CHAPTER 2

CAPITAL STRUCTURE THEORIES
In this chapter we intend to review the theories of capital structure. The central question examined by these theories is whether the mix of securities in a capital structure can influence the total value of the firm and its overall cost of capital.

In the First, we shall study the various components of capital structure with special attention to long-term finance. We may then take up the different theories of capital structure and consider their acceptability from pragmatic standpoint. We may then examine the views about optimum capital structure, and finally we may deal with the controversial problem relating to capital structure planning.

COMPONENTS OF CAPITAL STRUCTURE

Corporate capital structure in India is generally composed of ownership share or equity share capital, contractual share or preference shares of different categories, debt bonds of different types, retention of profits in reserves etc. long-term loans from Government, banks and various financial institutions.
Share Capital:

The term share capital denotes the amount of money subscribed by the share holders in a company. Sec. 13(4) of the Companies Act 1956 requires the memorandum of a company to state the amount of share capital with which the company is to be registered and its division into shares of a fixed amount.

Shares usually signify a definite portion of the company's capital. A share of a company having share capital is a moveable property transferable as per provisions of the Articles of Association. It is actually an expression of proprietary relationship between a share holder and the company. An important definition of share has been given by the Learned Judge in the Case of American Delicacy Co. Ltd. vs Heath in the following lines: "Primarily a share of a company is a piece of property conferring rights in relation to distribution of income and capital". In India the meaning of a share is to be found in Sec. 2(46) of the Companies Act, 1956 according to which "Share means share in the share capital of a company and includes stock except where a distinction between stocks and shares is expressed or implied".

The above definition implies that the term 'stock' or joint stock is only another name for shares. The term share includes a stock except where a difference between them has
been created. Stock is an aggregate of fully paid up shares, legally consolidated any portion of which aggregate may be transferred or split up into fractions of any amount without regard to the original nominal amount of shares.

Types of Shares:

After the passing of Companies Act 1956 a public company can issue only two types of shares: (i) Equity and (ii) Preference. Section 86 of the Companies Act provides that the share capital of a company limited by shares, formed after the commencement of this act or issued after such commencement shall be of two kinds only, namely - (a) Equity share capital, (b) Preference share capital.

Equity Shares:

In India most of the companies have been financed by ordinary or equity or ownership shares. According to Section 85(2) of the Companies Act, 1956 "Equity share capital means, with reference to any company limited by shares, whether formed before or after the commencement of this act, all share capital which is not preference share capital". The Equity share holders enjoy a residual claim of the earnings which remain after charging operating expense, financial charges, and taxes. They are the real owners of the company who assume the ultimate risk. In an uncertain world, the re-
Residual claim also is uncertain as to amount. In the event of liquidation the equity share holders get what remains after the creditors and preference share holders are paid in full.

Equity shares have no maturity date. A share holder can liquidate the investment in a firm by selling or transferring his interest otherwise. Equity shares are securities of residual claim and are non refundable. The par value of a share is the value attached to a share, the figure of which is set or mentioned in the Articles or Memorandum of association. The term par value has no economic significance. It is only the nominal face value which represent the share holder's interest and also his liability to the company. In India each share must be issued with a par value.

Book value of an equity share denotes the fund available for equity share holders divided by the number of equity shares. It can also be expressed as the total capital stock including reserves & surplus less contractual claims i.e. creditor & preference share holders' claim divided by the number of equity shares outstanding.

The market value of an equity share is the current market price for which it is sold. The market value of a listed security is the stock exchange (over the counter) price at which transactions are taking place.
Equity or ordinary shares are the ownership shares and as such they confer the most important right to vote for the election of the members of the board of directors through whom they retain control over management. No other share enjoys such free & full voting right to formulate policy decisions.

The existing owners of ordinary shares enjoy a preemptive right to subscribe new shares, before they are offered to the outsiders. Such subscriptions are called privileged subscriptions. Such further issue of shares are often called a rights issue.

Preference Shares:

According to Sec. 85 of the Companies Act 1956 preference share capital is that part of share capital which fulfills both the following requirements:

(i) That as respect dividend it carries or will carry a preferential right to be paid a fixed amount or an amount calculated at a fixed rate, and

(ii) That as respect capital it carries, on the winding up of a company, a preferential right to be repaid the amount of capital paid up in such shares.
Preference shares have combined features of ordinary shares and debts. In a sense preferred stock is hybrid security, like debts they are fixed in amount, unlike debts they are not contractual and failure to make payment does not bring insolvency or bankruptcy. Payment of preference dividend is not mandatory. But as per agreement between the company and the preference share holders, dividend at an agreed rate must be paid to the preference share holder before any payment is made to the owners of equity shares. Preference dividend is not a charge to profit for income tax purpose.

**Bonus Shares**

Bonus shares are capitalised value of profits to be distributed amongst the shareholders. Sometimes payment of dividend requires a heavy cash flow from the company. In such circumstances if the Company's cash position is not so steady, it may, instead of paying cash dividend decide to issue shares of the same amount in favour of the shareholders entitled to dividend to avoid cash payment. These shares are allotted in satisfaction of dividend or bonus and as such the shares are called bonus shares. The Company may also utilise the dividend or bonus in payment of unpaid value of shares already held by them. As per Companies Act 1956 bonus shares can only be issued:

(a) if the company has been authorised by its articles
to issue such shares and

(b) the company has sufficient undistributed profits. Such company should file a return to the registrar of companies stating the number and the nominal amount of the bonus shares.

Bonus shares do not form a separate class of shares. Both private and public limited companies can issue bonus shares which are as good as equity shares. A permission from the C.C.I. is to be obtained before such issue and an explanatory note is to be appended in the balance sheet.

Debentures:

Debentures are one of the important pillars of the corporate capital structure representing the indebtedness of the corporation. Companies raise a considerable part of their capital by issuing debentures and other long-term bonds. Debentures essentially differ from shares in regard to their special position as creditor in the company. They enjoy seniority over ordinary and preference shares in regard to their: (i) First claim of repayment in times of winding up, (ii) Charge to the profit and loss account as an expenditure.

