Lesson : 4

THE COST OF CAPITAL

(Dr. K. P. Singh)

Objectives : **To focus on the meaning, definition, classification & computation of cost of capital.**

Lesson Structure : The cost of capital of a firm represents the minimum rate of return required or expected by its investors. It only refers to the weighted average cost of various sources of finance employed by a firm. The capital employed by a firm normally comprises equity shares, preference shares, debts borrowed from Commercial Banks and financial institutions and also its retained earnings. The concept of cost of capital is very important in the realm of financial management. At the same time, it is also one of the most difficult and disputed topics in the financial management, since conflicting opinions have been expressed by the financial experts and wizards as regards the way in which the cost of capital can be computed. The discussion is structured as under :

I. Definition and Meaning II. Significance of Cost of Capital.

III. Classification and IV. Computation of Cost of Capital.

DEFINITION AND MEANING

"Cost of Capital", according to Solomon Ezra "is the minimum required

rate of earning or the cut-off rate for capital expenditures." In the words of Milton H. Spencer, "cost of capital is the minimum rate of return which a firm requires as a condition for undertaking an investment."

It is well known that the final selection of any capital project from among the various alternatives mainly depends on the cost of the capital of a firm or the cut-off rate representing the minimum rate of return required on investment projects. It is the cut-off or the target or the hurdle rate. In case a firm is not able to achieve the cut-off or the target or the hurdle rate the market value of its shares remains constant at a particular level. Moreover, to achieve the objective of the financial management, viz., wealth maximisation, a firm has to necessarily earn a rate of return more than its cost of capital. The cost of capital in turn depends on the risk involved in the firm. Generally, higher the risk involved in a firm, the higher will be the cost of capital.

SIGNIFICANCE :

a) Criterion in capital budgeting decision :

Any capital budgeting decision involves the consideration of the cost of capital. According to the net present value method of capital budgeting, if the present value of expected returns from the investment throughout its life period is greater than or equal to the cost of investment, the project may be accepted; otherwise the project may be rejected. The present value of expected returns is calculated by discounting the expected cash inflows at the cut-off rate which is the cost of capital. It is clear from the above that the cost of capital serves as a very useful tool in the process of making capital budgeting decisions.

b) Determinant of capital mix in designing of capital structure:

The cost of capital acts as a determinant of capital mix in the

designing of a balanced and appropriate capital structure. As a rule there should be a proper mix of debt and equity capital in financing a firm's assets. While designing an optimal capital sturcture of a firm, the management has to consider the objectve of maximising the value of the firm and minimising the cost of capital. Computation of a weighted average cost of various sources of finance is very essential in planning and designing the capital structure of a firm.

c) Basis for evaluating the financial performance :

The cost of capital can be used as a tool to evaluate the financial performance of top management. The actual profitability of any project is compared to the actual cost of capital funds raised to finance the project. If the actual profitability of the project is on the higher side when compared to the actual cost of capital raised, the performance can be evaluated as satisfactory.

b) Basis for making financial decisions :

The cost of capital can be conveniently employed as a tool in making other important financial decisions such as dividend policy, capitalisation of profits, rights issue and working capital.

CLASSIFICATION :

Cost of capital can be clssified in many ways. Some of them are discussed below :

a) Historical cost and future Cost :

Historical cost represents the cost which has already been incurred for financing a project. It is computed on the basis of past data collected. Future cost represents the expected cost of funds to be raised for financing a project. Historical cost is significant since it helps in projecting the future cost and in providing

an appraisal of the past financial performance by comparing with the standard or predetermined costs. In financial decisions, future costs are more relevant than the historical costs.

b) Explicit Cost and Implicit Cost :

Explicit cost refers to the discount rate which equates the present value of cash inflows with the present value of cash outflows. Thus the explicit cost is the internal rate of return which a company pays for procuring the required finances. The explicit cost of a specific source of finance may be determined with the help of the following formula :

$$Io = \frac{O_1}{(1+k)} + \frac{O_2}{(1+k)^2} + \ldots\ldots\ldots\ldots\ldots + \frac{O_n}{(1+k)^n}$$

$$= \sum_{t=1} \frac{Ot}{(1+k)^t}$$

where Io = is the net cash inflow at zero point of time.

