

## Unit 3

### Capital Structure

#### What is Capital Structure

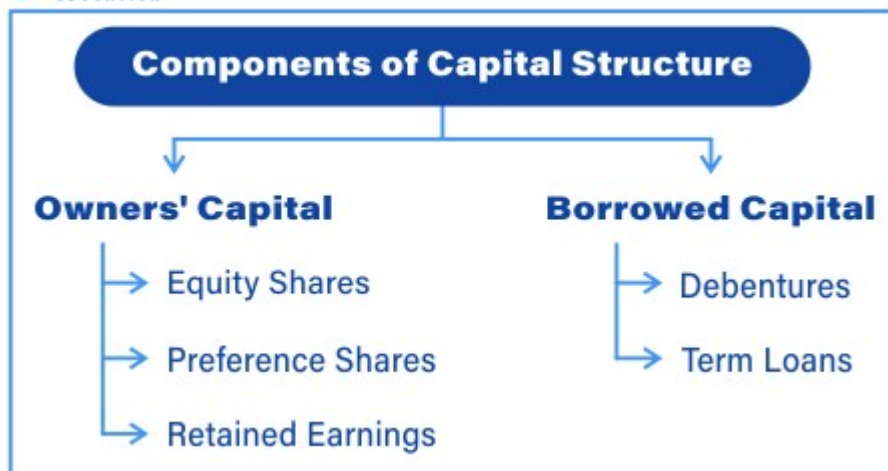
Capital structure is the combination of capitals from different sources of finance.

Capital structure is the specific mix of long-term debt and equity that a company uses to finance its overall operations, growth, and assets.

#### Key Components

**Debt:** Borrowed money from banks or bondholders that requires regular interest payments and final repayment. It is generally cheaper due to tax-deductible interest.

**Equity:** Ownership stake in the company via common stock, preferred stock, and retained earnings. It carries no repayment mandate but requires higher returns to compensate for risk.



## **The Optimal Capital Structure**

- The main goal is to find the ideal balance of debt and equity that minimizes the Weighted Average Cost of Capital (WACC) while maximizing total firm value and shareholder wealth.
- Adding moderate debt lowers overall financing costs, but too much debt increases bankruptcy and financial distress risks.

### **Factors affecting Optimal capital structure**

Achieving the optimal mix involves balancing the benefits of debt (tax deductibility of interest and lower cost) with its drawbacks (financial risk and potential bankruptcy costs).

Several factors influence a company's optimal capital structure:

- **Industry dynamics:** Companies in stable industries can usually handle more debt than those in volatile or cyclical industries.
- **Growth prospects:** High-growth companies may rely more on equity to fund expansion, while mature companies may use more debt.
- **Profitability:** Profitable companies can service more debt and benefit more from the tax deductibility of interest.
- **Asset tangibility:** Companies with more tangible assets can often secure more debt, as these assets can serve as collateral.
- **Management's risk tolerance:** Conservative senior management teams may prefer less debt, while more aggressive management may be comfortable with higher leverage.
- **Business Size and Nature**  
Big companies can get loans easily. Small businesses depend more on equity or retained earnings.
- **Profitability of the Company**  
Companies with high profits can take more loans as they can pay interest easily.
- **Cost of Capital**  
If debt is cheaper than equity, the company may prefer debt. But too much debt increases risk.
- **Market Conditions**  
In a booming market, companies issue more shares. In a slow market, they borrow more.
- **Control Consideration**  
Equity sharing reduces control of original owners. So, they may prefer debt.
- **Flexibility and Stability**  
Companies choose capital that gives flexibility and less pressure on cash flow.

- **Legal Restrictions**

Some industries have limits on how much they can borrow.

All these factors must be reviewed regularly to keep capital structure healthy.

## **Capital Structure Decision**

Capital structure decision means choosing how much money to raise through debt and equity. It is a long-term decision with deep impact. A wrong choice can hurt business performance.

This decision is not just about numbers. It includes risk planning, cost management, and control issues. Finance managers spend time finding the best option.

- **Affects Business Survival**

A bad capital structure can cause cash flow problems or bankruptcy.

