

B. Com 6th Semester (Hons and General)

Financial Management

Chapter-Capital Expenditure Decisions

Internal Rate of Return

1. Internal Rate of Return (IRR) is a discounted cash flow technique of project evaluation.
2. In this method, the IRR is taken as the discounting rate to calculate the present value of future cash flows.
3. IRR is the rate of return at which the Net Present Value (NPV) of a project becomes zero.
4. The value of IRR is calculated through trial and error.

The IRR is calculated with the following formula:

$$[A_1 / (1+r) + A_2 / (1+r)^2 + \dots + A_n / (1+r)^n] - I = 0$$

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 number of years of the project, r is the internal rate of return (to be calculated) and I is the initial capital investment.

Accept-Reject Rule

If the internal rate of return (r) is greater than the cost of capital (i), the project is accepted (NPV is positive)

If the internal Rate of Return (r) is less than the cost of Capital (i), the project is rejected (NPV is negative)

[If the equation for the IRR method is compared with the equation of the NPV method, you will understand the accept-reject rule of the IRR method.]

Profitability Index (PI) or Benefit-Cost Ratio

1. PI is the ratio of present value of future cash inflows discounted at the required rate and present value of cash outflows (*initial investment*, if we assume no future investment in the project).
2. PI is calculated with the following formula:
$$\text{PI} = \text{Present value of cash inflows} / \text{Present value of cash outflows}$$
3. Accept-Reject Rule
PI > 1 (Accept)
PI < 1 (Reject)
4. PI method should be followed when initial investments for the projects under consideration are different. NPV method may be followed for project evaluation when the initial investments of different projects are the same.

[I have already discussed Pay Back (PB) Period method in the class room. I hope that you yourself is capable of understanding the Return on Investment/ Accounting Rate of Return method from your textbook]