigation shall be entitled to examine or to record the statements of any director, officer or employee of the venture capital fund.
- (4) It shall be the duty of every director, officer or employee, trustee or director of the trustee company of the venture capital fund to give to the inspecting or investigating officer all assistance in connection with the inspection or investigation, which the inspecting or investigating officer may reasonably require.”

¹[29.] **Communication of findings etc., to the venture capital fund.**

The Board may after consideration of the investigation or inspection report and after giving reasonable opportunity of hearing to the venture capital fund or its trustees, directors issue such direction as it deems fit in the interest of securities market or the investors including directions in the nature of :—

- (a) requiring a venture capital fund not to launch new schemes or raise money from investors for a particular period;
- (b) prohibiting the person concerned from disposing of any of the properties of the fund or scheme acquired in violation of these regulations;
- (c) requiring the person connected to dispose of the assets of the fund or scheme in a manner as may be specified in the directions;
- (d) requiring the person concerned to refund any money or the assets to the concerned investors along with the requisite interest or otherwise, collected under the scheme;
- (e) prohibiting the person concerned from operating in the capital market or from accessing the capital market for a specified period.

¹Sub-regulations (1) and (2) omitted and '[sub-regulation (3)] renumbered as regulation 29 by the SEBI (Procedure for Holding Enquiry by Enquiry Officer and Imposing Penalty) Regulations, 2002, w.e.f. 27-09-2002.

Prior to its omission Regulation 29 read as under:

29. Communication of findings etc., to the venture capital fund.

- (1) The Board shall, after consideration of the inspection or investigation report or the interim report referred to in regulation 28, communicate the findings of the inspection officer to the venture capital fund and give him an opportunity of being heard.
- (2) On receipt of the reply if any, from the venture capital fund, the Board may call upon the venture capital fund to take such measures as the Board may deem fit in the interest of the securities market and for due compliance with the provisions of the Act and these regulations.

a.Sub-regulation (3) of regulation 29 inserted by SEBI (Venture Capital Funds) (Amendment) Regulations, 2000 w.e.f 15.09.2000 read as under:

- [(3) The Board may after consideration of the investigation or inspection report and after giving reasonable opportunity of hearing to the venture capital fund or its trustees, directors issue such direction as it deems fit in the interest of securities market or the investors including directors in the nature of: -
 - (a) requiring a venture capital fund not to launch new schemes or raise money from investors for a particular period;
 - (b) prohibiting the person concerned from disposing of any of the properties of the fund or scheme acquired in violation of these regulations;
 - (c) requiring the person connected to dispose of the assets of the fund or scheme in a manner as may be specified in the directions;
 - (d) requiring the person concerned to refund any money or the assets to the concerned investors along with the requisite interest or otherwise, collected under the scheme;
 - (e) prohibiting the person concerned from operating in the capital market or from accessing the capital market for a specified period.]

CHAPTER VI PROCEDURE FOR ACTION IN CASE OF DEFAULT

30. ¹[Liability for action in case of default.

Without prejudice to the issue of directions or measure under regulation 29, a venture capital fund which—

- (a) contravenes any of the provisions of the Act or these regulations;
- (b) fails to furnish any information relating to its activity as a venture capital fund as required by the Board;
- (c) furnishes to the Board information which is false or misleading in any material particular;
- (d) does not submit periodic returns or reports as required by the Board;
- (e) does not co-operate in any enquiry, inspection or investigation conducted by the Board;
- (f) fails to resolve the complaints of investors or fails to give a satisfactory reply to the Board in this behalf,

shall be dealt with in the manner provided in the Securities and Exchange Board of India (Procedure for Holding Enquiry by Enquiry Officer and Imposing Penalty) Regulations, 2002.]

31 to 38. ²[***]

¹Substituted, by the SEBI (Procedure for Holding Enquiry by Enquiry Officer and Imposing Penalty) Regulations, 2002, w.e.f. 27-09-2002.

Prior to its substitution Regulation 30 read as under:

30. Suspension of Certificate

The Board may suspend the certificate granted to a venture capital fund where the venture capital fund;

- (a) contravenes any of the provisions of the Act or these regulations;
- (b) fails to furnish any information relating to its activity as a venture capital fund as required by the Board;
- (c) furnishes to the Board information which is false or misleading in any material particular;
- (d) does not submit periodic returns or reports as required by the Board;
- (e) does not co-operate in any enquiry, inspection or investigation conducted by the Board;
- (f) fails to resolve the complaints of investors or fails to give a satisfactory reply to the Board in this behalf.

