

Master of Commerce

Semester -II

Paper Code –

INVESTMENT MANAGEMENT

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UNIT - 1

Investment

Objectives

The objectives of this unit are to

- discuss the nature, scope, avenues, elements and process of investment
- describe the types of risk, risk measurement, risk return relationship, cost involved in investment and sources of financial information
- explain the concept of time value of money

1. Introduction All of us whether individuals or organizations earn money by different economic activities and spend it for satisfying our wants. Sometimes, Income of people is more than their expenditure and other times, their expenditure on goods and services is more than income, these differences result into saving and borrowing of money respectively. When income is more than consumption people incline to save (surplus money). They have different alternatives to deal with their surplus money. Possibly some people may put extra money under a mattress or in a box in their home and wait for the time when their consumption desires go beyond current income. However, when they will take out their savings from mattress or box the amount will be same. One more possibility is that they may leave immediate possession of their savings for getting larger amount of money than current saving in future for consumption. Simply those who give up immediate possession of savings expect to receive in the future a greater amount than they gave up and those who consume more than their current income are willing to pay back more in future than they borrowed. In laymen language investment means sacrificing the present consumption to get a return in the future. It can be understood in the form of equation also. $\text{Saving} = \text{Income} - \text{expenditure}$. Once saving is given some one i.e. individuals or institutions in the expectation or with the aim of earning income or capital appreciation becomes investment. The individuals, corporate entities, banks and financial institutions, NGOs and government invest their surplus money for future return.

1.1 Investment: Prospective investors are individuals or institutions who have surplus money than they needs for immediate consumption. These individuals/institutions with surplus funds can invest in securities like equity shares, preference shares, debentures/bonds and in numerous physical assets like gold/silver or real estate or depositing in their bank accounts. Firms with surplus income may invest in its expansion activities or undertake new ventures. All above activities are called investment. Investment has two element namely time and risk. In the investment process present consumption sacrificed is certain, but getting a return in future is uncertain. This feature of investment signifies the risk factor. Economists view investment as net addition made to the nation's capital stock/productive assets used in further production of goods and services, whereas from financial managers point of view investment is the allocation of money to assets that are expected to yield income or gain over a period of time. Further financial investment can be called an exchange of financial claims such as shares, debentures or bonds for money in the expectation of return and capital growth over the years. Generally "an **investment** is

the current commitment of money for a period of time in order to derive future payments that will compensate the investor for the time the funds are committed, the expected rate of inflation, and the uncertainty of the future payments”.

1.2 Nature and Scope of Investment

Nature and scope of investment management can be understood by its broad definitions related to financial investments and economic investment and how it differs from speculation and gambling. Study of Investment management as a discipline covers

1. Meaning of investment, speculation and gambling, investment objectives, investment process
2. Avenues of investment, risk and return analysis, valuation of securities, Investment analysis approaches
3. Construction, evaluation and revision of portfolios.

1.3 Nature of investment management:

- It facilitates outlay/investment assessment.
- More the risk, more is the expected return.
- Decisions are taken only after evaluating complete process of investment.

1.4 Investment vs. Speculation: “Investment and speculation both involve the purchase and sale of securities in expectation of return but they are not same. Difference between investment and speculation can be understood from following Table No. 1

Table-1 Showing Difference between Investment and Speculation

Basis of Difference	Investor	Speculator
Time Horizon	Plans for a longer time horizon. Holding period may be from one year to few years	Plans for very short period. Holding period varies from few days to months.
Risk	Assumes moderate risk	Willing to undertake high risk.
Return	Likes to have moderate rate of return associated with limited risk	Like to have high returns for assuming high risk
Decision	Considers fundamental factors and evaluates the performance of company regularly	Considers inside information, hearsays and market behavior
Funds	Uses his own funds and avoids borrowed funds	Uses borrowed funds to supplement his personal resources

1.5 Investment Vs Gambling : Gambling is a very short term investment in a game or chance. It is different from speculation and investment. Time horizon involved in gambling is shorter than in speculation and investment. Further gambling is primarily done for entertainment, earning money is

secondary. Gambling involves artificial risks, whereas commercial risk exists in investment and speculation.

1.6 Element of Investment

The characteristics or elements of investment can be understood in terms of return, risk, safety and liquidity.