Debentures, therefore, are one of the most popular
sources of corporate finance which needs special analysis.

According to Sec. 2(12) of the Indian Companies Act, 1956 "Debenture includes debenture stock, bonds and any other securities of a Company whether constituting a charge on the assets of the Company or not". This definition implies that the instrument may not be called on the face of it, a debenture. It may be called a bond or any other security having a charge on the assets or not. A mortgage issued by a Company to a single mortgagee may also be included as debenture. In fact debenture is an instrument which provides for payment of or acknowledges the indebtedness of a specified sum of money on a fixed date together with interest thereon.

Debentures may be classified from different angles. It may be secured or naked, bearer or registered, redeemable or perpetual, convertible or non-convertible.

Secured Debenture:

A debenture accompanied by some charge/security is called a secured debenture. Such charge may be fixed or floating charge on the company's properties and undertakings including the uncalled capital. In case of debentures with floating charge the claims of the holders come after the preferential creditors.
Unsecured Debenture:

Debentures with no charge or security on the assets of the Company are called naked or unsecured debentures. It may also be called unsecured notes. These debentures need not be registered with the Registrar of Companies.

Bearer Debenture:

Debentures may be payable to the bearer. In these cases interest coupons are attached to each individual debenture. According to the terms of debentures the principal amount and the interest are paid upon presentation and delivery of the debentures and the coupons.

Registered Debenture:

According to Sec. 152 a company issuing debenture is required to maintain a register of the holder of debentures. The debentures payable to such registered holder are known as registered debenture.

Redeemable Debenture:

Debentures may be redeemable after the expiry of the particular period during which the holders are entitled to a fixed rate of interest. A debenture may be re-issued
after redemption until it is cancelled. Sec. 121(1) of the Companies Act provides that unless there is any provision to the contrary in the articles or in the conditions of the issue or in any contract entered into by the company or unless there is a resolution passed by the company in its general meeting to the effect that the debentures must be cancelled the company shall have the right to keep the debentures alive for the purpose of re-issue and in the exercise of such a right it can re-issue the redeemed debentures.

Perpetual Debenture:

A perpetual debenture is a debenture in which there is no clause for repayment of principal money due thereon. In India issue of perpetual debenture is clearly allowed by the Companies Act. Sec. 120 of the act provides that "A condition contained in any debenture...shall not be invalid by reason only that thereby the debentures are made irredeemable or redeemable only on the happening of a contingency, however remote or on expiry of a period however long". In case of a perpetual debenture, the debenture holder can not demand payment of principal money as long as the company is a going concern.

Convertible Debenture:

Convertible debenture is a debenture in which there
exists a clause by which the holder of the debenture can convert his debt into equity or preference shares of the company at a specified rate of exchange. In America and England issue of convertible bonds has become popular now a days for their usefulness at times of need. In India also issue of convertible debenture is not barred by the Companies Act and there is provision for issue of preference shares, debentures and long term loans consisting a clause of conversion at the option of the holder. In recent years some companies in India and abroad with exceptionally strong credit have issued convertible bonds in order to sell the bonds at a comparatively low rate of interest and also to prevent a reduction in the price of the stock. The option to convert rests with the debenture holder or bond holder and not with the company. Conversion to ordinary shares having voting rights may influence the existing pattern of control over the company. Very recently issue of convertible debenture has become quite popular as a source of finance for the private corporate sector due to the financial prospect and tax advantages attached to it.

**Non-Convertible Debenture:**

Debenture without a conversion clause is a non-convertible debenture. Most of the debentures issued so far in India are of non-convertible nature.
RETIREMENT OF DEBENTURE:

In India long-term debts are retired by means of any one of the following three methods either at or before the maturity of the debt instruments:

(i) **Redemption**: Redemption means the repayment of the principal money of the debt in cash. It may occur on or before the maturity. To redeem the debentures before maturity the corporation may either call back its debentures (if such provisions are present) or purchase those in the open market.

(ii) **Refunding**: The bonded indebtedness of a corporation is called its funded debt. If a company funds its debt it means that it replaces short term notes or open book accounts with long term bonds. Refunding a debt means to exchange one bond issue for another bond issue. When a debenture issue ripens the company may not be in a position to meet the necessary cash flow for payment of the debentures. If a refunding issue is accepted by the debenture holders, the company may retain its liquidity for the time being. In times of financial difficulty the company may extend the maturity period of a debenture issue to which debenture holders may agree for various reasons.

(iii) **Conversion**: A debenture issue may contain a conversion clause which may cause retirement of outstanding
debenture issue. When debenture holders exercise their option to convert the debenture into shares, the debentures are automatically redeemed. But the difficulty lies in the fact that the debenture holders may not be willing to exercise their option when the company needs it. On the contrary they may convert their obligation into equity shares when the corporation is not desireous of diluting them.

**TERM LOANS FROM BANKS & OTHER FINANCIAL INSTITUTIONS:**

The importance of term loans from banks and other financial institutions as a component of corporate capital structure can never be under-estimated. These loans include borrowings from: (i) Banks, (ii) Industrial Finance Corporation & State Financial Corporations, (iii) Other institutional agencies, (iv) Governments and (v) Others.

Special financial corporations and institutional agencies like L.I.C., U.T.I., etc. are the major suppliers of loans to corporate sector. The term lending institutions (I.D.B.I., IFCI, ICICI, IRGI, SFCs and SIDCs) have collectively raised their total sanctioned assistance to ₹4083.80 crores during the 18 year period from 1948 to 1976. Out of the total assistance, loan finance represented more than 75% over the 18 years span.

Most of the term loans granted by the special financial
institutions and other institutional agencies are long term loans commonly including a conversion clause which states that if loan finance by all term lending institutions together exceeds a certain limit, the lending institutions may convert such loans into equity shares with usual voting rights. In this way the financial institutions can exercise necessary control in matters of policy decision and investment decision over the management of the industrial concerns.