Prior to its substitution it was amended by the SEBI (Venture Capital Funds) (Amendment) Regulations, 2000, w.e.f. 15-09-2000 and the words “Without prejudice to issue of directions or measure under regulation 29,” were inserted.

²Regulations 31 to 38 omitted by the SEBI (Procedure for Holding Enquiry by Enquiry Officer and Imposing Penalty) Regulations, 2002, w.e.f. 27-09-2002.

Prior to its omission Regulations 31 to 38 read as under:

31. Cancellation of certificate

The Board may cancel the certificate granted to a venture capital fund:-

- (a) when the venture capital fund is guilty of fraud or has been convicted of an offence involving moral turpitude;
- (b) the venture capital fund has been guilty of repeated defaults of the nature specified in regulation 30; or
Explanation: In this regulation, “fraud” has the same meaning as is assigned to it in section 17 of the Indian Contract Act, 1872. (9 of 1872)
- (c) contravenes any of the provisions of the Act or these regulations.

32. Manner of making order of cancellation or suspension

No order of suspension or cancellation of certificate shall be made by the Board, except after holding an enquiry in accordance with the procedure specified in regulation 33.

33. Manner of holding enquiry before suspension or cancellation

- (1) For the purpose of holding an enquiry under regulation 32, the Board may appoint one or more enquiry officers.
- (2) The enquiry officer shall issue to the venture capital fund, at its registered office or its principal place of business, a notice setting out the grounds on which action is proposed to be taken against it and calling upon it to show cause against such action within a period of fourteen days from the date of receipt of the notice.
- (3) The venture capital fund may, within fourteen days from the date of receipt of such notice, furnish to the enquiry officer a written reply, together with copies of documentary or other evidence relied on by it or sought by the Board from the venture capital fund.
- (4) The enquiry officer shall give a reasonable opportunity of hearing to the venture capital fund to enable him to make submissions in support of its reply made under sub-regulation (3).
- (5) Before the enquiry officer, the venture capital fund may appear through any person duly authorised by the venture capital fund:
Provided that no lawyer or advocate shall be permitted to represent the venture capital fund at the enquiry:
Provided further that where a lawyer or an advocate has been appointed by the Board as a presenting officer under sub-regulation (6), it shall be lawful for the venture capital fund to present its case through a lawyer or advocate.
- (6) The enquiry officer may, if he considers it necessary, ask the Board to appoint a presenting officer to present its case.
- (7) The enquiry officer shall, after taking into account all relevant facts and submissions made by the venture capital fund, submit a report to the Board and recommend the penal action, if any, to be taken against the venture capital fund as also the grounds on which the proposed action is justified.

34. Show-cause notice and order

- (1) On receipt of the report from the enquiry officer, the Board shall consider the same and may issue to the venture capital fund a show-cause notice as to why the penal action as proposed by the enquiry officer a[or such appropriate action] should not be taken against it.
- (2) The venture capital fund shall, within fourteen days of the date of the receipt of the showcause notice, send a reply to the Board.
- (3) The Board, after considering the reply, if any, of the venture capital fund, shall, as soon as possible pass such order as it deems fit.

^aThe words “or such appropriate action” in sub-regulation (1) of regulation 34 were inserted by SEBI (Venture Capital Funds) (Amendment) Regulations, 2000 published in the Official Gazette of India dated 15.09.2000.

35. Effect of suspension and cancellation of certificate

- (1) On and from the date of the suspension of the certificate, the venture capital fund shall cease to carry on any activity as a venture capital fund during the period of suspension, and shall be subject to such directions of the Board with regard to any records, documents or securities that may be in its custody or control, relating to its activities as venture capital fund, as the Board may specify.