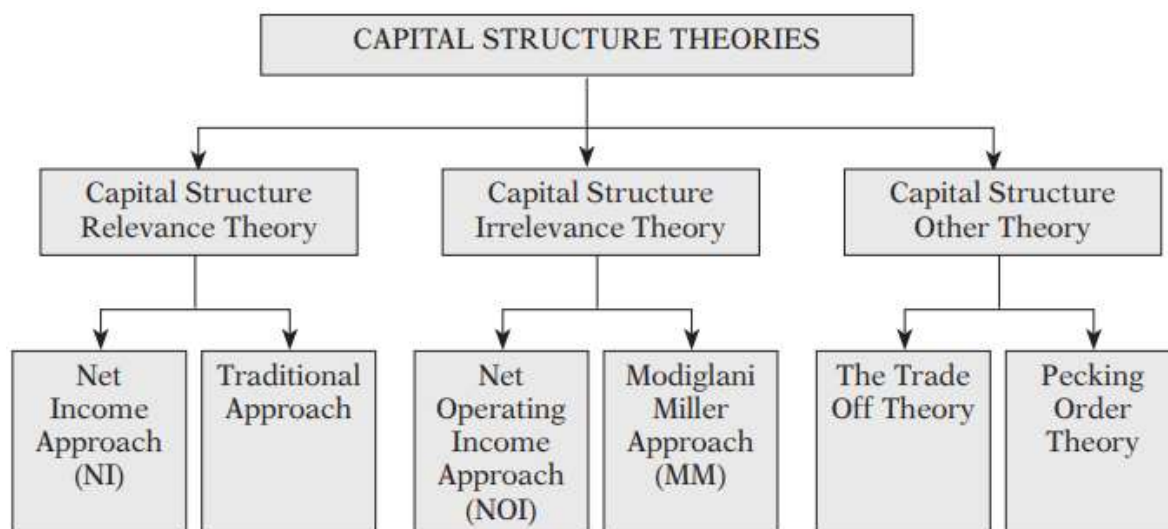
- **Changes Company Image**

Investors and banks check capital structure to judge company health.

- **Supports Future Goals**

With proper capital structure, companies raise money easily for future projects.

## **2. Capital Structure Theories**

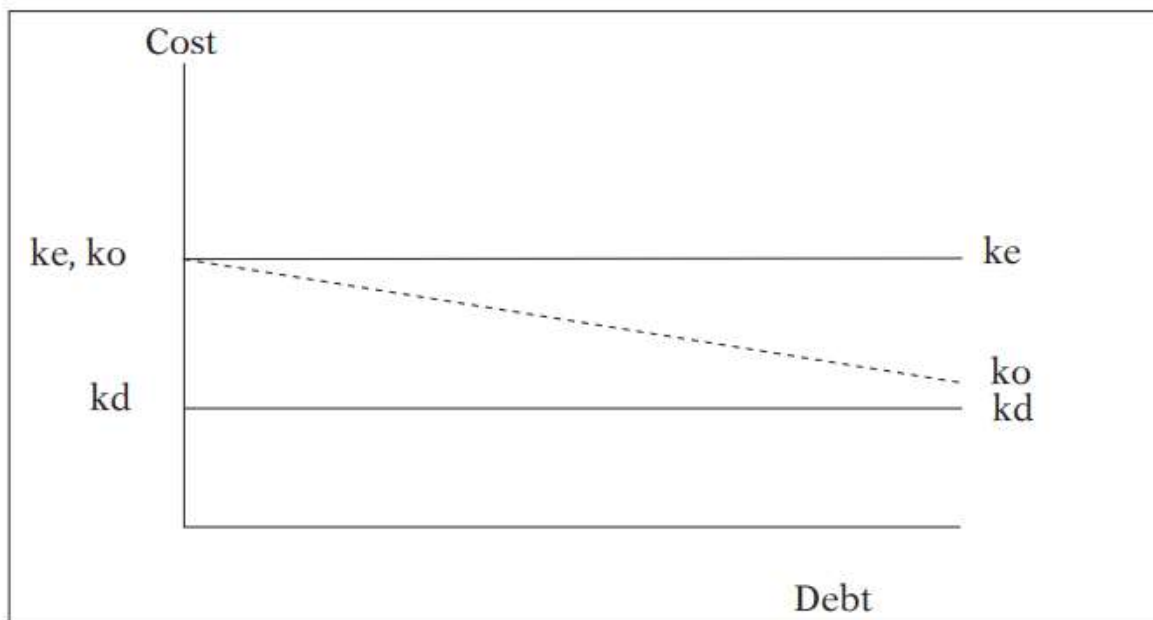


### Net Income Approach (NI)

According to this approach, capital structure decision is relevant to the value of the firm. An increase in financial leverage (Debt Proportion) will lead to decline in the weighted average cost of capital (WACC), while the value of the firm as well as market price of ordinary share will increase.

