



Calicut University



COURSE

BBA



SEMESTER

2



SUBJECT

FINANCIAL MANAGEMENT



MODULE

2



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MODULE 2: CAPITAL STRUCTURE

5. Cost of Capital: Basic Concepts. Cost of Debenture Capital, Cost of Preferential Capital, Cost of Term Loans, Cost of Equity Capital (Dividend discounting and CAPM model) - Cost of Retained Earnings.

Meaning of Cost of Capital

Cost of capital refers to the minimum return a company must earn on its investments to satisfy investors and lenders.

When a business raises funds, investors expect returns in the form of interest, dividends, or increase in share value. This expected return becomes the company's cost of capital.

It is an important concept because businesses use it while making investment and financing decisions.

A project is generally accepted only if its expected return is higher than the cost of capital.

Importance of Cost of Capital

It helps in investment appraisal and project selection.

It is used in determining the value of a firm.

It helps management choose the best financing source.

It acts as a benchmark for measuring business performance.

Cost of Debenture Capital

Debentures are borrowed funds on which a company pays fixed interest.

The cost of debenture capital is the effective cost of borrowing after considering tax benefits.

Interest paid on debentures is tax deductible, so debt financing is usually cheaper than equity financing.

The formula is:

$$K_d = I(1 - T)$$

Where:

K_d = Cost of debt

I = Interest rate

T = Tax rate

Problem

A company issues debentures carrying 10% interest. Tax rate is 30%.
Find the cost of debenture capital.

Solution:

$$K_d = 10(1 - 0.30)$$

$$K_d = 7\%$$

Cost of Debenture Capital = 7%

Cost of Preferential Capital

Preference shares carry fixed dividends.

The cost of preference capital is the return expected by preference shareholders.

The formula is:

$$K_p = \frac{D}{P_0}$$

Where:

K_p = Cost of preference capital

D = Annual preference dividend

P_0 = Net proceeds from issue

Problem

A company issues preference shares of ₹100 carrying 12% dividend.
Find the cost of preference capital.

Solution: $K_p = \frac{12}{100}$

$$K_p = 12\%$$

Cost of Preference Capital = 12%

Cost of Term Loans

Term loans are loans taken from banks or financial institutions for a fixed period.

Interest paid on term loans is tax deductible.

The cost of term loans is calculated similarly to debt capital.

The formula is:

$$K_t = I(1 - T)$$

Where:

K_t = Cost of term loan

I = Interest rate

T = Tax rate

Cost of Equity Capital

Equity shareholders expect returns through dividends and capital appreciation.

Equity capital is generally more expensive because shareholders take higher risk.

There are two major approaches to calculate cost of equity.

Dividend Discounting Model

According to this model, the value of shares depends on expected future dividends.

The formula is:

$$K_e = \frac{D_1}{P_0} + g$$

Where:

K_e = Cost of equity

D_1 = Expected dividend

P_0 = Current market price

g = Growth rate of dividends

Problem

Expected dividend is ₹8, market price is ₹100, and growth rate is 5%.

Find the cost of equity.

Solution:

$$K_e = \frac{8}{100} + 0.05$$

$$K_e = 0.13 = 13\%$$

Cost of Equity = 13%

CAPM Model

The Capital Asset Pricing Model calculates cost of equity based on market risk.

The formula is:

$$K_e = R_f + \beta(R_m - R_f)$$

Where:

R_f = Risk free return

β = Beta coefficient

R_m = Market return

Explanation

The model assumes investors require additional return for taking additional market risk. Higher beta means higher risk and therefore higher expected return.

Cost of Retained Earnings

Retained earnings are profits kept within the business instead of distributing them as dividends. Although retained earnings do not involve direct payment, shareholders still expect returns on these funds.

Therefore, retained earnings also have a cost similar to equity capital.

6 Determination of Weighted Average Cost of Capital (WACC) and Marginal Cost of Capital. (Theory & Problem). Case Study on WACC

Weighted Average Cost of Capital

WACC represents the average cost of all sources of finance used by a company.

It combines the costs of debt, equity, and preference capital according to their proportion in total capital.

The formula is:

$$WACC = \sum (W \times K)$$

Where:

W = Weight of each source of finance

K = Cost of each source

Importance of WACC

WACC is used as a discount rate in investment decisions.

It helps firms evaluate whether projects generate sufficient returns.

Lower WACC generally increases the market value of a firm.

Problem on WACC

A company has the following capital structure:

Equity: ₹5,00,000 at 12%

Debt: ₹3,00,000 at 8%

Preference shares: ₹2,00,000 at 10%

Find WACC.