But the term loans granted and disbursed by the banks often include short and medium term loans which also are no less important as components of capital. The common and existing practice of the industrial concerns in India to identify a loan as short term, medium term and long term loans is that a loan for a period upto one year is considered a short term loan, while that for a term of more than one year but less than 5 (five) years is a medium term loan and that for a period of more than five years is long term loan.

LEASING:

The actual intention behind obtaining a loan or equity fund is to possess and use the assets needed by the firm. This right of possession and use of some assets may be acquired for a specific period through a lease contract in-
stead of owning the assets by purchase. Hence leasing may be recognised as another important source of fund and as such a component of capital structure.

It was not the practice to consider the lease in the balance sheet of the lessee. The reason was probably that the accounting convention was to put emphasis on the ownership criterion of an asset for listing it into the balance sheet. But recently the accountants have reviewed their previous position in relation to leased assets and they are in favour of including these assets in the balance sheet.

There are various types of lease in practice. The life periods of them also vary considerably. Therefore it is very difficult to characterise a lease in general as a source of fund or an element of capital. In India a lease generally denotes as an intermediate or a long-term source of fund. The maturity period of a lease of land and building may run as long as 99 years. The life of a lease of commercial property may run for a period of 20-30 years. The normal lease period for an equipment or other moveable assets may be from 1-15 years. The lease agreement may even provide a clause for renewal of lease at maturity. Some arrangements for lease may even offer a purchase option to the lessee.

The lease rent may be considered as repayment of principal in instalment along with the cost (interest) of the
lease. The rent should, therefore, cover the depreciation cost of the leased asset along with a fair/required return to the lessor on his investment. If the maintenance cost, insurance cost etc. are borne by the lessor, these should also be covered by the lease rent i.e. the cost of this source of fund.

**INTERNAL SOURCES OF FUND:**

Internal source of fund is the result of the normal operation of a business. The management is not required to negotiate with any outside agency for finding these funds. That is why financing by internal source of funds is called self-financing. The importance of self-financing as a source of finance is growing day by day and at present it is no less than that of external financing. Subsequent expansion of a successful business now a days is mostly done by savings generated from within the business either in the form of retained earnings or of amortization provision. The importance of internal source of funds may be judged from Table-1. Empirical studies conducted by different authorities also have shown that the growth of a firm is directly related to the accumulation of retained profits.
<table>
<thead>
<tr>
<th>Years</th>
<th>Internal Source</th>
<th>External Source</th>
<th>Total Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Amount (Rs. Crores)</td>
<td>% to total</td>
<td>Amount (Rs. Crores)</td>
</tr>
<tr>
<td>1971-72</td>
<td>493</td>
<td>61.54</td>
<td>308</td>
</tr>
<tr>
<td>72-73</td>
<td>532</td>
<td>73.48</td>
<td>193</td>
</tr>
<tr>
<td>73-74</td>
<td>648</td>
<td>51.67</td>
<td>606</td>
</tr>
<tr>
<td>74-75</td>
<td>892</td>
<td>45.97</td>
<td>1048</td>
</tr>
<tr>
<td>75-76</td>
<td>552</td>
<td>42.59</td>
<td>744</td>
</tr>
<tr>
<td>76-77</td>
<td>503</td>
<td>44.99</td>
<td>615</td>
</tr>
<tr>
<td>77-78</td>
<td>480</td>
<td>47.62</td>
<td>528</td>
</tr>
<tr>
<td>78-79</td>
<td>622</td>
<td>46.63</td>
<td>712</td>
</tr>
<tr>
<td>79-80</td>
<td>863</td>
<td>43.96</td>
<td>1099</td>
</tr>
</tbody>
</table>


Notes: The number of companies covered in the survey is not the same for all the years. (For years 1971-72 to 1975-76 the number is 1650; for 1976-77 it is 1720 while for years 1977-78 to 1979-80 it is 426 large corporations with paid-up capital of Rs. 1 crore or more)

An examination of the table shows that although the prominence of internal source of funds as was evidenced in 1971-72 and 1972-73 has no longer lasted the contribution cannot be ignored. In fact, the unweighted average percentage for these years is 50.9.
Retained Earnings:

Earning after interest and taxes is the increase in the value of the owners' equity during a given period of time. These earnings constitute proprietary claims and are available to the shareholders in the form of dividend. But it is not the policy of any business house to distribute the whole of the E.A.I.T. as dividend. A part of the E.A.I.T. is retained in the business for financing its growth. The portion of profit not paid out as dividend becomes an additional capital for further development of business. This portion has been identified by various names in various countries and even in various industries in the same country, like Retained income, Retained earnings, Retained profit, Accumulated income, Earned surplus etc.

The popularity of retained earning as a source of fund may be attributed to the following factors:

i) **Ready availability**: Retained profit is immediately available to a firm without any kind of negotiation with the outside sources of financing. This advantage sometimes prompts the management to use this source without searching for an alternative.

ii) **Permanent source without floating cost**: Retained profit as a source of fund has no date of maturity. It is a
permanent source of finance for which the management need not bother about repayment. The use of retained profit avoids any formality or cost of floating like those of a new security issue.

iii) **Lowest risk fund**: It is a source of fund with lowest risk to the corporations. There is no legal commitment on the part of the company either to pay the principal or to pay any interest to the owners of this source i.e. the ordinary share-holders.

iv) **No dilution of voting power**: Issue of additional shares invites new voting power and dilutes the value of equity. But retained earnings do not in any way affect the voting power of the share-holders or dilute the value of owners equity.

v) **Absence of restrictive provisions**: Retained profits as a source of fund attach neither any restrictive provisions like term loans nor any controlling clause of conversion etc. like bonds and debentures. Therefore the management enjoys the highest freedom of operating and using retained profits.

vi) **Greater flexibility**: Management may retain a certain portion of the earnings and pay out the balance according to its will. At another point of time the management may decide to repay the prior retained earnings to the owners. In these terms it is more flexible than any other source of fund.
vii) **Lower cost**: Retained earnings is not cost free. The cost of retained profit is the income which would have been expected by the owners (share holders) from the investment of the amount, had the profit been paid out as dividend instead of being retained in the business. But there is a considerable amount of tax savings involved in retention of earnings. Even for the share holder who does not pay income taxes, retained earnings are less costly due to the absence of floatation cost.