As per NI Approach:

- 
- $K_d$  and  $K_e$  will remain constant.
- $K_o$  will decrease with the help of use of Debt.
- MV of Equity and Firm will increase with the help of use of Debt.



Formulae:

$$\text{Value of Share (S)} = \frac{(\text{EBIT} - I)(1 - t)}{K_e} \quad \text{Or} \quad = V - D$$

$$\text{Value of Debt (D)} = \text{Face Value of Debt}$$

$$\text{Value of Firm (V)} = S + D$$

$$\text{Or} = \frac{\text{EBIT}(1-t)}{K_o}$$

$$\text{Cost of Capital (K}_o\text{)} = \frac{\text{EBIT}(1-t)}{K_o} \times 100$$

$$\text{Or} = K_e W_e + K_d W_d$$

$$\text{Cost of Equity (K}_e\text{)} = \frac{\text{EBIT}(1-t)}{V} \times 100$$

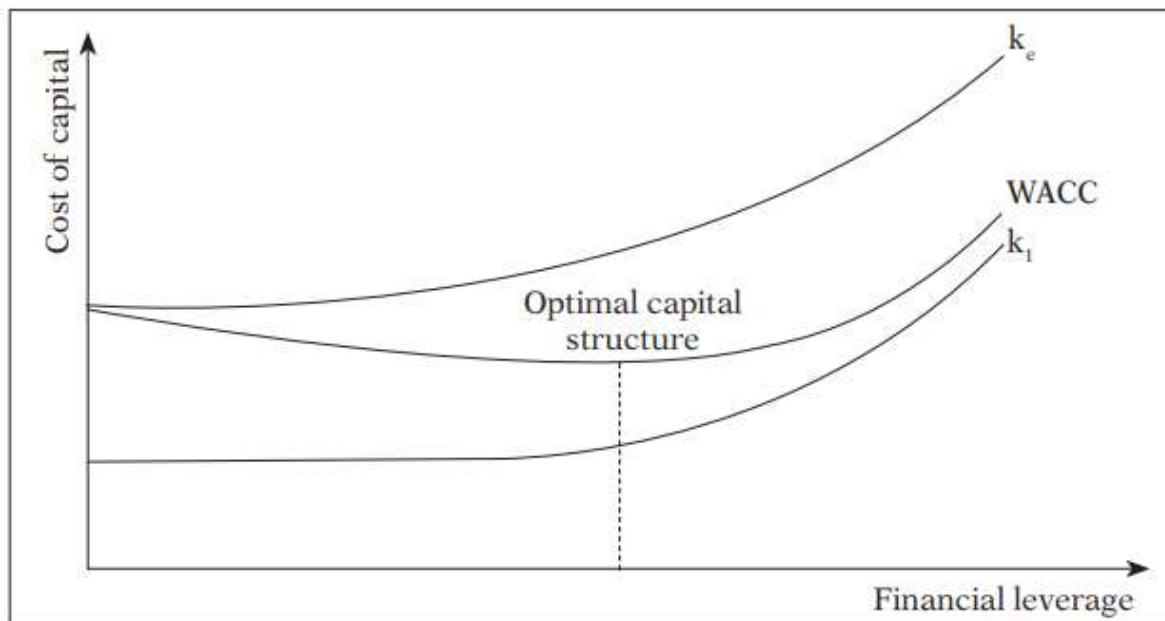
**Note:**  $K_e$  and  $K_o$  of unlevered firm are same.

### Traditional Approach

This approach favours that as a result of financial leverage up to some point, cost of capital comes down and value of firm increases. However, beyond that point, reverse trends emerge.