Return: The prime objective of any type of investment is to drive return. The expected return may be regular income (interest dividend, rent etc) or increase in the value of investment/capital appreciation, i.e. difference between the selling price and buying price of assets. The nature of investment (risky, less risky, non risky) is the deciding factor of required return from it.

Risk: Risk is the basic attribute of investment. Risk means variability in return because of loss of capital or nonpayment of income what so ever reason. More the risk more is the expected return and vice versa.

Safety: Safety rule of investment states that investors get back their original principal on maturity with no loss in value and hindrance.

Liquidity: It means an investor can sell his investment in market as need arise without incurring much transaction costs, less energy and time.

1.7 Objectives of Investment

The basic objectives of any investment is maximizing the return and minimizing the risk. In addition to the basic objectives other objectives of investment are safety, liquidity, hedging against the inflation etc. The above objectives may differ from one investor to another depending upon his/her risk appetite. Let us understand these objectives in detail.

i) Maximizing the Return: All investors expect a high return from their investment. The rate of return is the total income the investors receive during the holding period. Mathematically $\text{Return} = \frac{\text{Ending period value of investment minus Beginning period value of investment} + \text{dividend or interest}}{\text{Beginning period value of investment}} \times 100$ ÷. It is expressed in %

ii) Minimizing the Risk: The possibility that actual return from the security during its holding period may be less than the expected return is called risk. If the rate of return on an investment varies far and wide from one period to another is regarded riskier than those return do not vary much. But all investors want to reduce the risk of their investments.

iii) Safety: The safety principle of investment differs from one investment to another. Investment in government securities, deposits with bank are considered more safe than corporate securities like equity shares, debenture and deposits with NBFCs.

iv) Liquidity: Liquidity means conversion of investment into cash when needed without wasting time and incurring costs. Liquidity depends upon marketability and trading facilities. For examples securities listed in Sensex and Nifty are more liquid.

v) Protection against Inflation: The rate of return on investment should be higher or at least be equal to the inflation rate in the economy or else the investors will experience loss in real terms.

vi) Tax Exemptions: Some investors park their funds in financial instruments exclusively for reduction in their tax liability. Some investments provide tax exemptions whereas some offer tax benefits.

1.8 Investment Avenues: Investment avenues mean various types of investment opportunities available to park the savings as per the requirement of the investors. Generally investors park their funds either in real assets like gold, silver, land, etc. or financial assets like equity shares, debentures, government bonds etc. A brief discussion of different type of investment avenues are:

Equity Shares-: Investors can invest in equity shares of joint stock Company either in primary market or secondary market. Investors of equity shares get ownership right in company and receive dividends. If company is a good performer in industry and has potential for future growth, market price of share moves high consequently shareholders can sell shares at profit. High performer and dividend paying company's shares are named as blue chips/growth/income shares.

Preference Shares: Preference shares are a hybrid of equity shares and debentures. Preference shareholders get ownership rights as well as retain the privilege of fixed return on their investment. They have the priority to get a fixed rate of dividend and get back their capital back at time of winding up of company before equity share holders.

Debentures and Bonds: A bond or debenture is a creditor ship security on which the investors get fixed rate of interest and principal amount back at specified time/date from issuers. These are termed as long-term debt instruments. Many types of debentures and bonds have been designed keeping in view the need of investors.

Depository Receipts (GDRs/ADRs): Global Depository Receipts are securities in the form of a depository receipt or certificate created by the overseas depository bank outside India and issued to non-resident investors against equity shares or Foreign Currency Convertible Bonds (FCCBs) of an issuing company. A GDR issued in America and listed in American stock exchange only is called American Depository Receipt (ADR). Investors of ADR/GDR gets dividends/interest on their investment but do not enjoy the voting right.

Warrants: A warrant is a right to buy equity shares at a specified price within a stipulated time period. Generally a warrant is offered with preference shares or debentures/bonds to make them attractive. A warrant holder is neither has right to receive dividends nor a voting right before exercising his right. On the expiry date, If the exercise price is lower than market price of share, the warrant holder will buy the shares/exercise warrant as it is profitable. On the other hand, if the exercise price is more than the market price, the warrant holder would prefer to liquidate the debt of the firm and will not exercise his right to buy shares.