In addition, retained profit helps the company to maintain a stable dividend policy, increases its credit worthiness, substitutes external financing by retiring debentures and redeeming other loans.

**DEPRECIATION AS A SOURCE OF FUND**:

The concept of depreciation held by financial managers and engineers essentially differs from that of Accountants. From the accounting angle of vision, depreciation is the recovery of the cost of fixed assets out of current revenues. It is a non-cash charge to current operations. It is merely an expense entry in the books which permits the recovery of original cost of a fixed asset over its useful life.

From the financial manager's point of view, Depreciation is largest single source of internal funds. Accountants say depreciation entry is nothing more than a book keeping entry.
Except for its effect on Income taxes, in no way it changes the real value of the assets or the cash flows of the company. Making book keeping entries does not produce cash or funds for the firm. How then can depreciation be considered, a source of fund?

The real source of fund is the revenue received from the sale of product or service by the business. A portion of this revenue is immediately paid out to the factors of production used. The portion not paid out represents a gain of fund. This remaining net cash flow is separated into three parts: (1) Income taxes due on earnings, (2) Depreciation charges to recognise the decreases in value of the firm's assets and to provide for their replacement and (3) Earnings.

In India Companies Act recognise both the concepts of depreciation and treats it as a necessary charge to profit. According to Sec. 205 of the Companies Act, it is obligatory on the part of the Company to provide for depreciation before declaring dividend. The Indian Income Tax Act however, recognises the engineers concept of depreciation only and allows depreciation on plants, machineries, buildings, and furniture on the basis of its use.

IMPORTANCE OF DEPRECIATION:

As we have already pointed out, depreciation constitut-
tes a large single source of fund so far as the financial point of view is concerned. The importance of depreciation allowance as a source of fund can, therefore, never be underestimated. In recent years, depreciation allowance of the corporate sector of India has substantially exceeded the retained earnings and net new issues of shares as a source of fund. The contribution of depreciation allowance as a source of fund and its share in the total fund raised will be evident from the table given below. At present the funds flow from operation associated with depreciation charge has been one of the most important sources for the acquisition of new assets. The table has been prepared from a study of Reserve Bank of India on the sources of funds of 1011 selected medium and large private limited companies (non-financial, non-government) with a paid up capital of 5 lakhs and above.

### TABLE II

**Sources of Funds (Internal)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Internal Source of Fund (Rs. lakhs)</th>
<th>Depreciation (Rs. lakhs)</th>
<th>Depreciation as % total internal source</th>
</tr>
</thead>
<tbody>
<tr>
<td>77-78</td>
<td>4870</td>
<td>3783</td>
<td>77.7%</td>
</tr>
<tr>
<td>78-79</td>
<td>5412</td>
<td>4244</td>
<td>78.4%</td>
</tr>
</tbody>
</table>

It appears from the above Table that depreciation as a source of finance commands a share as high as 78% of total internal source.

**Classification of components into debt or equity:**

Having considered in brief, the various common components of capital structure, we may now take up their classification between debt and equity. The inclusion of a particular item of capital into debt or equity is not an unanimously settled issue. It is, indeed, quite a controversial area, in which the theoreticians, the Reserve Bank of India, Special financial institution like I.C.I.C.I., Economic and Scientific Research Foundation etc. have expressed somewhat contradictory opinions.

We propose to consider the conflicting opinions item-wise and then come to our decision as to whether an item is to be considered an item of debt or equity.

**Ordinary/Equity Share Capital:**

This is perhaps the only component regarding which there will be no difference of opinion as to its classification as an equity item. In the study\(^5\) conducted by Professor S. Chakrabarty of Indian Institute of Management all the 62 responding private sector companies to the question-
aire stated their practice of including paid up equity capital in equity. The periodic R.B.I. study on company finance\(^6\) also includes all paid up ordinary share capital in equity.

**Preference Capital**

Preference capital is perhaps the most controversial component of capital structure which includes the elements of both equity and debt. This is identical to debt, in regard to (i) Redeemability, (ii) Convertibility into equity at the expiry of the term, (iii) Flow of fixed income, (iv) Seniority over equity in terms of repayment (at the time of winding up), (v) Gearing effect on equity income etc. Preference capital is also akin to equity on the following points, e.g. (a) Preference dividend is an appropriation of profit and not a charge against profit like loan, (b) There is no tax-deductibility characteristic of dividend payment, (c) It commands ownership interest over the firm etc. The economic and scientific research foundation in its study entitled 'Top 300 Companies' decided to include preference capital into equity rather than adding it to debt. The R.B.I. working group suggested the under mentioned composition of equity:

\[
\text{Equity}^{(7)} = \text{Ordinary share capital} + \text{Preference capital} + \text{Premium} + \text{Free Reserve} + \text{Provision for contingencies} + \text{Development rebate reserve.}
\]
So the Reserve Bank of India is inclined to include preference capital into equity. The Industrial credit and investment corporation of India in its study of the Financial performance of 543 companies (1972) observes that debt consists only of long term loans. So it is implied that I.C.I.C.I. also wants to include preference capital into equity. While according to Bombay Stock Exchange Directory, preference capital and debentures are included in debt. The Bombay Stock Exchange defined Capital gearing ratio as (Preference Capital + Debenture)/ Equity Capital. Singh-Whittington study and the study with empirical analysis made by A. Barges includes preference capital into debt. According to Weston & Brigham, from the creditors' point of view it should be added to equity whereas from the equity shareholders point of view it is to be included in debt. While computing debt/equity ratio we shall include preference share capital into debt, as we shall have to use data published by Bombay Stock-Exchange Official Directory.