As per Traditional Approach:

- $K_d$ ,  $K_e$ ,  $K_o$  and MV of Equity and MV of Firm are variable
- Company has to select capital structure with lowest  $K_o$  or highest MV of Firm

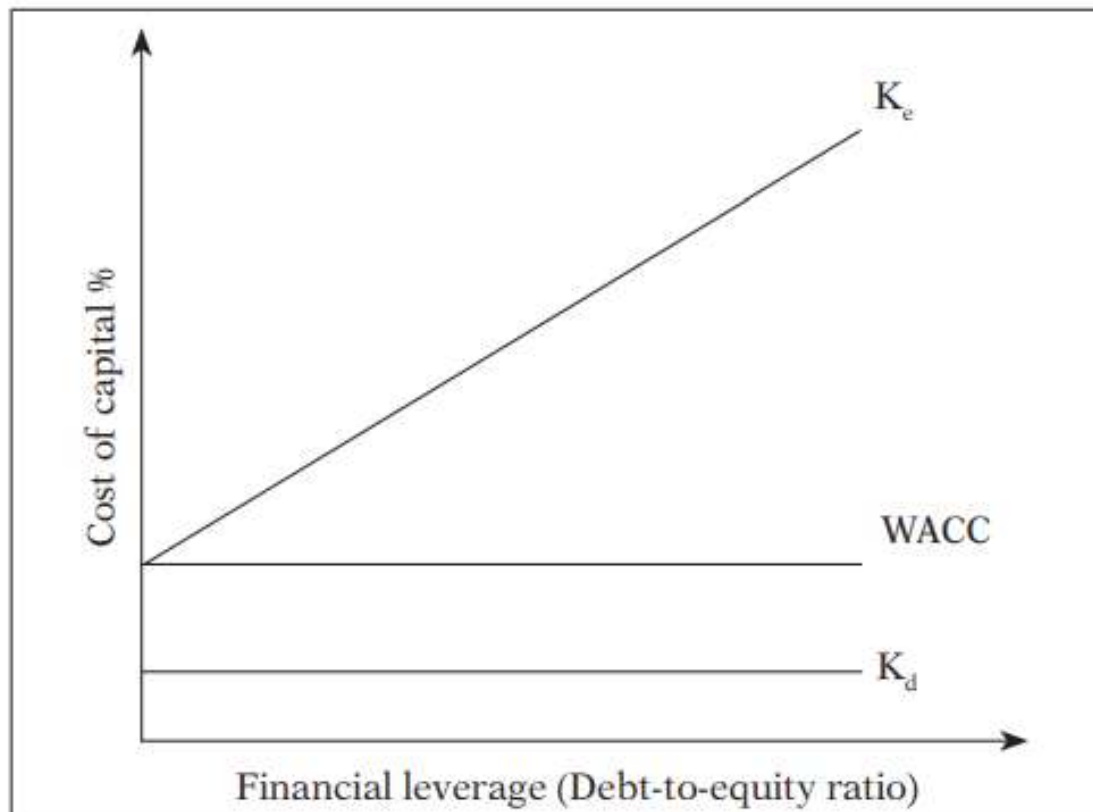


### Net Operating Income Approach (NOI)

According to this approach, capital structure decisions of the firm are irrelevant. Any change in the leverage will not lead to any change in the total value of the firm and the market price of shares, as the overall cost of capital is independent of the degree of leverage.

As per NOI Approach:

- $K_d$ ,  $K_o$  and MV of Firm will remain constant in case of without tax structure.
- $K_d$  will remain constant in case of with tax structure, with the increase in Debt, MV of firm will increase and  $K_o$  will decrease



Value of Firms as per NOI Approach:

Step 1: Calculate Value of Unlevered Firm:

$$\text{Value of Unlevered Firm (V}_U\text{)} = \frac{\text{EBIT}(1 - t)}{K_o}$$

Step 2: Calculate Value of Levered Firm:

Value of Levered Firm ( $V_L$ ) =  $V_U + DT$

### **Modigliani-Miller Approach (MM)**

The NOI approach is definitional or conceptual and lacks behavioral significance. However, Modigliani-Miller approach provides behavioural justification for constant overall cost of capital and therefore, total value of the firm.

Assumptions of MM Approach

- Capital markets are perfect
- All information is freely available
- There are no transaction costs
- All investors are rational
- Firms can be grouped into 'Equivalent risk classes'
- Non-existence of corporate taxes

**Note:** Solution of practical problems are same under NOI and MM Approaches