Derivatives: A derivative is an instrument (to buy or sell securities/assets) whose value is derived from an underlying asset such as stocks, bonds, commodity, stock indices like Sensex and Nifty. Commonly

traded derivatives in stock exchanges are futures and options. Speculators do derivative trading with very less investment. However, investors also participate in derivative market for reducing the risk.

Bank Deposits: Depositing money with bank either in saving account or time deposit accounts is highly liquid and suitable investment avenue. Deposits in savings bank account provides less return but almost zero risk, is best option for setting aside funds for emergencies, whereas bank fixed deposits is good for investors who want to preserve money value in the short term. Though, over a long period of time returns on fixed deposit may be lesser than inflation.

Company Fixed Deposits/Public Deposits: Many companies like banks offer public to deposit their money with them for a fixed period of time. Companies offer higher rate of interest on fixed deposits than bank but these are unsecured and carry risk. Credit rating of company offering public deposits must be taken into consideration.

Post Office Deposits and Certificates: Indian Postal department also allow people to deposit money in saving account, recurring deposit and fixed deposit account like banks. There are also varieties of post office savings certificates which are risk free and provide high yield to investors. For example National Savings Certificates (NSC) is sold by post office to investors. Maximum post office saving schemes offer tax exemptions/concession.

Life Insurance Policies: Life insurance policies not only a protection of risk but also serves as an investment avenue. These policies promote savings and additionally provide insurance cover. Life insurance policies are also eligible from tax exemption.

Provident Fund Scheme: Public and private sectors employees can invest certain percentage of their salary in different types of provident fund as applicable to them. Moreover, investment in (PPF) Public Provident fund Scheme operated by the State Bank of India is open for every member of public whether employed or not.

Equity Linked Savings Schemes (ELSSs): Investors who take risk in the expectation of high return can invest in units of growth oriented mutual funds. ELSSs are equity/growth oriented mutual funds where investors have to hold the investment for a minimum period of three years. These schemes have higher risk than PPF and NSCs, but at the same time offer higher returns. ELSSs investors get tax deduction under Sec. 80.

Pension Plans: Pension plans are investment schemes that allow savers to contribute a part of their income periodically to mount up amount over a period of time and provide them with sturdy income in the form of pension after retirement or reaching a certain age. These Plans provide financial security so that when they retire from job can still live with pleasure without compromising on their present standards of living. Many banks, insurance companies, are currently offering retirement/pension plans to needy people. Investment in pension plan also attracts tax deduction under Sec. 80.

Government and Semi-Government Securities: Any member of public can invest in the shares or bonds of Government/ semi-government/statutory bodies. The credibility of the government and government undertakings is high that is why less risk exists in these securities.

Mutual Fund Schemes: Investment in units of mutual fund mean indirectly investing in corporate securities. Unit Trust of India was the first financial institution established as mutual fund in our country. After that many commercial banks and financial institutions of both public and private sector o set up their subsidiary as mutual funds. Mutual funds offer numerous investment schemes according to the needs of investors.

Real Assets: Investment in immovable property like land and commercial building is most attractive because of high expected return. Most Investments in real assets are also made when the expected returns are very attractive. But investment in real assets require huge amount and further these are often linked with the future development plans of the location.

Bullion Investment: Investment in gold, silver, and other precious metals is termed as bullion investment. These metals are traded in the metals exchange. It is observed in the past that investment in bullion never disappointed investors. It has always provided return above inflation rate.

1.9 Investment Process The investment process is a stream of activities which ultimately leads to investment. It enables an investor to understand the various sources of investment strategies and philosophies. An Investment process consists of the following steps:

1. Deciding investment goals
2. Analysis of securities
3. Construction of portfolio
4. Evaluating performance of portfolio
5. Revision of portfolio

1. Deciding Investment Goals: Investment goals differ from one investor to another. These are set keeping in mind the basic goal of investment i.e. maximizing the return and minimizing the risk. The secondary goals of investment include regular income, capital gain, tax savings, liquidity and safety of principal. Further, investors have to select securities or financial instruments to construct portfolio to meet their investment goals.