Long term loans & debentures:

Some authors are of opinion that all liabilities with contractual interest obligation should be included in debt and thus in their view long term loans and debentures should be classed as debt. Schwartz, however, does not hold this view and he suggests that all liability items having
a prior claim over ownership capital should constitute debt. Reserve Bank of India excludes short term loans and advances as well as trade dues and current liabilities from the definition of debt and includes only long term borrowings and debentures and deferred payment liabilities into debt. (R.B.I Bulletin, January, '74, page 55) I.C.I.C.I. also recognises all long term loans as components of debt. We also share the opinion & practice of R.B.I. and propose to include long term loans, debentures and deferred liabilities into debt.

Retained profits including reserves and surplus:

Another important component of capital structure is the retained earnings including reserves and surplus which should go along with paid up equity capital. Reserve Bank of India has included retained profit including free reserve into equity. The Controller of capital issues also included share premium, free reserve and development rebate reserve into equity. The studies made by E.S.R.F. and I.C.I.C.I also supported the practice made by R.B.I. and C.C.I. The portion of earnings not paid out as dividend and retained in business should be regarded as share holders fund from the point of view of equity and justice.
David Durand in his classic article "Costs of Debt and Equity Funds for Business Trends and Problems of Measurement" has opined that a great deal of our economic thinking is derived from a few fundamental notions concerning self interest. A business man is expected to know what constitutes his best interest and he acts accordingly. For long it was the view of the businessmen that their interest should be to maximise their incomes or earnings. Mr. Durand by examining various alternative examples has proved that "The businessman tries to maximise the discounted value of his future income instead of maximising his income. In other words his best interest is maximisation of investment value!"

The objective of a firm, therefore, is to maximise its value. "A firm's value is dependent on its expected earnings stream and the rate used to discount this stream (cost of capital)". Capital structure, therefore, may affect the value of the firm in two ways:

(a) by changing the expected earnings of the firm, or

(b) by changing the rate used to discount this earning i.e. required rate of return or cost of capital.
Capital structure refers to the combination of various types of securities e.g. equity share, preference share, debenture etc. In managing a firm's capital structure the finance manager is to determine the design of the mixture of debts and equities of various nature that will maximise the value of the firm's share. If the value of the firm and the cost of capital is affected by the financial decision or capital structure, there must be an optimum mixture of debt and equity funds in the capital structure that will maximise the total value of the firm. When such optimal capital structure will be obtained, the cost of capital will be minimum. This is a traditionally accepted view regarding the capital structure which has been strongly challenged in recent decades.

David Durand expressed two opposite views about the nature and pattern of capital structure and its effect on the value of a firm and the cost of capital. There is also a compromise view standing at the intermediate position between these two views. These three views or theories are called capital structure theories and the three approaches are called:

1) Net Income Approach

ii) Net Operating Income Approach

iii) Intermediate or Compromise Theory.
The two extreme approaches, Net Income approach and Net Operating Income approach may first be taken up for discussion. The assumptions underlying the models may be outlined as follows:

(i) Absence of corporate tax: It has been assumed by the proponents of N.I. and N.O.I. approaches that the firm pays no corporate income tax. Of course this assumption has ultimately been relaxed.

(ii) Two types of capital: The firms use only two types of capital: Debts and Equity.

(iii) Cent percent dividend payment: It is also assumed that all firms have a 100% dividend payout ratio.

(iv) No change in business risk: The business risk of a firm is constant and independent of its capital structure.

(v) Change of capital structure: Total assets are given but the firm's capital structure can be changed by selling debt to repurchase share or selling shares to retire debt.

(vi) Expected operating earnings: The firm's operating earnings are not expected to grow.
(vii) **Equal subjective probability distribution**: The investors have the same subjective probability distribution of expected future operating earnings.

Besides these basic assumptions we shall also use the following basic definitions and symbols:

- \( E \) = Market value of equity share capital.
- \( D \) = Market value of debts.
- \( V \) = Market value of the firm = \( E + D \).
- \( EBIT \) = Earnings before interest and taxes
  = Net operating income.
- \( I \) = Amount of interest payment.

Cost of debt, \( K_d = \frac{I}{D} \)

Value of debt, \( D = \frac{I}{K_d} \)

Cost of equity = \( Ke = \frac{d}{P} + G \) (When \( G = 0 \) and retained earning = 0, \( Ke = \frac{d}{P} \) i.e. earning/price)

Where \( d \) = Dividend, \( P \) = Current price of shares

\( e = \) Earnings per share and \( G = \) Expected growth rate

Weighted average cost of capital = \( Ko = \)

\[
\frac{\text{Net operating income}}{\text{Market value of firm}} = \frac{\text{NOI}}{V}
\]

This equation is on per share basis. (\( Ke = \frac{e}{P} \)). So if we multiply both the numerator and the denominator by the number of shares, \( N \), we get \( Ke = \frac{eN}{PN} = \frac{EBIT-I}{E} \)
The Net Income Approach:

Under the N.I. theory of capital structure, with increased use of debt (Leverage) in the capital mix, the value of the firm will increase and the cost of capital will decrease. Under this theory, the cost of debt and cost of equity are assumed to be independent of capital structure. At the point of optimum capital structure, the value of the firm will be maximum and the overall cost of capital will be minimum. To illustrate this theory with a numerical example, let us suppose that the expected net operating income of the firm is Rs. 20,000; the capital structure includes a debt of Rs. 60,000 (5% interest); the equity capitalisation rate is 10%. The value of the firm under these conditions will be as shown below:

<table>
<thead>
<tr>
<th>Rs.</th>
<th>Net operating earnings</th>
<th>20,000</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Interest (cost of debt)</td>
<td>3,000</td>
</tr>
<tr>
<td></td>
<td>(5% on Rs. 60,000)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Earnings available to</td>
<td>17,000</td>
</tr>
<tr>
<td></td>
<td>Equity share-holders</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Market value of Equity</td>
<td>1,70,000</td>
</tr>
<tr>
<td></td>
<td>shares (E=17000/.10)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Market value of debt, D</td>
<td>60,000</td>
</tr>
<tr>
<td></td>
<td>Market value of the firm</td>
<td>2,30,000</td>
</tr>
</tbody>
</table>