Ot = is the outflow of cash in periods 1 to n

k = is the explicit cost of capital.

Implicit cost represents the rate of return which can be earned by investing the capital in alternative investments. The concept of opportunity cost gives rise to the implicit cost. The implicit cost represents the cost of opportunity foregone in order to take up a particular project. For example, the implicit cost of retained earnings is the rate of return available to the shareholders by investing the funds elsewhere.

c) Specific Cost and Composite Cost :

Capital can be raised by a firm from various sources and each source will have a different cost. Specific cost refers to the cost of a

specific source of capital, while composite cost of capital refers to the combined cost of various sources of capital. It is the weighted average cost of capital. It is also termed as overall cost of capital. When more than one type of capital is employed in the business, it is the composite cost which should be considered for decision-making and not the specific cost of that capital alone be considered.

d) Average Cost and Marginal Cost :

Average cost of capital refers to the weighted average cost calculated on the basis of cost of each source of capital funds. Marginal cost of capital refers to the average cost of capital which has to be incurred to obtain additional funds required by a firm. Marginal cost of capital is considered as more important in capital budgeting and financing decisions.

COMPUTATION OF COST OF CAPITAL FOR VARIOUS SOURCES OF FINANCE

For calculating the overall cost of capital of a firm, the specific costs of different sources of finance raised by it have to be computed. These sources are :

(i) Debt (borrowed) Capital,

(ii) Preference Share Capital,

(iii) Equit Share Capital and

(iv) Retained Earnings.

1. Cost of Debt :

It is relatively easy to calculate the cost of debt. The cost of debt is the rate of interest payable on debt. Debt capital is obtained through the issue of debentures. The issue of debentures involves a number of floatation charges, such as printing of prospectus, advertisement, underwriting, brokerage, etc, Again, debentures can be issued at par or at times below par (at discount)

or at times above par (at premium). These floatation charges and modes of issue have an important bearing on the cost of debt capital.

The formula adopted or calculating the cost of debt capital is given below:

(i) K_d = I/P

where K_d = cost of debt (before tax)

I = Interest

P = Principal

In case the debt is raised by issue of debentures at premium or discount, one should consider P as the amount of net proceeds from the issue and not the face vale of debentures. The formula may be modified as

(ii) K_d = I/NP (where NP = New Proceeds)

When debt is used as a source of finance, the firm saves considerable amount in payment of tax since interest is allowed as a deductible expense in computation of tax. Hence, the effective cost of debt is reduced. In other words, the effective cost of debt, i.e., the after-tax cost of debt would be substantially less than the before-tax cost. The after-tax cost of debt may be calculated with the help of the following formula :

(iii) After-tax cost of debt = Kd (1-t)

where t is the tax rate.

Example I.

(a) A Ltd. issues Rs. 1,00,000, 8% debentures at par. The tax rate applicable to the company is 50%. Compute the cost of debt capital.

(b) B Ltd. issues Rs. 1,00,000, 8% debentures at a premium of 10%. The tax rate applicable to the company is 60%. Compute the cost of debt capital.

(c) C Ltd. issues Rs. 1,00,000, 8% debentures at a discount of 5%. The tax rate is 50%. Compute the cost of debt capital.

(d) D Ltd. issues Rs. 1,00,000, 9% debentures at a premium of 10%. The costs of floatation are 2%. The tax rate applicable is 60%. Compute costs of debt-capital.