2. Analysis of Securities: This is done by fundamental and technical analysis to find the intrinsic value of securities and the future trends of price movements in them respectively. Analysis of securities helps the investors to identify whether the securities are underpriced or overpriced. Investors can maximize return by investing currently underpriced securities but having potential to touch the peak. Further under this step investors are guided by the standard principal of investment buy at low price and sell when it is high.

3. Construction of Portfolio A portfolio is a blend of securities designed to meet investor's primary goal of investment to maximizing the return and minimizing the risk. To achieve this basic goal he diversifies his portfolio and allocates funds among different securities of different companies of different industries. A well diversified portfolio is comparatively less risky than holding a single security. Diversification of a portfolio may be on the basis of debt and equity securities, industry and company. When the securities are selected included in portfolio and funds are allotted construction of portfolio is completed.

4. Evaluating performance of Portfolio: An efficient managed portfolio calls for evaluation. This step is also called portfolio appraisal. Portfolio appraisal involves measurement of risk and return of security from time to time and comparing it with expected risk and return. Appraisal warns of the loss and steps can be taken to avoid such loss further.

5. Revision of portfolio: Revision of the portfolio depends on the results of appraisal. If the current portfolio is not serving the objectives of investment, the investor must design a new portfolio by selling certain less /underperforming securities and buying others that can improve return on portfolio.

1.10 Tax and Transaction Costs in Investment

Generally, expenses incurred and levies paid when buying or selling goods or services are named as tax and transaction. Tax and transaction costs are the part and parcel of investment. Some of the most common forms of cost include brokerage charges, stamp duty, securities transaction tax and other charges. Knowledge of transaction costs is important to investors because they are one of the key determinants of net returns. Transaction costs diminish returns. High transaction costs means thousands of rupees lost from not just the costs themselves but because the costs reduce the amount of capital available to invest. Different asset classes (securities) have different ranges of standard transaction costs and fees. An investor should always try to invest in that security where transactions and levies are low. When a fund manager buy or sell investment, portfolio transaction costs are incurred. These include broker execution commission and taxes. In addition to these direct costs, there are indirect portfolio transaction costs called dealing spread arising from the difference between the buying and selling prices of underlying investments. There are several charges that an investor has to bear when buying or selling securities. The following are some examples of transactions cost:

1. Brokerage Charges

As we know an investor directly cannot buy or sell securities in the stock market it is always through brokers. The broker charges fees "as his commission for the services rendered. For instance, if your transaction amounted to Rs 3,00,000, then your broker may charge a commission of 0.3% on that transaction which will amount to Rs 900. Brokers may be full service brokers and discount brokers depending upon the kinds of services they offered. Full-service brokers are brokers who provide an all-inclusive trading service that includes trading in stocks, currency, and commodities as well as related service of research advisory, management of sales and assets, investment banking, etc. The charges of a

full-service broker could range from anywhere between 0.01% to 0.50% of transaction value. Discount brokers provide investors with an execution platform for trading and charge a commission on their service. They, however, do not offer any investment advisory services. Their charges range between a flat fee of Rs 10 to Rs 20 per trade on intraday trading and delivery.”

2. Securities Transaction tax

“This is charged second only to the brokerage charge and is charged on both sides of the buy and sale transaction. In the case of intraday trading, the STT is only charged when the stock is sold. STT charges about 0.1% of the total transaction, on each side of trading, for delivery in general. The charges for intraday STT are around 0.025% of the complete transaction on the selling party.”

A) Stamp Duty: “This fee is levied on the value of shares that are transferred and in India; this rate differs from state to state as the duty is levied by various states. It is charged on both the buying and selling sides, charged on the total turnover amount.”

B) Service Tax: “Service charge is 15% of the brokerage charge paid and is the same for delivery as well as intraday trading”.

C) Transaction Charges: “Charged by the stock exchanges, these are charged on both sides of the trading with the charges for intraday and delivery being the same. A transaction fee of 0.00325% of the total amount is charged by the National Stock Exchange, while a transaction fee charged by the Bombay Stock Exchange amounts to 0.00275% of the total amount”.

D) Securities and Exchange Board of India (SEBI) Turnover Charges

“The apex market regulator of the securities markets in India charges a fee on both sides of a trading transaction with a turnover charge of about 0.0002% of the total amount. The charges are the same for both intraday and delivery trading.”

