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Topic: Time value of money

This is one of the important concept in the financial management where the investment is made by keeping in view the importance of time which goes to affect the value of investment which is generally made in the current year and against which the amount of the benefit is expected in future .There is no doubt that the value of the money goes to decrease due to inflationary situation in any country of the world .Hence ,the value must be calculated by keeping in view the rate of decrease in the value of those investment as well as in those amount of the benefit which we are going to receive in future. Hence, we find that concept of time value of money is really very important among all the concepts and principles used in the field of financial management .This is based on this assumption that money has a time value .Rupee which is received after the expiry of a number of years from the date of its investment which is today or which is in the current year, naturally, the value of that investment will be less than the value which we find today. This goes to happen because of this feeling that the resources are very much Limited for any person and if they dare to invest somewhere ,they go to deferring their present needs and requirements .They Go to postpone their immediate needs and requirements with this expectation that the amount of the benefit will be more which will be very much sufficient for meeting the future needs and requirements and it will be more than the amount of the sacrifice as made during the present time period.

There are three important factors which contribute to the time value of money:

(1) There is the simple principle that uncertainty increases with the future time period and there is no certainty to get the repayment and what you expect the benefit in future. The promise to pay the benefit in future is going to suffer with the amount of risk and uncertainty which is involved in the present investment. Not only that but it is also important to see that the promise of one rupee after the expiry of 10 years is much less than the amount of investment which is made for five years or one year or So on. Thus, the future uncertainty and risk of getting repayment of the capital and the amount of benefit against this investment goes to promote or affect the value of money which is generally invested in any activity.

(2) The inflationary condition has also its impact on time value of money. There is no doubt that purchasing power of the money goes to decrease with the passage of time and if the inflation is expected to continue in future, rupees will have a depreciated value compared to current value.

(3) There is opportunity cost associated with an expenditure which again makes future rupees less valuable than the current ones. Opportunity cost arise because a Rupee today can be profitably

invested and as a result will be worth more than a rupee in the future. Opportunity costs are not losses in the absolute sense but they are relative to what could have been, had the decision-maker made the best use of available resources. By opting for use of resources over another a decision maker always incurs an opportunity cost equal to the income that could have been earned on the next best alternative. Thus, time value of money is based on the premise that cash flows occur at different points of time.

As such, there are the important ingredients of time value of money and these components are as follows:

(1) Timelines: It is an important tool of time value of money that provides insight to the analyst about the timing and amount of each cash flow in a cash flow stream. It clearly denotes that the value of the money as invested today and amount of the benefit which is expected in future both will go to decrease with the passage of time. Hence, there should be the sufficient amount of the benefit which we expect in future so that the loss as occurred because of the decrease in the value of money and amount of investment that must be compensated with the additional advantage which we are expecting in future against this investment.

(2) Theory of interest: Actually, this is based on this principle that no money is free of cost. We have the opportunity to invest our money in any safe investment where we can expect a certain amount of the interest without bearing any risk. We get certain interests by depositing this money in bank or in any other secured investment. By making investment, we are losing the amount of interest, hence, it is quite natural that the amount of the benefit should be as such which will at least meet the amount of Loss which we face in the form of interest. This is the reason that in Economics interest is never considered as an item of benefit because the amount of the interest which we charge against the principal amount as invested anywhere goes to compensate the amount of the loss as found due to decrease in the value of the principal which we go to receive on the date of maturity. So, it is just equal to the amount of the loss which we go to suffer by losing the value of principal as we go to receive in future. If the amount of the interest is more than the amount of the loss which we go to suffer by the decrease in the value of our principal amount, the balance is treated as a benefit. Thus, the whole amount of the interest is never considered as an item of benefit in Economics. However, the amount of the interest is going to be considered as an item of benefit in accounting. Thus, while making investment, the amount of the investment where interest which we lose by not investing in our own activity but in the place of that we have decided to invest this money in other activities where we are expecting some benefit must be compared with the amount of that interest which we are loosing because of that investment. Not only that but even this amount of the interest which we are expecting against the investment of principal amount is going to be affected with the time value of money because decrease in the value of money is also affected with the passage of time. Thus, the value of interest is also going to be affected with the time value of money.

(3) simple rate of interest and compound rate of interest :It is important to take into consideration that interest is generally charged either at the simple rate of interest or at the compound rate

of interest .Thus, the simple rate of interest and compound rate of interest are also one of the important considerations in the time value of money .Simple rate of interest is generally charged on the principal amount where the amount of the interest is going to be the same in each and every year till repayment of the principal amount but so far the compound interest is concerned, it is the interest on the amount of the interest. This is based on this principle that the interest is generally charged on annual basis and which we expect at the end of the year but if it is not paid by the borrower at the end of the period, it will also increase the principal amount and the benefit of the second year must be given not only on the amount of the principal but also on the amount of the interest of the previous year Thus, when the interest is charged on the principal as well as on the amount of the interest as earned in the previous year ,this is known as compound interest. Whether, the case is the amount of simple interest or the compound interest both will be adjusted with the time value of money because the amount of the interest is on yearly basis either at the simple rate or at a compound rate.

(4) The next component in the time value of money is the present value factor: It is calculated by keeping in view or assuming the rate of decrease in the value of money. If we go to assume the rate of decrease @ 10% in that situation the value of Rupee 1 at the end of the first year will be 0.909 by dividing hundred with 110. Similarly, if we assume the rate of decrease at 15% or 20% accordingly, we go to calculate the value of Rupee 1 by dividing hundred with 115or 120. When we go to calculate the present value factor of Rupee 1 for the subsequent years that is second year ,3rd year and 4th year, it is always calculated by keeping in view the present value factor of the previous year x hundred by hundred plus rate of decrease .Thus, the amount of the cash inflows for the benefit is going to be multiplied with the present value factor in order to find out the exact amount of benefit which is compared with the present cost of investment for the purpose of taking appropriate investment decision.

(5) Annuity rate: The annuity rate is generally calculated by finding out the aggregate of the present value factor taking into consideration the period and the rate of interest in respect of the particular investment or in the case of any borrowing or loan.

 Thus, we find that the time value of money is very significant factor in deciding the actual amount of the benefit which we expect against any investment as made during the current period. This goes to help in taking the appropriate investment decision in any business firm. This time value of money goes to help the business firm for reducing the amount of risk and uncertainty to the greater extent. This time value of money goes to help the financing and banking institutions in deciding the amount of the installment as fixed for the loan financing. Thus, time value of money which is basically concerned with the calculation of the real value of investment and the actual amount of the benefit which we expect in future with the passage of time is the really a very useful concept in financial management which will ultimately help in the area of maximisation of profit and maximisation of wealth in any business firm .It is equally important to value the Enterprise in which the huge investment is required to be made for the particular period. Thus, time value of money goes to help the business firm in awarding with the amount of risk and uncertainty which is involved in any investment and the amount of the benefit which will be made available to the firm as well as the actual cost of investment during the particular period of time.