

B. Com 6th Semester
(Honours and General)
Financial Management

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Chapters- Basic Concepts/Capital Expenditure Decisions

What is Time Value of Money?

1. Time Value of Money is the concept that money you have now is worth more than the identical sum in the future due to its potential earning capacity.
2. If there is a choice between receiving Rs. 5,000 now and Rs. 5,000 after one year, people would choose the first option.
3. Suppose you have Rs. 5,000 now. If you invest that money at 10 per cent interest per annum, you will get Rs. 5,500 after one year.
4. The formula for calculating future value (FV) of money is

$$\begin{aligned} \text{FV} &= \text{PV} + \text{PV} \times i \\ &= \text{PV} (1+i) \end{aligned}$$

Re-arranging the formula, we get

$$\text{PV} = \text{FV} / (1+i)$$

Where PV is present value of money and i is the annual rate of interest

What is Net Present Value (NPV) method of project evaluation?

Net Present Value (NPV) is a method used for project evaluation. It takes into account present value of all future cash inflows expected to be generated by a project and compares it with the initial investment. *NPV is*

the difference between present value of cash inflows and present value of cash outflows.

If the sum of present value of future cash inflows is greater than the initial investment, NPV becomes positive and the project is accepted. If the present value of future cash inflows is less than the initial investment, NPV becomes negative and the project is rejected.

The formula for calculating the NPV is stated below:

$$NPV = [A_1/(1+i) + A_2/(1+i)^2 + \dots + A_n/(1+i)^n] - I$$

In the above equation, $A_1, A_2 \dots A_n$ represent annual year-end cash inflows from the project in consecutive years, n is the life of the project, i is the *discount rate* (cost of capital) used for future cash inflows to account for *time value of money*, and I is initial capital investment.

Accept/Reject Rule

If $NPV > 0$, the project is accepted

If $NPV < 0$, the project is rejected

NPV method is also used for *ranking of projects*. The project with the highest positive value of NPV gets the highest rank and the project with the lowest positive value of NPV gets the lowest rank.

Advantages of NPV method

1. It recognises time value of money
2. It considers total benefits arising out of the project.
3. It is suitable for selection of mutually exclusive projects (ranking of projects)
4. It is consistent with the objective of wealth maximization of shareholders.

Disadvantages of NPV method

1. It is difficult to understand and calculate.
2. It is not suitable for comparison between two projects requiring different capital investments.
3. The biggest disadvantage of the NPV method is that it requires some guesswork about the firm's cost of capital (*the discount rate*). If the

assumption proves to be wrong, the evaluation of the project based on that will be faulty.