FIRST SCHEDULE-FORM
FORM A

Securities and Exchange Board of India
(Venture Capital Funds) Regulations, 1996
[See Regulation 3]

Application for Grant of Certificate of Registration as Venture Capital Fund

Securities and Exchange Board of India
Mittal Court, 'B' Wing, 1st Floor Nariman Point, Mumbai 400 021 – India

INSTRUCTIONS

- (i) This form is meant for use by the company or trust (hereinafter referred to as the applicant) for application for grant of certificate of registration as venture capital fund.
- (ii) The applicant should complete this form, and submit it, along with all supporting documents to the Board at its head office at Mumbai.
- (iii) This application form should be filled in accordance with these regulations.
- (iv) The application shall be considered by the Board provided it is complete in all respects.
- (v) All answers must be legible.
- (vi) Information which needs to be supplied in more detail may be given on separate sheets which should be attached to the application form.
- (vii) The application must be signed and all signatures must be original.

-
- (2) On and from the date of cancellation of the certificate, the venture capital fund shall, with immediate effect, cease to carry on any activity as a venture capital fund, and shall be subject to such directions of the Board with regard to the transfer of records, documents or securities that may be in its custody or control, relating to its activities as venture capital fund, as the Board may specify.

36. Publication of order of suspension or cancellation

The order of suspension or cancellation of certificate passed under regulation 35 may be published by the Board in two newspapers.

37. ^a[Action against intermediaries]

The Board may initiate action for suspension or cancellation of registration of an intermediary holding a certificate of registration under section 12 of the Act who fails to exercise due diligence in the performance of its functions or fails to comply with its obligations under these regulations. **Provided** that no such certificate of registration shall be suspended or cancelled unless the procedure specified in the regulations applicable to such intermediary is complied with.

38. Appeal to the Central Government

Any person aggrieved by an order of the Board under these regulations may prefer an appeal to the Securities Appellate Tribunal in accordance with section 15T of the Act.]

^aRegulations 37 & 38 were inserted by SEBI (Venture Capital Funds) (Amendment) Regulations, 2000 w.e.f 15.09.2000.

(viii) The application must be accompanied by an application fee as specified in the Second Schedule to these regulations.

1. Name, address of the registered office, address for correspondence, telephone number(s), fax number(s), telex number(s) of the applicant and the name of the contact person.
2. Please indicate to which of the following categories the applicant belongs.
 - (i) a company established under the Companies Act, 1956 (1 of 1956)
 - (ii) a trust set up under the Indian Trusts Act, 1882 (2 of 1882).
3. Date and place of incorporation or establishment and date of commencement of business (enclose certificate of incorporation, memorandum and articles of association or trust deed in terms of which incorporated or established).
4. (a) Details of members of the Board of Trustees or directors of the trustee company, as the case may be, in case the applicant has been set up as a trust.

(b) Details of members of the Board of Directors of the venture capital fund in case the applicant has been set up as a company.
5. Please state whether the applicant, his partner, director or principal officer is involved in any litigation connected with the securities market which has an adverse bearing on the business of the applicant; or has at any time been convicted for any moral turpitude or at any time has been found guilty of any economic offence. In case the applicant is a trust, the above information should be provided for the members of the Board of Trustees or of the abovementioned persons connected with the trustee company.

If yes, the details thereof.
6. Please also state whether there has been any instance of violation or nonadherence to the securities laws, code of ethics/conduct, code of business rules, for which the applicant, or its parent or holding company or affiliate may have been subject to economic, or criminal, liability, or suspended from carrying out its operations, or the registration revoked temporarily.
7. Details of asset management company, if any (enclose copy of agreement with the asset management company).
8. Declaration statement (to be given as below).

We hereby agree and declare that the information supplied in the application, including the attachment sheets, is complete and true.

AND we further agree that, we shall notify the Securities and Exchange Board of India immediately any change in the information provided in the application.

We further agree that we shall comply with, and be bound by the Securities and Exchange Board of India Act, 1992, and the Securities and Exchange Board of India (Venture Capital Funds) Regulations, 1996, and Government of India guidelines/instructions as may be announced by the Securities and Exchange Board of India from time to time.

We further agree that as a condition of registration, we shall abide by such operational instructions/directives as may be issued by the Securities and Exchange Board of India from time to time.

