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# Concept of Cost of Capital, Components & Significance of Cost of Capital : A Review

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**Introduction :** Cost of capital is the rate of return that a firm must earn on its project investments to maintain its market value and attract funds. Cost of capital is the required rate of return on its investments which belongs to equity, debt and retained earnings. If a firm fails to earn return at the expected rate, the market value of the shares will fall and it will result in the reduction of overall wealth of the shareholders.

## Concept of Cost of Capital

There is bulk of finance literature to describe this concept. Numerous studies have shown that Cost of capital is the rate of return that a firm must earn on its project investments to maintain its market value and attract funds. It is the required rate of return on its investments which belongs to equity, debt and retained earnings. If a firm fails to earn return at the expected rate, the market value of the shares will fall and it will result in the decrease of overall prosperity of the shareholders. Famous theorist, John J. Hampton described cost of capital as "the rate of return the firm required from investment in order to increase the value of the firm in the market place". Solomon Ezra stated that "Cost of capital is the minimum required rate of earnings or the cut-off rate of capital expenditure" According to James C. Van Horne, Cost of capital is "A cut-off rate for the allocation of capital to investment of projects. It is the rate of return on a project that will leave unchanged the market price of the stock". Another theorist, William and Donaldson explained that "Cost of capital may be defined as the rate that must be earned on the net proceeds to provide the cost elements of the burden at the time they are due".

## Assumption of Cost of Capital

It is documented in theoretical studies that cost of capital is based on some assumptions which are directly related while calculating and measuring the cost of capital. There are three basic concepts:

Cost of capital can be measured with the following equation:

$$\mathbf{K = r_j + b + f}$$

Where,

K = Cost of capital.

rj = The riskless cost of the particular type of finance.

b = The business risk premium.

f = The financial risk premium.

**Measurement of Cost of Capital:**
Cost of capital is measured for different sources of capital structure of a firm. It includes cost of debenture, cost of loan capital, cost of equity share capital, cost of preference share capital, cost of retained earnings etc.

**Components Of Cost Of Capital**
The individual cost of each source of financing is called component of cost of capital. The component of cost of capital is also known as the specific cost of capital which includes the individual cost of debt, preference shares, ordinary shares and retained earning. Such components of cost of capital have been presented below:

A. Cost Of Debt

- Cost of perpetual or irredeemable debt
- Cost of non-perpetual or redeemable debt
- Cost of debt issued on redeemable condition
- Cost of callable debt

B. Cost Of Preference Share

- Cost of perpetual preference Share
- Cost of redeemable preference Share

C. Cost of ordinary/equity shares or common stock

D. Cost of retained earning

**A. Cost of Debentures:**
The capital structure of a firm normally includes the debt capital. Debt may be in the form of debentures bonds, term loans from financial institutions and banks etc. The amount of interest payable for issuing debenture is considered to be the cost of debenture or debt capital ($K_d$). Cost of debt capital is much cheaper than the cost of capital raised from other sources, because interest paid on debt capital is tax deductible.

**The cost of debenture is calculated in the following ways:**

When the debentures are issued and redeemable at par:

$$\mathbf{K_d = r\ (1 - t)}$$

where $K_d$ = Cost of debenture
r = Fixed interest rate
t = Tax rate

(ii) When the debentures are issued at a premium or discount but redeemable at par

$$K_d = I/NP\ (1 - t)$$

where, $K_d$ = Cost of debenture
I = Annual interest payment
t = Tax rate
Np = Net proceeds from the issue of debenture.

(iii) When the debentures are redeemable at a premium or discount and are redeemable after 'n' period:

$$K_d = I(1\text{-}t)+1/N(R_v - NP) / ½\ (RV - NP)$$

where $K_d$ = Cost of debenture .
I = Annual interest payment
t = Tax rate
NP = Net proceeds from the issue of debentures
$R_y$ = Redeemable value of debenture at the time of maturity

**B. Cost of Preference Share Capital:**

For preference shares, the dividend rate can be considered as its cost, since it is this amount which the company wants to pay against the preference shares. Like debentures, the issue expenses or the discount/premium on issue/redemption are also to be taken into account.

The cost of preference shares

$$(KP) = DP / NP$$

Where, DP = Preference dividend per share
NP = Net proceeds from the issue of preference shares.
If the preference shares are redeemable after a period of 'n', the cost of preference shares (KP) will be:

where NP = Net proceeds from the issue of preference shares
RV = Net amount required for redemption of preference shares
DP = Annual dividend amount.

