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SUBJECT. : FINANCIAL MANAGEMENT

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UNIT – II

Cost of Capital: Meaning and importance – Cost of debt, preference, equity and retained earnings – Weighted average cost of capital.

UNIT - 2

COST OF CAPITAL :

An investor provides long-term funds (i.e., Equity shares, Preference Shares, Retained earnings, Debentures etc.) to a company and quite naturally he expects a good return on his investment. In order to satisfy the investor's expectations the company should be able to earn enough revenue.

IMPORTANCE OF COST OF CAPITAL

1.Maximisation of the Value of the Firm.
2.Capital Budgeting Decisions
3.Decisions Regarding Leasing
4.Management of Working Capital
5.Dividend Decisions
6.Determination of Capital Structure
7.Evaluation of Financial Performance

COST OF DEBT

The cost of debt is the effective interest rate a company pays on its

debts. It's the cost of debt, such as bonds and loans, among others. The cost of debt often refers to before-tax cost of debt, which is the company's cost of debt before taking taxes into account.

CALCULATION OF COST OF IRREDEMABLE DEBT :

$$K_d = \frac{I(1 - T)}{NP}$$

I = Annual Interest

T = Tax Rate

NP = Net Proceeds.

X ltd issue ₹ 50000 8% debentures at par, at premium 10%, at a discount 10%. The tax rate is 50%. Compute the cost of debt capital.

SOLUTION:

At par :

$K_d = \frac{I(1 - T)}{NP}$ I = ₹4000, T = 0.5, NP = 50000

$= \frac{4000}{50000}(1- 0.5)$

$= 4\%$

At Premium :

$K_d = \frac{I(1 - T)}{NP}$ I = ₹4000, T = 0.5, NP = 50000 x 10% = 5000 + 50000=55,000

$= \frac{4000}{55000}(1-0.5)$

$= 3.6\%$

At Discount :

Kd = $\frac{I}{NP}(1 - T)$ I = ₹4000

T = 0.5

NP = 50000 x 10% = 5000 - 50000=45,000

$= \frac{4000}{45000}(1-0.5)$

= 4.4%

COST OF REDEEMABLE DEBT :

Kd (before tax) = $\frac{I + (P- NP) / n}{(P- NP) / 2}$

Kd (after tax) = Kd (before tax) x (1 - T)

A firm issues debentures of ₹ 1,00,000 and realize ₹ 98,000 after using 2% commission to brokers, the debenture carry an invest rate of 10%.

The debenture maturity at the end of the year 10th year. You are required to calculate effective cost.

Kd (before tax) = $\frac{I + (P- NP) / n}{(P + NP) / 2}$

I = 1,00,000 x 10/100 = 10,000 P = 1,00,000

NP = 1,00,000 x 2/100 = 98,000 n = 10years

$Kd = \frac{10000 (1,00,000 – 98,000) / 10}{(1,00,000 – 98,000) / 2}$

$= \frac{10,000 + 200}{99,000}$

= ***0.103 or 10.30%***

Kd (after tax) = Kd (before tax) x (1 - T)

= 10.30 (1-5.5)

= 10.30 x .45

= ***4.64%***

COST OF PREFERENCE

An amount paid by company as dividend to preference shareholder is known as Cost of Preference Share Capital. Preference share is a small unit of a company's capital which bears fixed rate of dividend and holder of it gets dividend when company earn profit.

IRREDEEMABLE PREFERENCE CAPITAL :

$Kp = \frac{Dp}{Np}$ Dp = preference dividend

Np = net proceeds Kp = cost of preference capital

A company raised preference share capital of ₹ 1,00,000 by issue at preference share of ₹ 10 each. Calculate cost of preference capital when they are i) at 10% premium ii) 10% discount.

SOLUTION :

At 10% premium

$Kp = \frac{Dp}{Np} = \frac{10,000}{1,10,000} \times 100$

Kp = ***9.09%***

At 10% discount

$Kp = \frac{Dp}{Np} = \frac{10,000}{90,000} \times 100$

Kp = *11.11%*

REDEEMABLE PREFERNCE CAPITAL :

$$Kp = \frac{Dp + (P - NP) / n}{(P + NP) / 2}$$

A company has 10% redeemable preference shares redeemable at the end of the year from the year of their issue. The underwriting costs came to 2% calculate effective cost of preference share capital.

SOLUTION :

$$Kp = \frac{Dp + (P - NP) / n}{(P + NP) / 2}$$

$$= \frac{10,000 + (1,00,000 - 98,000) / 10}{(1,00,000 + 98,000) / 2}$$

$$= \frac{10,200}{99,000}$$

$Kp = 10.30\ \%$

COST OF EQUITY

In finance, the cost of equity is the return a firm theoretically pays to its equity investors, i.e., shareholders, to compensate for the risk they undertake by investing their capital. Firms need to acquire capital from others to operate and grow.

DIVIDEND PRICE AND GROWTH

$$Ke = \frac{D}{NP} + G$$

The current market price of an equity shares of a company to the ₹ 90 incase dividend are expected to growth at the rate of 7% the current DPS is 4.50 find Ke.

SOLUTION :

$$Ke = \frac{D}{} + G$$

$$= \frac{NP}{4.50} + 0.07$$

$$= \frac{}{90}$$

$$= 0.05 + 0.07$$

$$Ke = 0.12 \text{ or } 12\%$$

COST OF RETAINED EARNINGS

The cost of retained earnings is the cost to a corporation of funds that it has generated internally. If the funds were not retained internally, they would be paid out to investors in the form of dividends.

WEIGHTED AVERAGE COST OF CAPITAL

The weighted average cost of capital is the rate that a company is expected to pay on average to all its security holders to finance its assets. The WACC is commonly referred to as the firm's cost of capital. Importantly, it is dictated by the external market and not by management.

From the following capital structure of a company, calculate the overall cost of capital using book value weights.

Source	*Book value Rs,*
Equity share capital (Rs.10 shares)	45,000
Retained earnings	15,000
Preference share capital	10,000
Debentures	30,000

The after tax cost of different source of finance as follows; Equity share capital: 14%, Retained earnings: 13%, Preference share capital:10%, Debentures: 5%

CALCULATION OF WEIGHTED AVERAGE COST OF CAPITAL

SOURCE	AMOUNT	AFTER TAX	TOTAL COST

Equity share capital	45,000	14%	6,300
Retained earnings	15,000	13%	1,950
Preference share capital	10,000	10%	1,000
Debenture	30,000	5%	1,500
Total	1,00,000		10,750

Weighted average cost of capital = $\frac{\text{Total cost}}{\text{Total amount}} \times 100$

$= \frac{10,750}{1,00,000} \times 100$

$= 10.75\%$

BOOK REFFERED : 1.Financial Management by S. N. Maheshwari.

2. Management Accounting by R. K. Sharma and Shashi k Gupta