

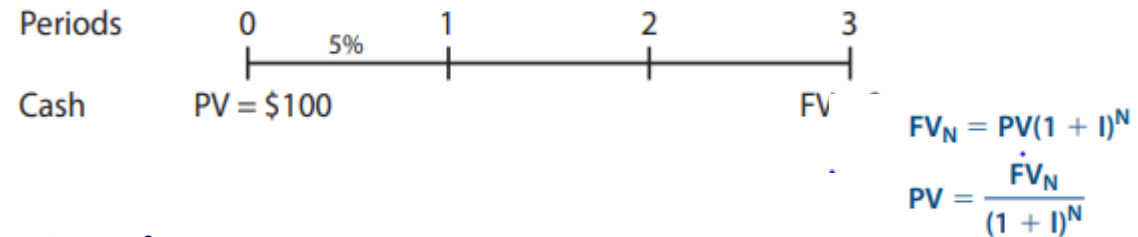
Capital Budgeting Methods

By

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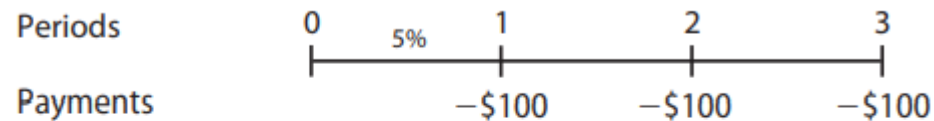
Time Value of Money

Present Value & Future Value

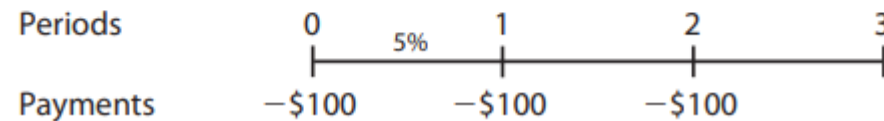


Annuity

Ordinary Annuity:



Annuity Due:



Perpetuity

Compounding

Amortization



$$FVA_{\text{ordinary}} = PMT \left[\frac{(1 + I)^N - 1}{I} \right]$$

$$FVA_{\text{due}} = FVA_{\text{ordinary}}(1 + I)$$

$$PV \text{ of a perpetuity} = \frac{PMT}{I}$$

$$\text{Effective annual rate (EFF\%)} = \left[1 + \frac{I_{\text{NOM}}}{M} \right]^M - 1.0$$

Categories of Capital Expenditure

1. Replacement
2. Replacement: cost reduction.
3. Expansion of existing products or markets.
4. Expansion into new products or markets.
5. Safety and/or environmental projects.
6. Other projects.
7. Mergers.

Cost Iceberg



Capital Budgeting Process

1. Proposal Generation
2. Review and Analysis
3. Decision Making
4. Implementation
5. Follow-Up

Capital Budget Approaches

- Independent and Mutually Exclusive Projects
- Unlimited Funds VS Capital Rationing
- Accept-Reject VS Ranking Approach

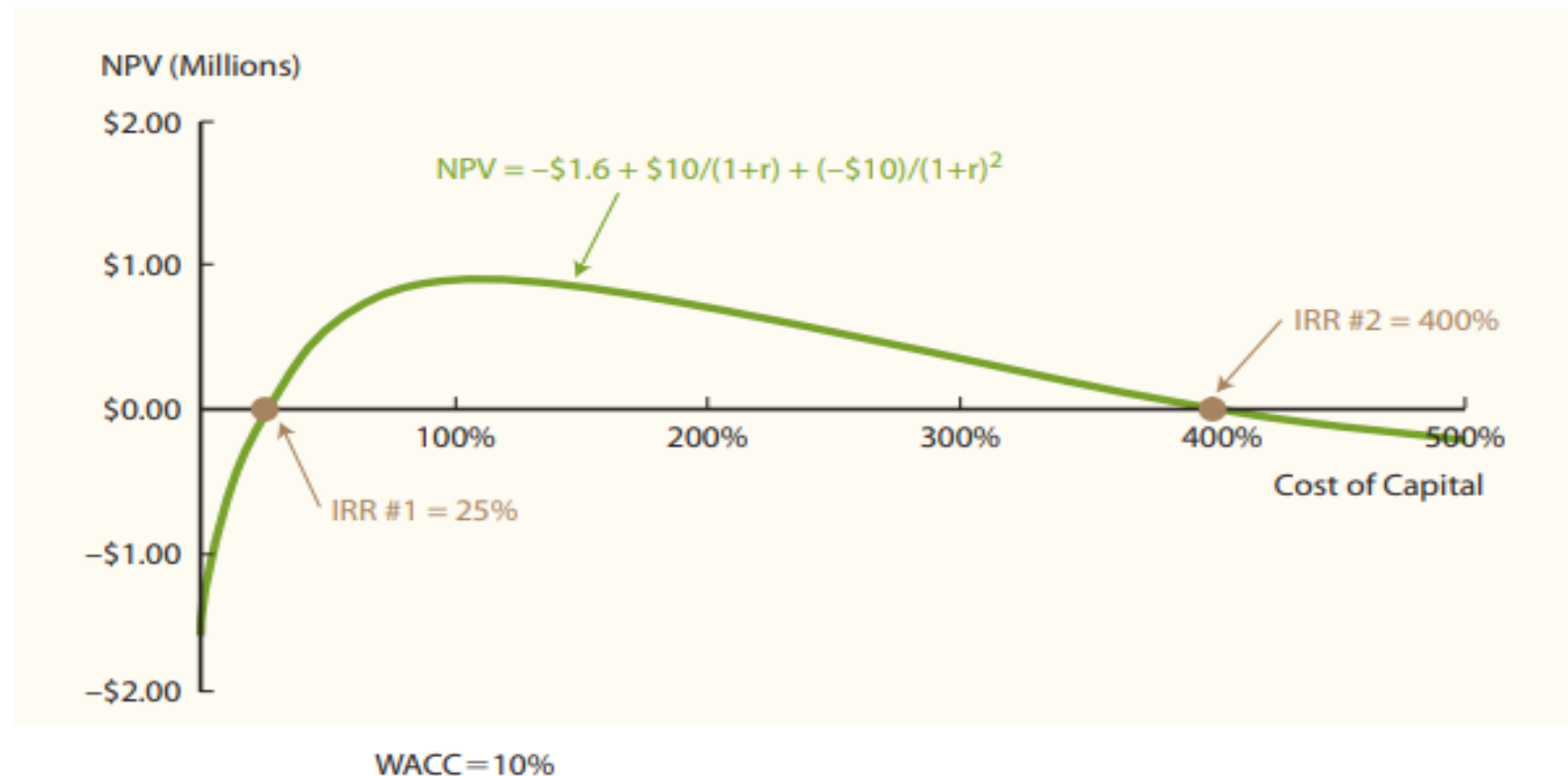
Criteria for Deciding to Accept or Reject Projects

- Regular Payback
- Discounted Payback
- Net Present Value (NPV)
- Internal Rate of Return (IRR)
- Modified Internal Rate of Return (MIRR)

Multiple IRR

Normal: - + + + + + or - - - + + + + +

Non-normal: - + + + + - or - + + + - + + +



NPV Profile

