[Academic Script]

Financial Management Introduction - Part: 2

Subject:	Business Economics
Course:	B.A., 3rd Semester, Undergraduate
Paper No. & Title:	Paper – 303 Business Finance
Unit No. & Title:	Unit – 1 Financial Management Introduction
Lecture No. & Title:	Lecture – 2 Financial Management Introduction - Part: 2

Academic Script

1. Time value of Money

The value of money today is more than the value of money in future.

A firm has cash flows occurring in different time periods. Cash flows occur in different time periods and cannot be treated at par even if they are of same amount. As we move into the future the uncertainty increases and hence the risk. A rupee that is received today is more valuable than the rupee received in distant future. This is because when we receive money today we can reinvest it and earn some return on it. The future is uncertain and because of uncertainty and risk an individual is not certain about the future cash flows. It is rightly said a bird in hand is better than the two in bush. Moreover individual prefer money now so that they can use it for current consumption, which otherwise they would have to postpone. Therefore, the three major reasons for time value of money are risk and uncertainty, Preference for current consumption, and investment opportunities. Time value of money is an individual's preference for possession of a given amount of money now, rather than the same amount at some future time. It means that the value of a unit of money is different in different in different time periods.

This concept can be explained with an example, An individual is offered Rs five hundred now and Rs five hundred one year after, would prefer five hundred now because either he can use it for present consumption or he can invest it and earn a return of say

10 percent and at the end of one year his money would become five hundred fifty.

The time preference for money is expressed by an interest rate which will be positive even if there is no risk and therefore called risk free rate. All the government securities give this return. In reality there is some amount of risk involved so the investor requires a return, which actually compensates him for bearing risk, called risk premium.

Therefore, the required rate of return is the summation of risk free rate+ risk premium. The risk free rate compensates for the time and the risk premium compensates for the risk. The required rate of return helps in converting of cash flows in different periods to its present value.

2. Techniques for adjusting the cash flows

Here we are referring to the two most important techniques for adjusting the cash flows.

- **Compounding**
- **Discounting**

Compounding is the technique for converting the present value to future value of cash flows.

We will understand this technique with the help of a numerical example:

Mr Bajrangi invests in a saving bank account Rs 5000 at 5 percent interest compounded annually, how much would he receive at the end of the first year and second year?

He would receive Rs 5250 at the end of one year, at the end of second year he would receive 5 Percent on 5250 that is Rs 262.5 as interest and principal amount would be Rs 5512.5.

Discounting is the technique of converting the future value into present value of cash flows.

Example: Mr Bajrangi has been given an opportunity to receive Rs 5060 one year from now at a interest of 6%. How much he should be investing now?

We must determine how much Rupees must be invested at 6% today to get 5060 after one year. Suppose P is the principal which is invested at 6% then P (1+.06)= 5060.
Therefore P= 5060/1.06= Rs 4774.

This is the present value of Rs 5060 received one year from now. Future value is the value of money in future. On the other hand, present value of a future cash flow is the amount of current cash that is of equivalent value to the decision maker.

Compound value: The compound value can be future value for a lump sum or annuity. The compound value factor is always greater than one indicating that present value will always grow to a larger compound value.

Concept of Annuity

Annuity is a fixed payment or receipt each year for a specified number of years for example if you rent a flat and promise to

make a series of payments over an agreed period, annuity is created.

An individual places Rs 10000 in the savings account of a bank at 5% interest rate. How much shall it grow at the end of three years?

F_1=10000 + 10000*5%

=10000 + 500

= 10500.

F_2 = 10500 + 10500*5%

= 10500+ 525

=11025

F_3 = 11025 + 11025* 5%

= 11025 + 551.25

= 11576.25.

The amount of 10000 has grown to 11576.25 in three years. In compounding interest is earned on interest. If we directly multiply 10000 with the compound value factor that is 1.1576 for three years, the amount is 11576.

Take another example to understand the concept:

A firm deposits Rs 50000 at the end of each year for four years at 6% rate of interest. How much would this annuity accumulate at the end of the fourth year?

If we multiply 4.375 by Rs 50000, we obtain a compound value of Rs 218750.