Solution :

(a) $Kd = \frac{I}{NP} (1-t)$

$= \frac{8,000}{1,00,000} (1-0.5)$

$= \frac{8000}{1,00,000} \times 0.5$

$= 4\%$

(b) $Kd = \frac{I}{NP} (1-t)$

$= \frac{8,000}{1,10,000} (1-0.6)$

$= \frac{8,000}{1,10,000} \times 0.4$

$= 2.95\%$

(c) $Kd = \frac{I}{NP} (1-t)$

$= \frac{8,000}{95,000} (1-0.5)$

$= 4.21\%$

(d) $Kd = \frac{I}{NP} (1-t)$

$$= \frac{9,000}{1,07,000} \times 0.4$$

$$= 3.34\%$$

Usually, the debt issued is to be redeemed after the expiry of a certain period during the life time of a firm. Such a debt issue is known as Redeemable Debt. The cost of redeemable debt capital may be computed as :

(iv) Before-tax cost of debt :

$$K_{bd} = \frac{I + 1/n\ (P\text{-}NP)}{½\ (P + NP)}$$

Where, I = Interest

N = Number of years in which debt is to be redeemed

P = Proceeds at par

NP = Net Proceeds

(v) After-tax cost of debt, $K_{d2} = K_{db}\ (1\text{-}t)$

$$= \frac{1+1/n\ (P - NP)}{½\ (P + NP)} \times (1\text{-}t)$$

Example II

XYZ Ltd. issues Rs. 5,00,000, 10% redeemable debentures at a discount of 5%. The cost of floatation amount to Rs. 15,000. The debentures are redeemable after 5 years. Calculate before-tax and after-tax cost of debt assuming a tax rate of 50%.

Solution :

Before-tax cost of debt,

$$K_{db} = \frac{1 + 1/n\ (P - NP)}{½\ (P + NP)}$$

$$= \frac{50,000 + 1/5\ (5,00,000 - 4,60,000)}{½\ (5,00,000 + 4,60,000)}$$

$$= \frac{50,000 + 8,000}{4,80,000}$$

$$= \frac{58,000 \times 100}{4,80,000}$$

$$= 12.09\%$$

After-tax cost of debt,

$$K_{da} = K_{db}\ (1 - t)$$

$$= 13.09\ (1 - 0.5)$$

$$= 12.09 \times 0.5$$

$$= 6.045\%$$

Example III.

ABC Ltd. issues 5,000, 8% debentures of Rs. 100 each at a discount of 10% and redeemable 10 years. The expenses of issues amounted to Rs. 10,000. Find out the cost of debt capital.

Solution :

$$K_{db} = \frac{1 + 1/n\ (P - NP)}{½\ (P + NP)}$$

$$= \frac{40,000 + 1/10\ (5,00,000 - 4,40,000)}{½\ (5,00,000 + 4,40,000)}$$

$$= \frac{40,000 + 6,000}{4,70,000}$$

$$= \frac{46,000 \times 100}{4,70,000}$$

$$= 9.79\%$$

2. Cost of Preference Capital :

Normally, a fixed rate of dividend is agreed payable by a company on its preference shares. Though dividend is declared at the discretion of the Board of directors and there is no legal binding on the payment of dividend, yet it does not mean that Preference Share Capital is cost free. The cost of preference share capital is the dividend expected by its investors. Moreover, preference shareholders have a priority to dividend over the equity shareholders. In case dividends are not paid to preference shareholders, it will affect the fund raising capacity of the firm. Hence, dividends are usually paid regularly on preference shares except when there are no profits to pay dividends.

The cost preference capital can be calculated as :

$K_p = D/P$

where K_p = Cost of Preference Capital

D = Annual Preference Dividend

P = Preference Sahre Capital (Proceeds)

Further, when preference shares are issued at premium or discount or when cost of floatation is incurred to issue preference shares, the nominal or par value of preference share capital has to be adjusted to find out the net proceeds from the issue of preference shares. In such a case, the cost of preference capital can be computed with the following formula :

$K_p = D/NP$

When Redeemable Preference Shares are issued by a company, they can be redeemed or cancelled on maturity date. The cost of redeemable preference share capital can be calculated as :

$$Kpr = \frac{D + \frac{MV - NP}{N}}{\frac{1}{2}(MV + NP)}$$

Where, Kpr = Cost of Redeemable Preference Shares

D = Annual Preference Dividend

MV = Maturity Value of Preference Shares

NP = Net Proceeds of preference Shares

Example IV.