There is no tax advantage for cost of preference shares, as its dividend is not allowed deduction from income for income tax purposes. The students should note that both in the case of debt and preference shares, the cost of capital is computed with reference to the obligations incurred and proceeds received. The net proceeds received must be taken into

**C. Cost of Equity or Ordinary Shares:**

The funds required for a project may be raised by the issue of equity shares which are of permanent nature. These funds need not be repayable during the lifetime of the organisation. Calculation of the cost of equity shares is complicated because, unlike debt and preference shares, there is no fixed rate of interest or dividend payment.

Cost of equity share is calculated by considering the earnings of the company, market value of the shares, dividend per share and the growth rate of dividend or earnings.

***(i) Dividend/Price Ratio Method:***

An investors buys equity shares of a particular company as he expects a certain return (i.e. dividend). The expected rate of dividend per share on the current market price per share is the cost of equity share capital. Thus the cost of equity share capital is computed on the basis of the present value of the expected future stream of dividends.

Thus, the cost of equity share capital ($K_e$) is measured by:

$K_e$ = where D = Dividend per share

P = Current market price per share.

If dividends are expected to grow at a constant rate of 'g' then cost of equity share capital

**($K_e$) will be Ke = D/P + g.**

This method is suitable for those entities where growth rate in dividend is relatively stable. But this method ignores the capital appreciation in the value of shares. A company which declares a higher amount of dividend out of given quantum of earnings will be placed at a premium as compared to a company which earns the same amount of profits but utilizes a major part of it in financing its expansion programme.

***(ii) Earnings/Price Ratio Method:***

This method takes into consideration the earnings per share (EPS) and the market price of share. Thus, the cost of equity share capital will be based upon the expected rate of earnings of a company. The argument is that each investor expects a certain amount of earnings whether distributed or not, from the company in whose shares he invests.

If the earnings are not distributed as dividends, it is kept in the retained earnings and it causes future growth in the earnings of the company as well as the increase in market price of the share.

Thus, the cost of equity capital ($K_e$) is measured by:

$K_e$ = E/P where E = Current earnings per share

P = Market price per share.

If the future earnings per share will grow at a constant rate 'g' then cost of equity share capital ($K_e$) will be

**$K_e$ = E/P+ g.**

This method is similar to dividend/price method. But it ignores the factor of capital appreciation or depreciation in the market value of shares. Adjustment of Floatation Cost There are costs of floating shares in market and include brokerage, underwriting commis-sion etc. paid to brokers, underwriters etc.

These costs are to be adjusted with the current market price of the share at the time of computing cost of equity share capital since the full market value per share cannot be realised. So the market price per share will be adjusted by (1 – f) where 'f' stands for the rate of floatation cost.

Thus, using the Earnings growth model the cost of equity share capital will be:

**$K_e$ = E / P (1 – f) + g**

**D. Cost of Retained Earnings:**

The profits retained by a company for using in the expansion of the business also entail cost. When earnings are retained in the business, shareholders are forced to forego dividends. The dividends forgone by the equity shareholders are, in fact, an opportunity cost. Thus retained earnings involve opportunity cost.

If earnings are not retained they are passed on to the equity shareholders who, in turn, invest the same in new equity shares and earn a return on it. In such a case, the cost of retained earnings ($K_r$) would be adjusted by the personal tax rate and applicable brokerage, commission etc. if any.

Many accountants consider the cost of retained earnings as the same as that of the cost of equity share capital. However, if the cost of equity share capital i9 computed on the basis of dividend growth model (i.e., D/P + g), a separate cost of retained earnings need not be

computed since the cost of retained earnings is automatically included in the cost of equity share capital. Therefore,

$$K_r = K_e = D/P + g.$$

**Significance of Cost of Capital**

Computation of cost of capital is a very important part of the financial management to decide the capital structure of the business concern.

1. Importance to Capital Budgeting Decision: Capital budget decision largely depends on the cost of capital of each source. According to net present value method, present value of cash inflow must be more than the present value of cash outflow. Hence, cost of capital is used to capital budgeting decision.

2. Importance to Structure Decision: Capital structure is the mix or proportion of the different kinds of long term securities. A firm uses particular type of sources if the cost of capital is suitable. Hence, cost of capital helps to take decision regarding structure.

3. Importance to Evolution of Financial Performance: Cost of capital is one of the important determine which affects the capital budgeting, capital structure and value of the firm. Hence, it helps to evaluate the financial performance of the firm.

4. Importance to Other Financial Decisions: Apart from the above points, cost of capital is also used in some other areas such as, market value of share, earning capacity of securities etc. hence, it plays a major part in the financial management.

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