E) Depository Participant Charges

“The two stock depositories in India, the Central Depository Services Limited and the National Securities Depository Limited charge a fixed sum for keeping your transactions in an electronic form.”

3. Capital gain tax

“When you sell your share holdings at profit before the completion of one year since buying it is considered a short term and above one year it is termed long term capital gain. Special rate of tax of 15% is applicable to short term capital gains on equity shares irrespective of your tax slab. Long-term Capital Gain (LTCG) on equity shares above Rs. one lakh is taxable at the rate of 10% without the benefit of indexation. These are some of the charges that an investor or trader must keep in mind when seeking to trade on the stock markets.”

Source: <https://cleartax.in/s/equity-investment-cost>

1.11 Risk and Return analysis:

Risk: In finance risk is defined as variability in return or volatility in return. Risk is the chance of the actual return being less than the expected return. The probability that the return from any asset will differ from the expected return means the risk inherent in that asset. While assessing the risk the list of probability of outcomes of all possible events is prepared. Risk is different from uncertainty. In uncertainty the feasible occurrences and their probabilities are not known. The total Risk is the combination of systematic / uncontrollable risk and unsystematic/ controllable risk

Total risk= Systematic Risk + Unsystematic Risk

1. **Systematic Risk:** External factors causes systematic risk to a company, the company cannot control this risk. It is also called uncontrollable/unavoidable/Non-diversifiable risk. Whole market/all firms/industry is affected by systematic risk. The sources and types of systematic risk are outlined in the following heads:

Market Risk: The variability of return on a security/asset that arises because of alternating ups and downs/ bull and bear stage of market is called market risk. Both tangible events (quake, conflict, political turmoil, depreciating currency value) and intangible events like over reactions of market (psychology effect to tangible events) push the market either upward or downward affect the market. In simple words the risk of moving down return because of up and down market movement is called market risk.

Interest Rate Risk: When interest rate change results in variability of return is called interest rate risk. Interest rate risk affects both the bond return and cost of borrowing. When interest rates rise new issues will approach the market with higher interest rate then prices of old bonds/debts will go down. In the same way when the interest rate decline new issue comes to the market with low interest income than the price of older bonds/debts will rise. Most traders in the stock market trade with borrowed funds. The rise in the interest rate affects their profit margin. It leads to fall in the demand of security and further it will lead to fall in the value of stock indices. Increase in interest rates negatively affects the profitability of the company which leads to decline in earnings per share.

Inflation Risk/Purchasing Power Risk: Inflation means loss of purchasing power of money. The variation in rate of return because of inflation or probable loss in the purchasing power of the returns to be received is named as inflation/purchasing power risk. The rate of inflation is more than the nominal return on investment. The rise in prices penalizes the returns to investors. To tide over the purchasing power risk the investor should try to ensure that nominal rate of return is greater than the inflation rate.

2. **Unsystematic Risk-** Here the factors are specific, unique and related to the industry or company. It affects to a particular company or an industry. It is also termed as controllable/Avoidable/Diversifiable risk. It is classified into following categories:

Business Risk: Business risk is that part of unsystematic risk that arises because of operational environment of the company. Variation in the expected operating income reflects business risk. Business risk is further of two type's namely internal business risk and external business risk. Internal business causes because of internal factors of the company like fluctuation in sales, inefficiency of management, high fixed costs, obsolete product etc. External business risk arises from operating conditions imposed on the firm by circumstances beyond its control. These may be societal and political factors, monetary and fiscal policies of state, trade cycles or macroeconomic environment in which a firm or industry operates.

Financial Risk: Financial risk arises when a company uses debt capital along with equity capital. It is termed as financial leverage. Financial leverage is a tool to enhance the return to equity shareholders. The presence of debt and preference capital results in a commitment of paying of interest or a pre-fixed rate of dividend. The interest and fixed rate payment of dividends affect the payments that are due to equity shareholders. Sometimes the EBIT of the firm may vary adversely and it is not sufficient to pay the interest on borrowed funds in such situation firm faces financial risk. Financial risk is an avoidable risk because the management decides the share of equity and debt funds in the total capital.