Mr X deposited 65650 in a bank, which pays a 12% rate of interest on a ten year time deposit, how much would the deposit grow at the end of ten years?

We will first find out the compound value factor at 12% for ten years. Referring to table A and reading the tenth row for 10 year and 12% column, we get CVF of Re 1 as 3.106. This 3.106 is multiplied by Rs 65650, we get Rs 203908.90 as the compound value.

Perpetuity is an annuity that occurs indefinitely. Perpetuities are not very common in financial decision-making.

Mr Bajrangi wants to find out the present value of investments, which yield Rs 2500 in perpetuity, discounted at 5%
This can be calculated with the help of a formula
P= A/i
=2500/.o5
=50000.

Nominal and Effective rate of Interest

Nominal rate of interest is the normal rate given on the investment annually. It is also known as the coupon rate of interest. When compounding is done multiple times in a year, it becomes effective rate of interest.

3. Concept of risk

A firm is exposed to different types of risk. Risk exists because the decision maker cannot make perfect forecast. Risk occurs when the actual differs from the expected forecast. It is simply

because forecast cannot be made accurately as future is uncertain. An investment is considered to be safe if cash flows occur as per the estimates so risk arises in investment evaluation because we cannot anticipate the occurrence of the possible future events with certainty. Risk is defined as the variability that is likely to occur in the future returns from the investment. When investment is made in government securities, say bond of Rs ten thousand, it is almost a risk free investment as there is very less possibility that the government would default. So the rate of interest, which is earned on such investment, is known as risk free rate of interest. This kind of investment assures you low rate of interest or return but in all the investments, return is not static, it is variable as in case of equity investment. Risk is associated with variability of returns. The greater the variability, the riskier is the investment.

Statistical Techniques are analytical tools for handling risky investments (Financial Management Xth edition I M Pandey Vikas Publishing house Pvt Ltd.Page no 273)

These techniques help in the estimation of risk in the capital budgeting proposals.

Probability Assignment

It is described as a measure of someone's opinion about the likelihood that an event will occur. If event is certain to occur,we assign the probability of one but if the event is not certain to happen, we assign the probability of zero. Thus, probability of all events will fall between 0 and 1.

Variance and Standard Deviation

The dispersion that is the actual cash flows are different from the expected ones indicates the risk. A commonly measure of this risk is Standard Deviation or variance. If the standard deviation is high then it indicates that there are large deviations and the project is more risky.

Coefficient of Variation

A relative measure of risks is the coefficient of variation. It is defined as the standard deviation of the probability distribution divided by its expected value. This measure is useful when we are comparing the projects which have same standard deviations but different expected values or same expected values but different standard deviations.

Risk and uncertainty

Risk and uncertainty are two different situations. Risk is a situation where the probability can be assigned and uncertainty is the situation where probability cannot be assigned, as there is no exposure to such situation in the past

Concept of Return

It is the earning, which an investor earns on the investment. It could be in the form of interest or dividend and capital gain. Usually return is expressed in percentage. Risk and Return have a directly proportionate relationship with each other. If risk increases the chances of return would also increase and vice versa. In case of dividend income, the risk incurred in the investment is more so chances of earning more dividends. Sometimes companies declare huge dividends and sometimes

the companies do not declare it at all. The expected rate of return is the sum of the product of each outcome and its associated probability (Financial Management Xth edition I M Pandey Vikas Publishing house Pvt Ltd.Page no 83). It is basically average rate of return. The average return on equity shares has been more than the average return on government bonds. The difference between the average share return and return on government bonds is the risk premium.

4. Summary

Money has time value. A rupee is more valuable today then in a future period. This is because of various reasons like one can use money for consumption, one can invest that money to earn a return and there is less risk associated with the current receipt. A financial decision taken has a long-term impact and hence taken carefully by incorporating the concept of time value of money. Since cash flows involve different time periods, there should be some common denominator to compare them and the basic requirement for a valid comparison is the incorporation of time value of money. It is necessary to convert the sums of money to a common point of time. The techniques employed to incorporate time value of money can broadly be categorized into discounting and compounding.