Theories of Capital Structure

There are 4 theories of capital structure:

1. Net Income Approach

2. Net operating income approach

3. Traditional theory

4. Modigliani-Miller approach

1. Net Income (NI) Approach:

According to NI approach a firm may increase the total value of the firm by lowering its cost of capital.

When cost of capital is lowest and the value of the firm is greatest, we call it the optimum capital structure for the firm and, at this point, the market price per share is maximized.

The same is possible continuously by lowering its cost of capital by the use of debt capital. In other words, using more debt capital with a corresponding reduction in cost of capital, the value of the firm will increase.

This approach is based upon the following assumptions:

(i) The cost of debt is less than the cost of equity.

(ii) There are no taxes.

(iii) The risk perception of investors is not changed by the use of debt.

Computation of the Total Value of the Firm

Total Value of the Firm (V) = S + D

Where,

S = Market value of Shares = EBIT-I/ Ke = E/ Ke

D = Market value of Debt = Face Value

E = Earnings available for equity shareholders

Ke = Cost of Equity capital or Equity capitalization rate.

Computation of the Overall Cost of Capital or Capitalization Rate

Ko = EBIT / V

Where,

Ko = Overall Cost of Capital or Capitalization Rate

V = Value of the firm

2. Net Operating Income Approach:

This theory as suggested by Durand is another extreme of the effect of leverage on the value of the firm. It is diametrically opposite to the net income approach. According to this approach, change in the capital structure of a company does not affect the market value of the firm and the overall cost of capital remains constant irrespective of the method of financing.

It implies that the overall cost of capital remains the same whether the debt-equity mix is 50: 50 or 20:80 or 0:100. Thus, there is nothing as an optimal capital structure and every capital structure is the optimum capital structure.

Assumptions of NOI Theory

- The split of total capitalization between debt and equity is not essential or relevant.
- The equity shareholders and other investors i.e. the market capitalizes the value of the firm as a whole.
- The business risk at each level of debt-equity mix remains constant. Therefore, overall cost of capital also remains constant.
- The corporate income tax does not exist.

Computation of the Total Value of the Firm

V = EBIT/ Ko

Where,

Ko = Overall cost of capital

Market Value of Equity Capital

S = V – D

Where,

S = Market Value of Equity Capital

V = Value of the Firm

D = Market value of the Debt

Cost of Equity Capital

Ke = EBIT – I/S X 100

Where, Ke = Equity capitalization Rate or Cost of Equity

I = Interest on Debt

S = Market Value of Equity Capital

3. Traditional Theory:

This theory was propounded by Ezra Solomon.

According to this theory, a firm can reduce the overall cost of capital or increase the total value of the firm by increasing the debt proportion in its capital structure to a certain limit. Because, debt is a cheap source of raising funds as compared to equity capital.

Effects of Changes in Capital Structure on 'Ko' and 'V'

As per Ezra Solomon:

First Stage: The use of debt in capital structure increases the 'V' and decreases the 'Ko'.

- Because 'Ke' remains constant or rises slightly with debt, but it does not rise fast enough to offset the advantages of low cost debt.
- 'Kd' remains constant or rises very negligibly.

Second Stage: During this Stage, there is a range in which the 'V' will be maximum and the¬ 'Ko' will be minimum. Because the increase in the 'Ke', due to increase in financial risk, offset the advantage of using low cost of debt.

Third Stage: The 'V' will decrease and the 'Ko' will increase. Because further increase of¬ debt in the capital structure, beyond the acceptable limits increases the financial risk.

Computation of Market Value of Shares & Value of the Firm

S = EBIT – I / Ke

V = S + D

Ko = EBIT/ V

4. Modigliani and Miller Approach:

M&M hypothesis is identical with the Net Operating Income approach if taxes are ignored. However, when corporate taxes are assumed to exist, their hypothesis is similar to the Net Income Approach.

(a) In the absence of taxes. (Theory of Irrelevance):

The theory proves that the costs of capital is not affected by changes in the capital structure or say that the debt-equity mix is irrelevant in the determination of the total value of a firm. The reason argued is that though debt is cheaper to equity, with increased use of debt as a source of finance, the cost of equity increases.

This increase in cost of equity offsets the advantage of the low cost of debt. Thus, although the financial leverage affects the cost of equity, the overall cost of capital remains constant. The theory emphasizes the fact that a firm's operating income is a determinant of its total value.

The theory further propounds that beyond a certain limit of debt, the cost of debt increases (due to increased financial risk) but the cost of equity falls thereby again balancing the two costs.

In the opinion of Modigliani& Miller, two identical firms in all respects except their capital structure cannot have different market values or cost of capital because of arbitrage process.

In case two identical firms except for their capital structure have different market values or cost of capital, arbitrage will take place and the investors will engage in 'personal leverage' (i.e. they will buy equity of the other company in preference to the company having lesser value) as against the 'corporate leverage'; and this will again render the two firms to have the same total value.

The M&M approach is based upon the following assumptions:

(i) There are no corporate taxes.

(ii) There is a perfect market.

(iii) Investors act rationally.

(iv) The expected earnings of all the firms have identical risk characteristics.

(v) The cut-off point of investment in a firm is capitalization rate.

(vi) Risk to investors depends upon the random fluctuations of expected earnings and the possibility that the actual value of the variables may turn out to be different from their best estimates.

(vii) All earnings are distributed to the shareholders.