1.12 Measurement of Risk:

“Risk is often associated with the dispersion in the likely outcomes. Dispersion refers to variability. It is assumed to arise out of variability, which is consistent with the definition of risk as the chance that the actual outcome of an investment will differ from the expected outcome. If an assets’ return has no variability, it has no risk. For example a one-year treasury bill purchased to yield 10 percent and held to maturity will yield 10%”, as government will not make any default. So it is risk free security. There are two measures to precisely measure risk. These are standard deviation and Coefficient of variance.

Standard Deviation: Standard deviation is a measure of dispersion or variability of return. The dispersion/variability of return indicates the degree of risk. In statistics standard deviation is the square root of squared deviations calculated from the mean. The deviation is the difference between an outcome and the expected mean value of all outcomes. It is shown by the symbol ‘ σ ’ Sigma. Total risk of an asset or a portfolio is measured by standard deviation or in other words total variability of a security or portfolio’s return is measured by standard deviation what so ever the reason behind variability.

Coefficient of Variance: The coefficient of variance shows the risk per unit of return and it provides a more meaningful basis for comparison when the expected return on two securities is not the same. To find coefficient of variance, standard deviation of return is divided by the expected mean return.

Returns:

The main objective of an investment is appreciation in the value of money invested either in the form of interest/dividend or capital gain. Return is the profit/benefit associated with investment. We invest money so that we get return on it. Measuring return assumes a strategic importance in investment analysis as the investment is undertaken to get returns.

Total Return: Yield/income and profit due to price changes/capital gain are the components of total return from a security or portfolio.

$$TR = \frac{(\text{Any income received in the form of interest/dividend/rent} + \text{difference between selling and buying of security}) \times 100}{\text{Buying Price of asset}}$$

Types of Return:

Ex-post return: If the return is computed for a security for the past period it is called ex-post return.

Ex-ante return: If the return is being computed for a security for the future period it is called ex-ante return. When an investor wants to know what return he can get on his investment in the next period he has to assign probabilities to the return. Ex-ante return is also called expected return because it is the return the investor expects to receive.

Nominal rate of return: It's the rate of return on an investment before considering tax & inflation rate.

Real return of return: It's the return an investor receives after the rate of inflation is taken into account.

Effective rate of return: It's the rate of interest on an investment annually when compounding occurs more than once.

Portfolio return: The weighted average of the returns of individual securities included in the portfolio, (weights are the proportion of amounts invested in each security) is called portfolio return.

1.13 Risk Return Relationship: Understanding risk return pay-off is essential before managing the portfolio of securities. The relation between risk and return is that, potential return rises with an increase in risk and falls with decrease in risk. This means that a security with low risk gives low returns whereas high levels of uncertainty or risk of the security provide huge returns. Risk return relationship is depicted in following figure

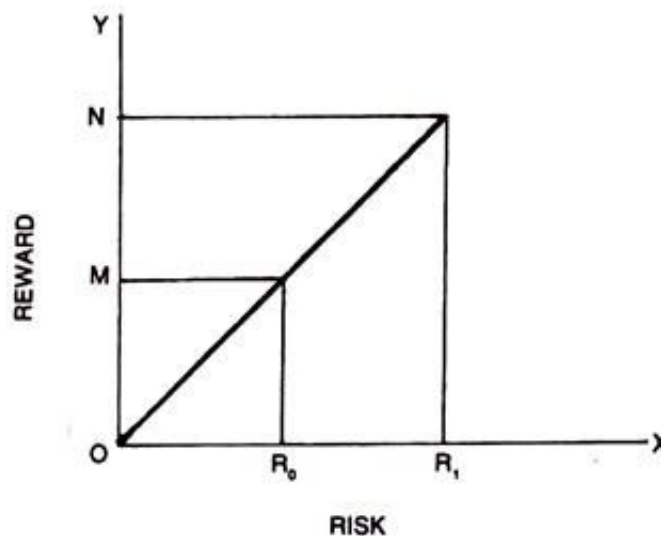


Fig. 2

At R_0 risk, the return/ reward is only OM. If we take a higher risk of R_1 , the return/reward will increase to ON. But if return/reward is desirable, risk is undesirable. Hence, the investor who wants the risk taken to be only R_0 , but return to be ON he has to plan his Investments in portfolio. This is what in essence is called portfolio management

The portfolio return is related to risk. There is also a risk free return, which is secured by any investor by keeping his funds in say bank deposits or post office deposits or certificates. Beyond the risk free rate, the excess return depends on many factors like the risk taken, expertise in selectivity or selection, return due to diversification and return for expertise of portfolio manager.