(Thus the overall cost of capital \( K_o = \frac{N.O.I}{V} = \frac{20,000}{2,30,000} = 8.7\% \))

Now let us examine what happens if the use of debt in capital structure is increased from Rs. 60,000 (5%) to Rs. 120,000.
@ 5%. The value of the firm and the weighted average cost of capital in this case will be calculated as follows:

\[
\begin{array}{l}
\text{Net operating income} \quad : \quad 20,000 \\
\text{Interest (cost of debt)} \\
\quad (5\% \text{ on } \text{Rs.120000}) \quad : \quad 6,000 \\
\text{Earning available to Equity share-holders} \quad : \quad 14,000 \\
\text{Market value of equity share (E=14000/.10)} \quad : \quad 1,40,000 \\
\text{Market value of Debt (D)} \quad : \quad 1,20,000 \\
\text{Market value of the firm (V)} \quad : \quad 2,60,000 \\
\end{array}
\]

(Thus the overall cost of capital \( \frac{\text{NOI}}{V} = \frac{20,000}{2,60,000} = 7.7\% \))

With increased use of debt (from Rs.60,000 to Rs.1,20,000) the value of the firm also rises (from Rs.2,30,000 to Rs.2,60,000) and cost of capital declines (from 8.7% to 7.7%).
Durand's idea of N.I. approach may be presented graphically as in Figure-I.

Figure-I
It is found from Fig. 1 that under N.I. approach Ke curve (cost of equity) and Kd curve (cost of debt) are not influenced by the varying degree of leverage. In other words, Ke and Kd remain constant whatever may be the degree of use of debt in the capital structure. But Ko is sensitive to the degree of leverage. With an increase in the use of debt, Ko (overall cost of capital) tends to decrease gradually and approaches the Kd curve. V curve is inversely related to Ko. As a result of increased use of debt in the capital structure when Ko decreases, the V curve (value of the firm) gains an upward slope which indicates the rise in the value of the firm. The optimal capital structure will be attained at the point where value of the firm will be maximum and overall cost of capital will be minimum.

Net Operating Income approach:

The second important approach initiated by David Durand is called Net Operating Income approach or, in short, NOI approach which is very closely identified with the approach made by Franco Modigliani and Merton Miller. Since the two approaches are almost similar allowing mutual support to each other we may call the approach as the N.O.I-M.M approach.

Under this theory, the value of the firm is independent of its capital structure. Value of the firm can not be changed by changing the degree of leverage in the capital
structure. Cost of capital is not a function of capital structure. It is independent of the financial mix and depends on the business risk. According to the proponents of this theory with the increased use of debt the fixed charges of the firm also increase resulting in a similar increase in financial risk. Share holders, therefore, will expect more return to compensate for the risk. As a result the equity capitalisation rate (Ke) also increases and will remain as a constant linear function of Debt-equity ratio.

The NOI - MM theory requires some special assumptions in addition to the common assumptions for both N.I and NOI approach stated earlier. These assumptions may be outlined as follows:

(1) In the absence of tax the market value of a firm is found out by dividing EBIT by overall cost of capital. Thus \( V = \frac{\text{EBIT}}{\text{KO}}. \)

(2) The value of equity is found out by deducting the value of debt from the total value of the firm. Thus \( E = V - D. \)

(3) The overall cost of capital can be computed by averaging the cost of debt and the cost of equity. Thus \( \text{KO} = \text{Kd} \left( \frac{D}{V} \right) + \text{Ke} \left( \frac{E}{V} \right). \)
Cost of equity has been defined as \( \text{Ke} = \frac{\text{EBIT-I}}{E} \)

The mathematical illustration of the NOI-MM approach may be presented as follows:

We assume that the operating income of a firm is Rs.50,000. The firm has a debt of Rs.2,50,000 @ 6% interest. The overall capitalisation rate KO=10%. The value of the firm and the cost of capital (weighted average) may be calculated as under:

\[
\begin{align*}
\text{Net-operating Income (EBIT)} &= 50,000 \\
\text{(Capitalisation rate (KO) = 10%)}
\end{align*}
\]

\[
\begin{align*}
\text{Market value of the firm (V)} &= 5,00,000 \\
(50,000 \div .10) &= 5,00,000 \\
\text{Market value of Debt (D)} &= 2,50,000 \\
\text{Market value of equity (V-D)} &= 2,50,000
\end{align*}
\]

Given the value of equity we can compute the cost of equity: \( \text{Ke} = \frac{\text{EBIT-I}}{E} = \)

\[
\begin{align*}
50,000 - (2,50,000 \times \frac{6}{100}) &= 50,000 - 15000 \\
\frac{35,000}{2,50,000} &= \frac{14}{100} = 14%.
\end{align*}
\]

The weighted average cost of capital (Ko) may be verified as below:
\[
K_0 = K_d \left(\frac{D}{V}\right) + K_e \left(\frac{E}{V}\right) = \\
.06 \times \frac{2,50,000}{5,00,000} + .14 \times \frac{2,50,000}{5,00,000} = \\
\frac{2,50,000}{5,00,000} (.06 + .14) = \frac{2,50,000}{5,00,000} \times 20 = \\
\frac{1}{2} \times .20 = .10 = 10\%.
\]

Now if the amount of debt is increased to Rs.4,00,000 from Rs.2,50,000, the value of the firm remains constant at Rs.5,00,000 and value of the equity will be dropped to 1,00,000 and cost of equity will rise to :-

\[
\frac{50,000 - \frac{6}{100} (4,00,000)}{1,00,000} = \left[\frac{E.B.I.T - I}{E}\right] \\
\frac{50,000 - 24,000}{1,00,000} = \frac{26,000}{1,00,000} = 26\%.
\]

The weighted average cost of capital or the overall cost of capital may now be found out in the changed circumstances as under :-

\[
K_0 = .06 \times \frac{4,00,000}{5,00,000} + .26 \times \frac{1,00,000}{5,00,000} = \\
\frac{24}{5} + \frac{26}{5} = .048 + .052 = .10 = 10\%.
\]

Thus we find an increase in the use of debt in capital structure (leverage) will increase the cost of equity Ke in such a way that the overall cost of capital will not be changed. Therefore according to MM-NOI hypothesis the cost of
capital and the value of the firm are not sensitive to the change in the degree of leverage.

