W Time Value of Money

Time value of money refers to the value of one unit of money is different in different time periods. In other words, the value of the money which is changed with the change in time, is called Time Value of Money. If an individual is offered an alternative either to accept ₹ 100 at present or one year later, he would prefer ₹ 100 at present. The basic reason of his choice of receiving ₹ 100 at present is the time value of money which means the value of the money is changed with the change in time. For this change of value, one rupee of today is more valuable than one rupee of tomorrow, because of the following reasons :

(i) **Investment opportunities :** An individual likes to take money at present than the same money in future due to investment opportunities. For example, if ₹ 100 is invested in a bank, ₹ 110 is received after one year. In such a situation, if an individual is asked to accept ₹ 100 at present or ₹ 100 after one year, he would accept ₹ 100 at present because this ₹ 100 will be ₹ 110 after one year if the money so received at present is invested in a bank.

(ii) **Uncertainty :** Future is uncertain. Due to such uncertainty, people prefer present money to future money. Because, there is no certainty whether the consumption of money utility which will be received in future is possible or not. So, most people prefer present consumption to that of future because future consumption may not be possible due to physical illness or death.

(iii) **Inflation :** The purchasing power of money reduces due to inflation *i.e.*, if inflation exists, lesser amount of goods or services are obtained in future than the amount at present against same amount of money. Thus, it is clear that the purchasing power of money at present is more than the purchasing power in future. So, people prefer to get money at present to future.

On the basis of above discussion, it can be concluded that the present value of certain sum of money is more valuable than future value of the same amount. In other words, the future value of certain sum of money is less than the present value of the same amount.

X Significance of Time Value of Money

Time value of money refers to the value of one unit of money is different time periods. In other words, the value of the money which is changed with the changing of times, is called **Time value of money**. The significance of time value of money is explained below :

(i) **Existence of interest :** If the present and future value of a certain amount of money would be equal, the system of paying interest did not exist, *i.e.*, the rate of interest would be zero. But in reality, the rate of interest can never be zero. This is because of the existence of time value of money. That is, as money has time value, the question of paying interest arises. Thus, the rate of interest is more than zero due to existence of time value of money.

(ii) **Decision-making :** If investment is made into a project at present, return is obtained from that project in future. So, in order to take decision whether a project should be accepted or not, the future returns of the project have to be compared with present investment. But the money value of the future returns can never be equal to the money value of the present investment, due to existence of time value of money. So, in order to take correct decision, the present value of the investment has to be compared with the present value of the future returns.

(iii) **Invention of compounding and discounting techniques :** The concepts of compounding and discounting have been invented for the existence of time value of money. The future value of present money and the present value of future money can be known with the help of compounding and discounting techniques respectively. Thus, if there is no existence of time value of money, there would be no importance of compounding and discounting techniques.

(iv) **Making productive to the capital :** Interest is given on capital due to existence of time value of money *i.e.*, capital earns income. Thus, it can be said that time value of money makes productive to the capital.

(v) **Time preference for money :** People prefers present money to future money. For example, if an individual is offered an alternative either to accept ₹100 at present or one year later, he would prefer ₹100 at present. The basic reason of his choice of receiving ₹100 at present is the time value of money which means the value of the money is changed with the changing of time.

Y Compounding Technique

We know that the value of the money gradually decreases with the passage of time *i.e.*, the amount of goods or services which is received in future against certain sum of money is less than the amount of goods or services receive at present with the same amount of money. In other words, the amount of goods or services so received at present against certain sum of money, more amount of money will be required in order to get the same amount of the goods or services in future. Thus it can be said, the value of a certain amount of money at present is equivalent to more amount of money in future. For this, additional amount is compounded with the present money in order to get future money of the equivalent amount of the present money. The technique of determining the future money of the equivalent amount of present money is called **Compounding Technique.**

The future value of a certain sum of money is less than its present value. So, if an individual accepts money in future instead of at present, he suffers loss. Interest is given for this loss, because interest is the compensation of money paid in future instead of payment at present.