Solution:

Total Capital = ₹10,00,000

Weight of Equity:

$$\frac{500000}{1000000} = 0.5$$

Weight of Debt:

$$\frac{300000}{1000000} = 0.3$$

Weight of Preference Shares:

$$\frac{200000}{1000000} = 0.2$$

Now calculate WACC:

$$WACC = (0.5 \times 12) + (0.3 \times 8) + (0.2 \times 10)$$

$$WACC = 6 + 2.4 + 2$$

$$WACC = 10.4\%$$

Weighted Average Cost of Capital = **10.4%**

Marginal Cost of Capital

Marginal cost of capital refers to the cost of obtaining one additional unit of capital.

As firms raise more funds, the cost of capital may increase due to increased risk or limited availability of cheaper funds.

It is important in decisions involving expansion and new projects.

Case Study on WACC

Suppose a company plans to invest in a new manufacturing plant.

The project is expected to generate a return of 9%.

The company's WACC is 11%.

Since the expected return is lower than WACC, the project may reduce shareholder wealth and may not be accepted.

If the project return was above 11%, it would generally be considered financially acceptable.

7.Capital Structure & Market Value of a Firm. Theories of Capital Structure – NI approach, NOI approach, Modigliani Miller approach, Traditional Approach

Capital Structure

Capital structure refers to the proportion of debt and equity used to finance a business.

A company must maintain a balance between risk and return while selecting its capital structure.

Using more debt may increase returns but also increases financial risk.

Market Value of a Firm

The market value of a firm is the total value of its securities in the market.

It includes both equity and debt value.

The objective of financial management is generally to maximize the market value of the firm.

Net Income Approach

According to the Net Income approach, increasing debt in the capital structure can reduce overall cost of capital and increase firm value.

This approach assumes debt is cheaper than equity.

Therefore, greater use of debt improves market value.

Net Operating Income Approach

The NOI approach states that capital structure does not affect the overall value of the firm. Any advantage gained from cheaper debt is offset by increased equity risk. As debt increases, equity shareholders demand higher returns.

Traditional Approach

The traditional approach is a middle path between NI and NOI approaches. It states that moderate use of debt can reduce cost of capital and increase firm value. However, excessive debt increases financial risk and raises overall cost of capital. According to this theory, there is an optimum capital structure where firm value is maximum and cost of capital is minimum.

Modigliani Miller Approach

The Modigliani Miller theory states that under perfect market conditions, capital structure does not affect firm value.

The theory assumes:

- No taxes
- Perfect capital markets
- No transaction costs
- Rational investors

According to MM theory, firm value depends mainly on operating income and business risk, not financing method.

Later versions of the theory included taxes and showed that debt financing may increase firm value because of tax advantages.

Problem

A firm has operating income of ₹2,00,000 and overall capitalization rate of 10%.

Find the value of the firm.

Solution:

$$V = \frac{EBIT}{K_o}$$

$$V = \frac{200000}{0.10}$$

$$V = 2000000$$

Value of Firm = ₹20,00,000

8 Planning the Capital Structure: EBIT and EPS Analysis. ROI & ROE Analysis.

Planning the Capital Structure

Capital structure planning involves deciding the best combination of debt and equity.

The objective is to maximize shareholder wealth while controlling financial risk.

Businesses consider profitability, stability, interest obligations, and market conditions before choosing financing sources.

EBIT and EPS Analysis

EBIT means Earnings Before Interest and Tax.

EPS means Earnings Per Share.

EBIT and EPS analysis helps determine the effect of financing decisions on shareholder earnings.

EBIT

$$EBIT = Revenue - Operating Expenses$$

EPS

$$EPS = \frac{Profit\ after\ tax - Preference\ Dividend}{Number\ of\ Equity\ Shares}$$

Explanation

A company compares different financing plans to identify which plan provides higher EPS at different EBIT levels.

Debt financing may increase EPS if earnings are sufficiently high because debt interest is fixed. However, high debt also increases financial risk.

Problem on EPS

Profit after tax = ₹5,00,000

Preference dividend = ₹50,000

Number of equity shares = 90,000

Find EPS.

Solution:

$$EPS = \frac{500000 - 50000}{90000}$$

$$EPS = 5$$

$$EPS = \text{₹5 per share}$$

Return on Investment

ROI measures the profitability of investment relative to its cost.

The formula is:

$$ROI = \frac{\text{Net Profit}}{\text{Investment}} \times 100$$

Problem

Net profit = ₹80,000

Investment = ₹4,00,000

Find ROI.

Solution:

$$ROI = \frac{80000}{400000} \times 100$$

$$ROI = 20\%$$

Return on Equity

ROE measures the return earned on shareholders' funds.

The formula is:

$$ROE = \frac{\text{Net Income}}{\text{Shareholders' Equity}} \times 100$$

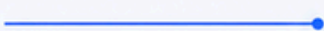
Explanation

Higher ROE generally indicates efficient use of shareholders' funds.

Investors often compare ROE across companies before investing.



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