Pepsi Ltd. issued 20,000 10% Preference Shares of Rs. 100 each. Cost of issue is Rs. 2 per share. Calculate cost of preference capital if these shares are issued (a) at par (b) at a premium of 10% and (c) at a discount of 5%.

Solution :

Cost of Preference Capital, $K_p = D/NP$

(a) $Kp = \frac{2,00,000}{20,00,000 - 40,000} \times 100$

$= \frac{2,00,000}{19,60,000} \times 100$

$= 10.2\%$

(b) $Kp = \frac{2,00,000}{20,00,000 + 2,00,000 - 40,000} \times 100$

$= \frac{2,00,000}{21,60,000} \times 100$

$= 9.26\%$

(c) $Kp = \frac{2,00,000}{20,00,000 - 1,00,000 - 40,000} \times 100$

$$= \frac{2,00,000}{18,60,000} \times 100$$

$$= 10.75\%$$

Example V.

Coca Cola Ltd. issued 1000 9% perference shares of Rs. 100 each at a premium of 10% redeemable after 5 years at par. Compute the cost of preference capital

Solution :

$$Kpr = \frac{D + 1/n\,(MV - NP)}{½\,(MV + NP)} \times 100$$

$$= \frac{9,000 + 1/5\,(1,00,000 - 1,10,000)}{½\,(1,00,000 + 1,10,000)} \times 100$$

$$= \frac{9,000 - 2,000 \times 100}{1,05,000}$$

$$= 6.7\%$$

Example VI.

Azhar Ltd., issued 50,000 10% Preference Shares of Rs. 100 each redeemable after 10 years at a premium of 5%. The cost of issue is Rs. 2 per share. Calculate the cost of preference capital.

Solution :

$$= \frac{5,00,000 + 1/10\,(52,50,000 - 49,00,000) \times 100}{½\,(52,50,000 + 49,00,000)}$$

$$= \frac{5,00,000 + 35,000 \times 100}{50,75,000}$$

$$= \frac{5,35,000 \times 100}{50,75,000}$$

$$= 10.54\%$$

3. Cost of Equity Share Capital :

As the payment of dividend on equity shares is not legally binding and the rate of dividend is not predetermined, some financial experts hold the opinion that equity share capital does not carry any cost. But this is not true. The share holders invest their surplus in equity shares with an expectation of receiving dividends and the comapany must earn this minimum rate so that the market price of the shares remains unchanged. Therefore, the required rate of return which equates the present value of the expected dividends with the markets value of share is the cost of equity capital.

For the purpose of measuring the cost of equity capital will be divided into two parts : (a) the external equity of the new issues (of shares) and (b) the retained earnings because of the floatation costs involved in the former. It is very difficult to measure the cost of equity in practice, since it is difficult to estimate the future dividends expected by the equity shareholders.

Moreover, the earnings and dividends on equity share capital are generally expected to grow. The cost of equity capital can be computed in the following ways :

(a) Dividend Yield Method or Dividend Price Ratio Method : Under this method, the cost of equity capital is the 'discount rate that equates the present value of expected future dividends per share with the net proceeds (or current market price) of a share.' Symbolically,

$$Ke = \frac{D}{NP} \text{ or } \frac{D}{MP}$$

where, Ke = Cost of Equity Capital

D = Expected Dividend per share

NP = Net Proceeds per share

and MP = Market Price per share

The basic assumptions underlying this method are that the investor give utmost importance to dividends and the risk in the firm remains constant.