For and on behalf of _____
(Name of the applicant)

Authorized signatory _____
(Name) (Signature)

Date :

Place :

FORM B
Securities and Exchange Board of India
(Venture Capital Funds) Regulations, 1996
[See regulation 7(3)]
Certificate of registration as venture capital fund

- I. In exercise of the powers conferred by sub-section (1) of section 12 of the Securities and Exchange Board of India Act, 1992 (15 of 1992), read with the regulations made thereunder, the Board hereby grants a certificate of registration to _____
as a venture capital fund subject to the conditions specified in the Act and in the regulations made thereunder.
- II. The Registration Number of the venture capital fund is IN/VC

Date :

Place : MUMBAI

By Order
Sd/-
For and on behalf of
Securities and Exchange Board of India

SECOND SCHEDULE
Securities and Exchange Board of India
(Venture Capital Funds) Regulations, 1996
[See regulations 3(3) and 7]
FEES

¹[PART A
AMOUNT TO BE PAID AS FEES

<i>Application fee</i>	<i>Rs. 1,00,000</i>
<i>Registration fee</i>	<i>Rs. 10,00,000]</i>

PART B

- I. The fees specified above shall be payable by bank draft in favour of “The Securities and Exchange Board of India” at Mumbai.

²[THIRD SCHEDULE
Securities and Exchange Board of India
(Venture Capital Funds) Regulations, 1996
[See Regulation 2(3)]
NEGATIVE LIST

- (1) ³[***]
- (2) Non-banking financial services ⁴[excluding those Non-Banking Financial Companies which are registered with Reserve Bank of India and have been categorized as Equipment Leasing or Hire Purchase Companies.].
- (3) Gold financing ⁵[excluding those Companies which are engaged in gold financing for jewellery.].
- (4) Activities not permitted under industrial policy of Government of India.
- (5) Any other activity which may be specified by the Board in consultation with Government of India from time to time.]

¹Substituted by the SEBI (Venture Capital Funds (Second Amendment) Regulations, 2006, w.e.f. 04-09-2006.

Prior to its substitution Application fee was Rs. 25,000 and Registration fee for grant of certificate was Rs. 5,00,000.

²Inserted by the SEBI (Venture Capital Funds) (Amendment) Regulations, 2000, w.e.f. 15-09-2000.

³Omitted the words “Real Estate” by the SEBI (Venture Capital Funds) (Amendment) Regulations, 2004, w.e.f. 05-04-2004.

⁴Inserted by *Ibid*.

⁵*Ibid*.

14.12 AGENCIES INVOLVED IN PROVIDING VENTURE CAPITAL

14.12.1 Chrys Capital

ChrysCapital is a principal **investment** firm with approximately \$200 million under **management** across two funds with **offices** in Palo Alto, CA and New **Delhi**, India. Company invests equity in services and services related companies with defensible market positions and strong underlying organic growth potential. We have developed a strong track record realizing substantial returns for our **investors** and management.

14.12.2 Cipher Securities (India) Private Limited

Founded in 1994, Cipher is a **Mumbai** (erstwhile Bombay), India, based **investment** bank providing high quality services to corporate clients in Venture Capital & Private Equity Funding, Mergers & Acquisitions, Strategic Alliances and Corporate Advisory. Cipher is wholly owned by the team and has remained focused only on these areas to fully leverage its synergies. We have concluded transactions totaling over US\$ 350 million in a wide range of sectors in India and the US.

14.12.3 Dawn Consulting

Our services are, Assisting start-up teams from concept to capital. Business transformation advice with active participation. Consulting assignments in M & A, fund raising, financial restructuring, deployment of funds etc. Virtual CFO service Actuarial valuation of leave, gratuity and pension liabilities.

14.12.4 Grameen Fund

Grameen Bank's highly successful credit program for the rural poor is known worldwide. Through experience, however, it has come to realize that its long-term developmental objectives require establishing a mechanism to provide high volume risk capital.

14.12.5 Gujarat Venture Finance Limited

GVFL Ltd. (formerly Gujarat Venture Finance Limited) is widely regarded as the pioneer of venture capital in India. GVFL Ltd. is an independent, board-managed, autonomous venture **finance company** based at Ahmedabad, Gujarat (India). Started in 1990 at a World Bank initiative under the aegis of Gujarat Industrial and Investment Corporation (GIIC), GVFL Ltd. is a 'classical' venture capital company focused on funding small and medium technology-based enterprises.

14.12.6 ICICI Venture

ICICI Venture is one of the largest and most successful private equity firms in India with funds under **management** in excess of USD 2 billion. Its **investment** focus areas span across private equity, buyouts, real estate and mezzanine financing. It has several firsts to its credit in the Indian Private Equity industry. ICICI Venture, over the years has built an enviable portfolio of companies across sectors including pharmaceuticals, Information Technology, media, manufacturing, logistics, textiles, real estate etc thereby building sustainable value.

