**Advanced Financial Management**

**Unit – 1**

**Cost of capital**

Cost of Capital: Meaning and Definition–Significance of Cost of Capital–Types or components of cost of Capital -Computation of Cost of Capital–Specific Cost–Cost of Debt–Cost of Preference Share Capital –Cost of Equity Share Capital–Weighted Average Cost of Capital (Book Value and Market Value Weights) –Problems.

**Cost of Capital**

**Meaning of Cost of Capital**

The **cost of capital** is the company's cost of using funds provided by creditors and shareholders. A company's cost of capital is the cost of its long-term sources of funds: debt, preferred equity, and common equity.

**Definition**

**According to Mittal and Agarwal** **“**the cost of capital is the minimum rate of return which a company is expected to earn from a proposed project so as to make no reduction in the earning per share to equity shareholders and its market price**”.**

# **Significance of Cost of Capital:**

### Maximisation of the Value of the Firm:

For the purpose of maximization of value of the firm, a firm tries to minimize the average cost of capital. There should be judicious mix of debt and equity in the capital structure of a firm so that the business does not to bear undue financial risk.

### Capital Budgeting Decisions:

Proper estimate of cost of capital is important for a firm in taking capital budgeting decisions. Generally, cost of capital is the discount rate used in evaluating the desirability of the investment project. In the internal rate of return method, the project will be accepted if it has a rate of return greater than the cost of capital. In calculating the net present value of the expected future cash flows from the project, the cost of capital is used as the rate of discounting. Therefore,

cost of capital acts as a standard for allocating the firm’s investible funds in the most optimum manner. For this reason, cost of capital is also referred to as cut- off rate, target rate, hurdle rate, minimum required rate of return etc.

### Decisions Regarding Leasing:

Estimation of cost of capital is necessary in taking leasing decisions of business concern.

### Management of Working Capital:

In management of working capital the cost of capital may be used to calculate the cost of carrying investment in receivables and to evaluate alternative policies regarding receivables. It is also used in inventory management also.

### Dividend Decisions:

Cost of capital is significant factor in taking dividend decisions. The dividend policy of a firm should be formulated according to the nature of the firm— whether it is a growth firm, normal firm or declining firm. However, the nature of the firm is determined by comparing the internal rate of return (r) and the cost of capital (k) i.e., r > k, r = k, or r < k which indicate growth firm, normal firm and decline firm, respectively.

### Determination of Capital Structure:

Cost of capital influences the capital structure of a firm. In designing optimum capital structure that is the proportion of debt and equity, due importance is given to the overall or weighted average cost of capital of the firm. The objective of the firm should be to choose such a mix of debt and equity so that the overall cost of capital is minimized.

### Evaluation of Financial Performance:

The concept of cost of capital can be used to evaluate the financial performance of top management. This can be done by comparing the actual profitability of the investment project undertaken by the firm with the overall cost of capital.

**Components of Cost of Capital**

Understanding the components of cost of capital and their calculations holds significant importance, as they collectively contribute to establishing a company’s overall cost of capital. This comprehensive cost metric serves as a critical foundation for two key aspects:

* Informed investment decisions: Analyzing the cost of capital components offers insights into funding sources, empowering strategic investment decisions for profitability and risk management.
* Holistic financial health assessment: A company’s overall cost of capital, calculated by weighting each component, measures its financial health. It represents the minimum return required to satisfy debt and equity stakeholders. Assessing actual returns against this benchmark gauges’ capital efficiency and financial well-being. This aids in identifying areas for improvement, ensuring growth and competitiveness.

Let’s break down the components of the cost of capital, provide their respective formulas and explanations, and offer practical examples to enhance understanding:

1. **Cost of Debt**

The [cost of debt](https://www.investopedia.com/terms/c/costofdebt.asp) represents the interest expense a company incurs on its debt financing. It is the cost of borrowing money through loans or bonds. Interest payments made to debt holders are tax-deductible, which can reduce the effective cost of debt.

* **Formula**: Cost of Debt (Rd) = Interest Expense / Total Debt
* **Example**: Suppose a company has a total debt of $1,000,000 and pays $50,000 in annual interest expenses on that debt. The cost of debt would be: Cost of Debt (Rd) = $50,000 / $1,000,000 = 5%

1. **Cost of Equity**

The [cost of equity](https://www.uschamber.com/co/run/business-financing/calculating-cost-of-equity) represents the return required by investors who hold the company's common stock. It includes the dividend yield (DPS/P) and the expected growth rate of dividends (g). Investors demand a return for taking on the risk of holding equity, which is typically higher than the cost of debt.

* **Formula**: Cost of Equity (Re) = Dividends per Share (DPS) / Stock Price (P) + Growth Rate (g)

1. **Cost of Preferred Stock**

The [cost of preferred stock](https://www.wallstreetprep.com/knowledge/cost-of-preferred-stock/) is the return expected by preferred stockholders. It is calculated as the annual dividends paid on preferred stock divided by the market price of preferred shares.

* **Formula**: Cost of Preferred Stock (Rp) = Dividends on Preferred Stock / Preferred Stock Price

1. **Weighted Average Cost of Capital (WACC)**

Considering the company's capital structure, the [Weighted Average Cost of Capital (WACC)](https://www.investopedia.com/terms/w/wacc.asp) is the weighted average of the cost of equity and the after-tax cost of debt. It represents the overall cost of financing a company’s operations and investments. In this example, the company's weighted average cost of capital is 6.9%, representing the minimum return the company needs to earn on its investments to satisfy equity and debt investors.

* **Formula**: WACC = (E/V) Re + (D/V) Rd \* (1 - Tax Rate)

1. **After-Tax Cost**

[The after-tax cost of debt](https://www.accountingtools.com/articles/how-to-calculate-the-after-tax-cost-of-debt.html) reflects the adjusted cost of debt capital, accounting for the tax benefits of interest payments. It recognizes that interest expenses on debt are usually tax-deductible, reducing the effective borrowing cost.

* **Formula**: After-Tax Cost of Debt (ATCD) = Cost of Debt \* (1 - Tax Rate)

1. **Marginal Cost**

[The marginal cost of capital](https://www.investopedia.com/terms/m/marginalcostofproduction.asp) represents a company's cost when raising additional funds beyond its current funding level. It quantifies the additional cost incurred for each new dollar of money raised.

* **Formula**: Marginal Cost of Capital (MCC) = (Cost of New Capital - Cost of Existing Capital) / (Incremental Capital Raised

**Problems on Cost of Capital**