The dividend price ratio method cannot be considered as a sound one for the following reasons : (i) it does not consider the growth in dividend (ii) it does not consider future earnings or retained earnings and (iii) it does not take into account the capital. It is suitable only when the company has stable earnings and stable dividend policy over a period of time.

Example VII.

Maruti Ltd. issues 5,000 equity shares of Rs. 100 each at a premium of 10%. The company has been paying 20% dividend to equity shareholders for the past five years and expects to maintain the same in the future also. Compute the cost of equity capital. Will it make any difference if the market price of equity share is Rs. 160 ?

Solution :

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

$$= \frac{20}{110} \times 100$$

$$= 18.18\%$$

if the market price of a equity share is Rs. 160.

$$Ke = \frac{D}{MP}$$

$$= \frac{20}{160} \times 100$$

$$= 12.5\%$$

where, Ke = Cost of equity capital

D = Expected Dividend per share

Np = Net proceeds per share

G = Rate of growth in dividends.

(b) Dividend Yield plus growth in dividend method : When the dividends of the firm are expected to grow at a constant rate and the dividend pay out ratio is constant, this method may be the cost of equity capital is based on the dividend and the growth rate.

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

Further, in case cost of existing equity share capital is to be calculatedd, the NP should be changed with MP (market price per share) in the above equation.

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

Example VIII

(a) Hero Honda Ltd. issues 2000 new equity shares of Rs. 100 each at par. The floatation costs are expected to be 5% of the share price. The company pays a dividend of Rs. 10 per share initially and the growth in dividends is expected to be 5%. Compute the cost of new issue equity share.

(b) If the current market price of an equity share is Rs. 160, calculate the cost sof existing equity share capital.

Solution :

(a) $Ke = \frac{10}{100-5} + 5\% = 15.33\%$

(b) $Ke = \frac{D}{MP} + G$

$= \frac{10}{160} + 5\% = 11.25\%$

(c) Earning yield method : Under this method, the cost of equity capital is the discount rate that equates the present value of expected future earnings per share with the net proceeds (or current marketing price) of a share. Symbolically :

$$K_e = \frac{\text{Earning per Share}}{\text{Net Proceeds}}$$

$$= \frac{EPS}{NP}$$

Where, the cost of existing capital is to be calculated.

$$K_e = \frac{\text{Earning per Share}}{\text{Market Price per Share}}$$

$$= \frac{EPS}{MPS}$$

This method of computing cost of equity capital may be employed in the following cases :

(a) When the earnings per share are expected to remain unchanged.

(b) When the dividend pay-out ratio is 100 per cent or when the retention ratio is zero, i.e., all the available profits are fully distributed as dividends.

(c) When a firm is expected to earn an amount of new equity share capital, which is equal to the current rate of earnings.

(d) The market price of share is influenced by the earnings per share alone.

Example IX.

Jindal Ltd. is considering an expenditure of Rs. 80 lakhs for expanding its operations. Other particulars are as follows :

Number of existing equity shares = 10 lakhs

Market value of existing share = Rs. 60

Net earnings = Rs. 90 lakhs

Compute the cost of existing equity share capital and of new equity capital assuming that new shares will be issued at a price of Rs. 54 per share and the cost of new issue will be Rs. 2 per share.

Solution :

Cost of existing equity share capital

$$K_e = \frac{EPS}{MPS}$$

$$\text{EPS, or Earnings per share} = \frac{90}{10} = \text{Rs. } 9$$

$$K_e = \frac{9 \times 100}{60}$$

$$= 15\%$$

Cost of New Equity Capital

$$Ke = \frac{}{NP}$$

$$= \frac{9}{54-2} \times 100$$

$$= \frac{9}{52} \times 100$$

$$= 17.30\%$$

(d) Realised Yeild Method : The main drawback of the dividend yield method or earnings yield method lies in the estimation of the investors' expected future dividends on earnings. It is very difficult, if not impossible, to estimate future dividends and earnings precisely, since both of them depend on many uncertain factors. To overcome this shortcoming, realised yield method which takes into consideration the actual average rate of return realised in the past, is employed to computed the cost of equity share capital. While calculating the average cost of return realised, dividends recieved in the past along with the gain realised at the t ime of sale of shares, should be considered . The cost of capital is equal to the realised rate of return by the shreholders. This method is based upon the following limitations:

(a) The firm will continue to remain and face the same risk, over the period:

(b) The investors's expectations are based upon the past realised yield;

(c) The investors get the same rate of return as the realised yield even when invested elsewhere ; and

(d) The market price of shares remains unchanged.