14.12.7 IFCI Venture Capital Fund

IVCF (formerly known as Risk Capital & Technology Finance Corporation Ltd.) is a subsidiary of IFCI Ltd. and is a public financial institution. It was promoted with the objective of broadening entrepreneurial base in the country by providing funds to fill gap in promoters contribution in project. IVCF promoted as a society - Risk Capital Foundation in 1975, was corporatised in 1988.

14.12.8 India Co Innovation Center

IndiaCo is a private equity group that specializes in mobilization of resources for enabling innovation through the lifecycle of an enterprise; IndiaCo has been recognized by various multilateral agencies and is currently supported under the InfoDev initiative of the World Bank.

14.12.9 Indian Venture Capital and Private Equity Association

Indian Venture Capital and Private Equity Association (IVCA) is a member based national organization that represents venture capital and private equity firms, promotes the industry within India and throughout the world and encourages **investment** in high growth companies.

14.12.10 Mantra Consultants

We are a New **Delhi** headquartered real estate-architecture-retail cum mall-event **management** consulting firm, consisting of Architects, Planners, Interior Designers, Real Estate Professionals and Retail Specialists. We specialize in executing Real Estate Transactions, Investment Advisory, Architecture Consultancy, Interior Designing, Retail & Franchise Consultancy and Mall-Event Management Services to our clients in India and Overseas. With our corporate tie-ups we are able to advise our clients on executing and conducting deals by creating an unmatched level of professional service in the Indian market. The firm is focused on providing the highest quality of advice to large, medium and small corporations.

14.12.11 Nova Star Funds

Nova Star Funds is managed by leaders and pioneers in the VC and small cap business in India. The managers have a track record of investing in and building a number of Indian companies that are recognised as Stars today. The firm manages funds that invest in profitable small and midcap Indian companies that have the potential to emerge as Stars.

14.12.12 Techcap India Private Limited

Techcap India Private Limited (formerly Technology Capital Partners) has been set up exclusively to cater to the needs of the digital age **company** in different stages of growth. It provides services in the areas of funding, strategic alliances, mergers & acquisitions and business advisory services. We believe that the sector's requirements in these areas are unique, driven by its dynamics, which are at variance from traditional industries.

14.12.13 Technology Capital Partners

Techcap India Private Limited (formerly Technology Capital Partners) has been set up exclusively to cater to the needs of the digital age **company** in different stages of growth. It provides services in the areas of funding, strategic alliances, mergers & acquisitions

and business advisory services. We believe that the sector's requirements in these areas are unique, driven by its dynamics, which are at variance from traditional industries.

14.12.14 The Aavishkaar India Micro Venture Capital Fund

The Aavishkaar India Micro Venture Capital Fund (Aavishkaar) is a venture fund founded to promote development in rural and semi-urban India. Aavishkaar believes entrepreneurs can be a powerful force for development. To this end, the firm provides micro-equity funding (Rs. 10 lacs to Rs. 2 Crore), approximately USD \$20 thousand to USD \$500 thousand) and operational and strategic support to commercially viable companies increasing income in or providing goods and services to rural or semi-urban India.

14.12.15 The View Group

The View Group is an international private equity firm. Company invests in high potential companies, providing them with capital, strategic guidance and access to global operations and markets. It has **offices** and professionals in the US and India, View is dedicated to playing an integral role in the growth of world-class businesses by enabling them to access efficient operations in India and markets worldwide, enhancing their competitiveness and transforming their industries.

14.12.16 UTI Venture Funds

UTI Ventures is a leading Indian Private Equity firm. We are backed by marquee **investors** from India and overseas. We are associated with UTI AMC, India's largest asset **management company**. UTI Ventures currently manages funds in excess of USD 200 million. Ascent India Fund is a Private Equity Fund launched in April 2005 with the objective of investing in promising mid market opportunities in India.

14.12.17 Walden International

Founded in 1987, Walden International is an established global venture capital firm. With committed capital of over US\$1.6 billion, we strive to invest in entrepreneurs and companies that demonstrate an ability to gain a competitive advantage in the markets they serve. The company's **investments** are focused on four key industry sectors: communications, electronics/digital consumer, software & IT services, and semiconductors.