Let us take two companies X and Y to calculate the expected return and risk

Company X's Return

Economic Condition	r (Return) %	P (Probability)	PX Expected Return
A	6	.10	.6
B	7	.25	1.75
C	8	.30	2.4
D	9	.25	2.25
E	10	.10	1.00
			$\sum E(r) = 8$

Company Y's Return

Economic Condition	r (Return) %	P (Probability)	PX Expected Return
A	4	.10	.4
B	6	.20	1.2
C	8	.40	3.2
D	10	.20	2.0
E	12	.10	1.2
			$\sum E(r) = 8$

In the above example expected means of returns are same in both X and Y companies that is 8%. Company X's return varies from 6% to 10% while the company B's return varies from 4% to 12%. If some investor looks into only return he /she can invest in either X or Y Company as mean return is 8% in both cases. But to find risk standard deviation technique is applied.

Computation of Risk and Return if an Investor Select Company X for Investment

Economic Condition	r (Return) %	P (Probability)	PX r Expected Return	r-E(r) Deviation	{r-E(r)} ² Deviation Squares	P X {r-E(r)} ² Variance
A	6	.10	.6	-2	4	.40
B	7	.25	1.75	-1	1	.25
C	8	.30	2.4	0	0	0
D	9	.25	2.25	1	1	.25
E	10	.10	1.00	2	4	.40
$\sum E(r) = 8$						1.30

$\sigma = \sqrt{1.30} = 1.14$ Expected return in Company X is 8%, Whereas Risk is 1.14 %

Computation of Risk and Return if an Investor Select Company Y for Investment

Economic Condition	r (Return) %	P (Probability)	PX r Expected Return	r-E(r) Deviation	{r-E(r)} ² Deviation Squares	P X {r-E(r)} ² Variance
A	4	.10	.4	-4	16	1.6
B	6	.20	1.2	-2	4	0.8
C	8	.40	3.2	0	0	0
D	10	.20	2.0	2	4	0.8
E	12	.10	1.2	4	16	1.6
$\sum E(r) = 8$						4.8

$\sigma = \sqrt{4.8} = 2.19$ Expected return in Company Y is 8%, whereas Risk is 2.19 %

As mentioned above expected return is same for X and Y companies but the variation in expected return are different. Company X’s return is stable compared to company Y’s expected return as variability in X’s return (**Risk**) is **1.14%** whereas it is **2.19%** in case of Y. The standard deviation helps to measure the variability of return. The variability in return includes both systematic and unsystematic risk. So an investor prefers Company X for investment.

1.14 Time Value of Money: Concept of time value of money states that money which is received today, is more valuable than money receivable in future. The amount of money that is received early can be further reinvested to earn income in the form of interest. That is why; people prefer to receive money at an earliest. It is also termed as an individual's **time preference for money**. The time preference for money is generally expressed by an interest rate. For example if interest rate is 6% it means that an individual can sacrifice the opportunity of receiving Rs.100 today if he is offered Rs 106 after one year. The following are the two technique of time value of money:

a) Compounding Technique: Compounding of interest may be done once in a year or it may takes place for variable periods (like semi-annual, quarterly etc) or may be for annuity or uneven series of cash flows. For example compound value or future value of a single cash flow can be calculated by the following formula:

$$CV = Po (1 + I) n$$

Where,

CV = Compound value, Po = Principal amount, I = Interest per annum, n = Number of years for which compound is done

$(1 + I) n = CVIF I \dots n$ or future value inter factor for interest and 'n' years.”