4. Cost of Retained Earnings

It is generally misunderstood that retained earnings do not involve any cost since a firm is not required to pay dividends on retained earnings. However, the shareholders expect a return on retained profits. Retained earning

accrue to a firm only because of the sacrifice made by the shareholders in not getting the dividends declared out of the available profits fully. The cost of retained earnings is equal to the rate of return which the existing shreholders will obtain by investing the after-tax dividends in alternative investments. It thus represents the opportunity cost of dividends foregone by the shareholders. Cost of retained earnings can be computed with the help of following formula :

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

where, Kr = cost of retained earnings

D = Expected Dividend

NP = Net proceeds of equity issue

G = Rate of growth

Further, it important to note that sharehoders, usually, cannot obtain the entire amount of retained profits by way of dividends even if there is 100 per cent pay-out ratio. It is so because the shareholders are required to pay tax. However, tax adjustment in determining the cost of retained earnings is a difficult problem because all shareholders do not fall under the same tax bracket. Moreover, if the shareholders wish to invest their after-tax dividend income in alternative invetments securities, they may have to incur some additional costs towards purchasing the securities such as brokerage. Hence, the effective rate of return realised by the shareholders from the new investment will be somewhat lesser than their present return from the firm. To make adjustment in the cost of retained earnings for tax and costs of purchasing new securities, the following formula may be adopted :

$$K_r = \frac{(D}{NP} + G)\ X(1-t)X(1-b)$$

or, $K_r = Ke\ (1-t)\ (1-b)$

where

K_r = Cost of retained earnings

D = Expected dividend

G = Growth rate

NP = Net Proceeds of Equity Issue

t = tax rate

b = Cost of purchasing new securities, or brokerage costs.

k_e = Rate of return available to shareholders

EXAMPLE X.

A firm's K_e (return available to shareholders) is 12%, the average tax rate of shareholders is 50% and it is expected that 2% is brokerage cost that shareholders will have to pay while investing their dividends in alternative securities. What is the cost of retained earnings ?

Solution :

Cost of Retained Earnings, $K_r = K_e\ (1-t)\ (1-b)$

where, K_e = rate of return available to shareholders

t = tax rate

b = brokerage cost

so, k_r = 12% x (1-5) (1-02)

= 12% x .5 x .98

= 5.88%

Weighted Average Cost of Capital

The term weighted average cost of capital is generally used in composite or overall sense,

especially in financial decision making. It is used only to refer to the costs of specific fources of capital such as cost of equity, etc. Before implementing any capital expenditure project, it is common experience to compare the cost of the specific source of fund raised to finance a particular project with its profitability. But this is rather failacious. For, a firm's decision to use debt capital adversely affects its potential using low cost debt in future and also makes the position of the existing shareholders more risky. This increases the risk to the shareholders which is turn increases the cost of equity. Again, the firm's decision to use equity capital to finance its projects will enlarge its potential for borrowing, in future. Because of this linkage between the methods of financing and their costs, the term cost of capital should be used in a composite term. Thus, the composite cost or overall cost of capital is the weighted average cost of various sources of funds, weights being the proportion of each source of funds in the capital structure. It should also be remembered that it is the weighted average concept and not the simple average, which is more relevant in calculating the overall cost of capital. As the firms do not use various sources of funds in equal proportion, the simple average cost of capital will not be appropriate to use, in the capital structure decision-making.