14.13 LET US SUM UP

Venture capital (also known as **VC** or **Venture**) is a type of private equity capital typically provided to immature, high-potential, growth companies in the interest of generating a return through an eventual realization event such as an IPO or trade sale of the company. Venture capital investments are generally made as cash in exchange for shares in the invested company. Venture capital typically comes from institutional investors and high net worth individuals and is pooled together by dedicated investment firms.

A **venture capitalist** (also known as a **VC**) is a person or investment firm that makes venture investments, and these venture capitalists are expected to bring managerial and technical expertise as well as capital to their investments. A **venture capital fund** refers to a pooled investment vehicle (often an LP or LLC) that primarily invests the financial capital of third-party investors in enterprises that are too risky for the standard capital markets or bank loans.

Venture capital is most attractive for new companies with limited operating history that are too small to raise capital in the public markets and are too immature to secure a bank loan or complete a debt offering. In exchange for the high risk that venture capitalists assume by investing in smaller and less mature companies, venture capitalists usually get significant control over company decisions, in addition to a significant portion of the company's ownership (and consequently value).

The investment of capitalists in Indian industries in the first half of 2006 was \$3 billion and reached \$6.5 billion at the end of the year.

The Reserve Bank of India, in regard to foreign exchange management act, frames the policy. The regulations of RBI for venture capital funds are that a SEBI registered venture capital fund investor can invest with the general permission of the RBI into Venture Capital Fund or Indian venture capital undertakings, according to the rules and regulations as specified by RBI notifications from time to time. In income-tax act 1962 venture capital fund consider as a pass through entity & not taxed, but income from this is taxed in investor's hand.

14.14 LESSON END ACTIVITY

Write a note on the agencies involved in providing venture capital.

14.15 KEYWORDS

Venture Capital: It is a type of private equity capital typically provided to immature, high-potential, growth companies in the interest of generating a return through an eventual realization event such as an IPO or trade sale of the company.

Venture Capital Investments: Venture capital investments are generally made as cash in exchange for shares in the invested company.

Venture Capitalist: A venture capitalist (also known as a VC) is a person or investment firm that makes venture investments.

Venture Capital Fund: A venture capital fund refers to a pooled investment vehicle (often an LP or LLC) that primarily invests the financial capital of third-party investors in enterprises that are too risky for the standard capital markets or bank loans.

14.16 QUESTIONS FOR DISCUSSION

1. What do you understand by the concept of venture capital financing?
2. What are the steps involved in the venture capital financing process?
3. Discuss the functions performed by venture capitalists.
4. Who are angels? Why it is important to choose the right angels?
5. Explain the three stages in venture capital financing – Early stage financing, Second stage financing and later stage financing.
6. How does a venture capitalist appraise a business plan? Discuss the various steps involved in the process.
7. What are the various disinvestments options available to the venture capitalist? Discuss any one in detail.

Check Your Progress: Model Answers

CYP 1

Venture capital can be defined as investment in small or medium-sized unlisted companies with the investors participating, in some degree, in the management process.

CYP 2

1. The venture capital industry has four players, viz:
 - Entrepreneurs, who need funding
 - Investors, who want high returns
 - Investment bankers, who need companies to sell
 - Venture capitalists, who make money for themselves by making a market for the other three
2. The 'participating debenture' is an example of innovative financial security. This security charges interest in three phases: No interest is charged in the start-up phase. This is the stage before the venture attains operations to a minimum level. After this, a low rate of interest is charged up to a particular level of operation. Once the operations are successful and the venture starts operating completely, a high rate of interest is required to be paid. A change here could be in terms of paying a certain share of the post-tax profits instead of royalty.

CYP 3

1. (a) business plan, high growth; (b) financial intermediary, investors, entrepreneur (c) angel; (d) IPO, (e) entrepreneurs, investors, investment bankers, venture capitalists.
2. (a) T, (b) T, (c) T, (d) F, (e) F.

14.17 SUGGESTED READINGS

Sudhindra Bhat, *Security Analysis and Portfolio Management*, Excel Books, Delhi.

Preeti Singh, *Security Analysis and Portfolio Management*.

V.A. Avadhani, *Investment Management*.

M.Y. Khan, *Financial Services*.

V.K. Bhalla, *Financial Services*.

G.S. Batra, *Financial Services and Markets*.

Mahana Rao, *Financial Services, Cases and Strategies*.

L. M. Bhole, *Financial Markets and Services*.