II) Discounting Technique: Under discounting technique an interest rate is used to discount the future cash flows (may be an annuity or uneven series of cash flows or single flow) to find out their present values. The present value of a future cash inflow (or outflow) is the amount of current cash that is of equivalent value to the present value. Basic formula to compute present value of a single cash flow is:

Present value can be calculated by the following formula:

$$PV = FV_n \left[\frac{1}{(1+I)} \right]^n \text{ OR } FV_n [PVIF_{I,n}]$$

PV = Present value

FV_n = Future value receivable at the end of 'n' years
I = Interest rate or discounting factor or cost of capital
n = Duration of the cash flow

$PVIF_{I,n}$ = present value interest facts at 'I' interest and for 'n' years

For example the present value of \$ 40,000 receivable after three year at 10% interest rate will be

$$\text{Solution: } PV = FV_3 \left[\frac{1}{(1+I)} \right]^3$$

$$= \$ 40,000 [1/1+0.10]^3$$

$$= \$ 40,000 (0.751)$$

$$= \$ 30,040$$

Refer present value factor .751 in PV Table at 3 years for at 10 % rate.

1.15 Sources of Financial Information

Before proceeding to investment a rational investor must know the different avenues/alternatives of investment in a particular economy/market. Further he should possess necessary intuitive/in sight skill to analyze the economy, industry and the company. Plenty flow of information is needed for fundamental analysis to make potential investment. Sources of information depend on the type of information needed. The following are the major sources of financial information to cater the needs of investors:

a) Information of Global and Domestic Economic Environment

Information regarding current global economic environment is crucial for investment in domestic market as well as in international market. Global political developments, wars and foreign markets influence domestic income, output, employment and investment. Financial dailies like Economic Times, Financial Express, Business Line and Business standard etc., report on world and domestic economic affairs (like national economic policies, national income/GDP, agricultural output, monsoon, money supply, inflation, Government policies, taxation etc. Apart from this, foreign journals like London Economist, Far East Economic review and Indian journals like Business India, Fortune India etc., give day-today developments that took place abroad and within the country relating to trade and commerce. IMF News Survey, World Bank and IMF Quarterly Journals, Newsletters of Foreign Banks like Grindlays, Standard Chartered etc., report on world developments. The reports of the Planning Commission and annual reports of various ministries, RBI periodic bulletins, reports on currency and foreign exchange reserves provide information on economy, industry and trade sectors of our country.

b) Industry Information

The monthly reports of various business associations, Government publications, daily financial papers, (CII) Confederation of Indian Industry, Directory of Information published by Bombay Stock Exchange, reports of the Planning Commission, associations such as Chambers of Commerce, Merchants' Chamber etc., give large amount of information on different types of industry.

c) Company Information

Information related to company regarding its financial information, management team can be accessed through their annual reports, Stock Exchange publications, Department of Company Affairs' circulars, press releases on corporate affairs by Government, industry, chamber etc. Financial papers, fortnightly journals of capital market, Dalal Street, Business India furnish information about the companies listed on recognized stock exchanges.

d) Security Market Information

Investments in financial assets require information about security market. The credit rating of companies, market trends, security market analysis, market reports, equity research reports, trade and settlement data, listing and delisting records, book closures, BETA factors etc., are called security market information. Financial papers like Economic Times, Business Line, Financial Express etc., report on trade cycles and settlements, record dates, book closures etc. Chartered Financial Analyst reports on

economic data, company information, market information, security analysis, and beta factors etc., which help in security analysis. SEBI, BSE, NSE, and RBI have provided access to their official website for stock market information.

Self Assessment Questions

1. What is investment and how will you distinguish it from speculation and gambling?
2. Define securities and give a brief account of different type of securities.
3. In the absence of information, the investor cannot carry out his investment programme. Comment
4. Define different types of risk and return and how these are measured?
5. What is time value of money? Distinguish compounding and discounting techniques of time value of money.
6. Discuss the various types of cost involved in security transactions.
7. Explain the primary and subsidiary goals of investment.
8. Describe the various steps involved in investment process.

Suggested Book Readings:

1. Security Analysis and Portfolio Management: - By Punithavathy Pandian. Vikas Publishing House PVT. LTD.
2. Security Analysis and Portfolio Management: - By S Sasidharan and Alex K Mathews. Tata McGraw Hill Education Private Limited.
3. Security Analysis and Portfolio Management: - By S Kelvin. PHI Learning Private Limited.
4. Security Analysis and Portfolio Management: - By Donald E Fisher, Ronlad J Jordon and A K Pradhan. Pearson Education.