The following steps are involved in calculating the weighted average cost of capital :

i) To calculate the cost of the specific sources of funds individually (i.e., cost of debt, cost of equity, cost of preference capital, etc.).

ii) To multiply the cost of each source by its proportion in the capital structure and

iii) Add the weighted costs of all courses of funds to get the weighted cost of capital.

The cost of capital should always be calculated on the after-tax basis, in financial decision-making. Hence, the component costs one used for calculating the weighted average cost of capital.

EXAMPLE XI.

The following is the capital structure of a TATA Ltd.

Sources of Finance	Amount	Proportion	Cost
Equity Share capital (4000 Share of Rs. 100/-each)	Rs. 4,00,000	40%	14.0%
Retained earnings (Reserves)	2,00,000	20%	13.0%
Pref. capital	1,00,000	10%	12.0%
Debt.	3,00,000	30%	9.0%

Calculate the weighted average cost of capital of the company.

Solution

The weighted average cost of TATA Ltd. is computed as follows :

Source (1)	Amt (2)	Proportion (3)	After-tax (4)	Weighted cost (5)
Equity capital (4,000 Share of Rs. 100/- each)	4,00,000	40%	14.0	5.60
Retained Earnings	2,00,000	20%	13.0	2.60
Pref. Capital	1,00,000	10%	12.0	1.20
Debt	3,00,000	30%	9.0	2.70
Weighted Average cost of capital				12.1

The weighted average cost of TATA Ltd. can also be calculated as follows:

Alternative Method

Source (i)	Amt, (2)	Proportion (3)	After-tax (4)
Equity Capital	4,00,000	14.0%	56,000
Retained earnings	2,00,000	13.0%	26,000
Pref, capital	1,00,000	12%	12,000
Debt	3,00,000	9.0%	27,000
	Rs. 10,00,000		Rs.1,21,000

$$\text{Weighted Average Cost of Capital} = \frac{\text{Rs. 1,21,000 x 100}}{\text{Rs. 10,00,000}} = 12.1\%$$

Book Value Vs. Market Value Weights

The weighted cost of capital can be calculated by using either the book value or market value weights. If there is any difference between book value and market value weights, the weighted average cost of capital would also differ according to the weights used. When the market value of the share is higher than book value, the weighted average cost of capital calculated by using the book value weight will be much lower and vice versa.

Computation of Weighted Average Cost of Capital (Market Value weight)

Source	Amt	Proportion	After-tax	Weighted cost
Equity capital (4,000 Share of Rs. 22.50)	Rs.9,00,000	69.2%	14.0%	9.69%

Pref. capital	1,00,000	7.7%	12.0%	0.92
Debt	3,00,000	23.1%	9.0%	2.08
	Rs.13,00,000			12.69%

It can be observed that the total market value of the equity shares outstanding takes into account the retained earnings also. It is obvious that the market value of cost of capital (12.69%) is higher than book value cost of capital (12.1%) since market value of equity share capital (Rs. 9,00,000) is higher than its book value (Rs. 6,00,000). From the above it is clear that the market value weight should be preferred over the book value weights since the market values reflect the expectation of investors. At the same time, market value fluctuates very widely and frequently and there is difficulty in using the market value weights in the computation of weighted cost of capital. In practice, the use of the book value weights is always preferred for the following reasons :

(a) the firm determines the capital strucutre targets in terms of book value only.

(b) the book value particulars can be easily obtained from the published statement of the company.

(c) moreover, the debt-equity ratio based on book values alone are analysed by the investors to evaluate the risk involed in their investment.

EXERCISE QUESTIONS

1. How is Cost of debt computed ?
2. What is mean by opportunity cost ?
3. How is cost of preferred stock computed ?
4. How is the weighted average cost of capital calculated ? What is its importance ?
5. Define the term 'Cost of Capital'.
6. "The equity cost is free." Do you agree ? Give reasons.
7. "Debt is the cheapest source of funds". Comment.

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