The N.O.I. approach of capital structure theory may be represented as in Figure-2.
Figure 2 shows that KO (overall cost of capital) and KD (Cost of debt) are constant and KE (Cost of equity) rises slowly at the beginning but sharply afterwards with the increase of degree of leverage. V curve also is constant which indicates that the value of the firm is not affected by the degree of use of debt. As the average cost of capital remains same at all points of KO curve, every capital structure is optimum or in other words, there is no ideal capital structure.

The Modigliani - Miller Version

Franco Modigliani and Merton H. Miller in their 1958 article in American Economic Review vehemently challenged the propositions of N.I. theory and supported the N.O.I. theory with a vigorous conceptual argument. They have proved their propositions by theoretically sound and logically tenable mathematical proof and behavioural justification. They held the view that in a world of no taxes the market value of a firm and the cost of capital is independent of its capital structure. After a thorough and extensive analysis of their propositions they possibly wanted to arrive at following conclusions :-

(i) E.B.I.T (Earnings before Interest & Taxes) is the actual determinant of cost of capital and market value of a firm.
(ii) Financial leverage affects cost of equity and net the value of the firm.

(iii) The firm must use the Ko (Cost of capital) as a cutoff point for new investment.

The simplifying assumptions of M.M. hypothesis are as follows:

(a) Securities are traded in perfect capital market.

(b) Investors behave rationally and all relevant information are communicated immediately to them.

(c) Firms are not to pay corporate taxes.

(d) The sale and purchase of securities involve no transaction cost.

(e) Firms can be grouped into homogeneous risk classes.

(f) Firms follow a 100% dividend payout policy.

(g) Investors can borrow against common shares.

The propositions held by M.M. are stated below:
The market value of a firm is independent of its capital structure and is ascertained by capitalizing its expected return at the appropriate discount rate of its class. In other words the average cost of capital is not related with the capital structure and is equal to the capitalization rate of a pure equity stream of its class. To put it in a formula \( V = \frac{EBIT}{Ko} \) or \( Ko = \frac{EBIT}{V} \). Where \( V \) = Market value of the firm, \( EBIT \) = N.O.I = Expected net operating income on the assets of the firm and \( Ko \) = the capitalisation rate of the firm appropriate to its risk class. M.M contended that two firms, similar in all respect except their capital structure can not have different market value or different cost of capital.

To prove their contention they present the examples of two firms one levered and the other unlevered but identical in all other respects. Now they argue that if the value of the levered firm is higher than that of unlevered firm, the rational investors will naturally sell the shares of the overvalued firm and will be able to purchase large number of shares in the under-valued firm. In addition the investors will gain leverage in personal portfolio in terms of borrowing personally against the common shares and purchasing more new shares in the unlevered firm. In this way they will gain more by owning more shares with the same degree of risk they were accepting while holding the shares in the levered firm. In this way they will restore equilibrium in the market.
Proposition II:

In their second proposition MM tried to provide a formula for ascertaining the cost of equity capital. They held that the expected return on an equity share is equal to the capitalization rate $K_0$ plus a premium for the financial risk, which is equal to the debt-equity ratio times the spread between $K_e$ and $K_d$. That is $K_e = K_0 + (K_0 - K_d) \frac{D}{E}$ where $K_e =$ Cost of equity, $K_0 =$ Capitalization rate, $K_d =$ Cost of debt or rate of interest, $D =$ Value of debt and $E =$ Value of equity.

Proposition III:

The cutoff point for investment in the firm will always be the capitalization rate and will not in any way be affected by the type of securities used to finance the investment.

Criticism of the M.M. hypothesis:

The theory of capital structure as presented by M.M. has been criticised severely on the following grounds:

(1) Over simplification:

Eliminating transaction cost and corporation tax from the hypothesis M.M. have made the theory too simple to represent the real conditions of the security markets. Of course in a
later paper entitled as "Corporate income taxes and the cost of capital: A correction" in the year 1963 Modigliani and Miller incorporated income tax in their hypothesis and accepted the idea that if corporate taxes exist then Ko will decrease with increment in the degree of leverage.

(2) **Perfect market: an Utopian thought:**

In the world of reality perfect market does not exist. Investors are not always organised and rational. They do not possess required information for investment decision.

(3) **Personal leverage - not a substitute for corporate leverage:**

Personal leverage can not be a proper substitute for corporate leverage. In case of corporate borrowing, the shareholder is responsible only to the extent of his shares in the company. But in case of personal loan he is liable for the full amount of loan.

(4) **Corporate rate of interest varies from personal rate:**

The rate of interest on a borrowing made by a company is not likely to be same as that on borrowing at the personal level.
(5) **Institutional restriction for personal leverage** :

Home made leverage is not also practically feasible because institutional investors are restricted from being engaged into personal or home made leverage.

(6) **Difficulty of setting up equivalent return class** :

Most important attack against MM version is that they have under estimated the difficulty of setting up an "equivalent return class", which is the cornerstone of their theory. David Durand in his article of reply to M.M.'s theory (The cost of capital in an imperfect market :A reply to Modigliani & Miller) has contended "MM face the unpleasant dilemma either of assuming a long-run equilibrium with stocks at book value or of limiting each equivalent return class to corporations growing at the same rate. Either choice is unrealistic and neither gives MM any claim to an 'operational definition of cost of capital and a workable theory of investment'."

**TRADITIONAL/INTERMEDIATE/COMPROMISE THEORY OF CAPITAL STRUCTURE**

A profuse amount of literature is available concerning the theory of relation between capital structure and the
cost of capital. A number of theoretical and empirical studies have been completed on the subject with varying observations till now. Durand, Donaldson, M.M., Alexander Barges, Llewllen w.g. all have made important contributions to the field of cost of capital & capital structure study.

But as we see now, in the field of corporate finance, the idea held by the members of the traditional school seems to be the most accepted idea about the cost of capital and capital structure controversy. This traditional theory is also called as intermediate theory or compromise theory. The proponents of this theory holds that in the real world conditions cost of capital will be sensitive to alterations in the firm's capital structure i.e. alterations in the degree of leverage. Upto a certain point, the increase in the debt will lead to a decrease in the cost of capital. Thereafter higher leverage will result in higher cost of capital. So MM hypothesis has been turned down by the proponents of this theory. Barges also after completing an empirical study on rail road, departmental store, and cement companies, held that "The hypothesis of independence between average cost of capital and capital structure appears untenable".

According to the intermediate version, the value of the firm can be raised and cost of capital can be reduced by a prudent use of debt in the capital structure. At the point of optimum capital structure the value of the firm will be high-
est and cost of capital will be lowest. The nature of reaction of the overall cost of capital to alterations in the capital structure (Debt-equity ratio) has been examined by Ezra Solomon in three distinct stages. They are as follows:

1st stage:

With the increased degree of leverage in the beginning the Ke (cost of equity) remains steady or rises slightly. Even when it rises the rise is not so steady to offset the advantage of cheaper debt. Upto a reasonable point of use of debt, Kd (cost of debt) remains constant or rises slightly. Therefore as a resultant action the value of the firm rises and cost of capital declines with increased leverage.

2nd stage:

The 2nd stage starts when a certain degree of Debt-equity ratio has been achieved. After the achievement of such degree of leverage any further increase in the Debt-equity ratio will be of no effect on the value of the firm or its cost of capital. At this level the value will be maximum and the cost will be minimum.

3rd stage:

The third stage starts when the value of firm decreases
and the cost of capital increases with the increase in the degree of leverage. It happens when the acceptable limit of Debt-equity ratio is crossed. It is just contrary to the 1st stage. Any more use of debt at this point attracts a very high degree of financial risk which increases Ke (equity capitalization rate) at a much higher degree.

The traditional approach/intermediate approach/ compromise version of the theory of capital structure with its three distinct stages has been graphically presented in Figure 3.
Ke and Kd remain steady at the beginning and after reaching a certain point they start rising fast. Ko declines with increased leverage and after reaching a minimum point or range it starts rising. The shape of Ko here is like that of a saucer with a horizontal range at the middle point. It can also be drawn as an 'U' shaped curve. If it is saucer shaped at any point of its horizontal range the cost of capital will be minimum. The range defines the optimum capital structure.

In our saucer shaped cost of capital curve (Ko-Ko'), Ko-S portion denotes the 1st stage when it declines with leverage. S-T portion represents the 2nd stage when it is not affected by change in the degree of debt-equity ratio and T-Ko' portion is the third stage when instead of decreasing, it increases with the degree of leverage. Optimal capital structure or optimum point of use of debt remains in the P-Q portion of theOX axis which denotes the Debt equity ratio or degree of leverage. V-V' denotes the value of the firm curve which increases upto M point with the increase in the degree of leverage remains constant in MN range and starts declining from the point N.
VIEWS ABOUT OPTIMAL CAPITAL STRUCTURE

An examination of the major capital structure theories will reveal various approaches to the controversial issue of optimum capital structure of a firm. Theoreticians and authors on capital structure and cost of capital differ fundamentally on this issue. The difference is not only in their approach to measure or to find out the point or range of optimal capital structure but also in the very existence of it. The existence of the optimum point has been challenged by some authors who contend every capital structure is optimum. Let us examine the views of the different authors on this point:

Durand's approach to optimal capital structure:

David Durand in his Net Income Theory of capital structure held that cost of equity (Ke) and cost of debt (Kd) do not change with the increased use of debt in the capital structure. But overall cost of capital (Ko) declines and the value of the firm increases with the increased use of leverage. The optimum capital structure will occur at the point where the cost of capital will be minimum and the value of the firm is maximum. This maximum value of firm and minimum cost of capital will be attained with maximum possible use of debt.
In his Net Operating Income Approach, Durand contended that Ke increases continuously with leverage. Ko and Kd are constant. As the Ko (average cost of capital) remains constant or same at all structures of capital there can not be a unique optimum capital structure.

**Miller & Modigliani version of optimal capital structure:**

According to the M.M. hypothesis. In a world of perfect capital market, certainty, no corporate income tax and personal leverage having an equal impact with corporate leverage, there is no optimal capital structure. A change in the capital structure has no relevance to the cost of capital. The value of the firm and cost of capital is independent of its capital structure. M.M. model indicates, therefore, that no single capital structure can be said to be optimum. Of course, in a later study in which corporate income taxes have been included MM accepted that because of the deductibility of corporate taxes the cheaper use of debt can lower the cost of capital, increase the value of the firm and thus an optimum capital structure may be obtained at a point where the cost is minimum and value of firm is maximum. To achieve optimum capital structure, MM concluded after considering tax, the firm should use maximum amount of leverage.

**Optimum capital structure in traditional approach:**

As per traditional approach, contrary to M.M approach,
upto an accepted level of debt, increased leverage will lower the cost of capital. Thereafter higher Debt-equity ratio will lead to higher cost. Therefore at an optimum point of debt-equity ratio the cost of capital will be minimum and value of the firm will be maximum. The idea of the traditional school regarding optimum capital structure may be explained as shown in Figure 4.
The cost of capital curve C C' is at lowest at the point Z. So the minimum cost of capital is WZ. Therefore the corresponding degree of leverage (or value of debt equity ratio) OW is the optimal capital structure position of the firm. If WZ line is extended, it will intersect VV' curve at the point U where the value is at its maximum point. So at the OW degree of leverage cost of capital is at its minimum and value of the firm is at its maximum.

Generally speaking any approach to an optimal capital structure should bring together three variables e.g. :

(i) Favourable financial leverage

(ii) Income tax leverage

(iii) Market conditions which must be considered in a search for optimal capital structure.

The optimum mixture of debt and equity is ascertained at a point where the firm makes maximum use of financial and income tax leverage without having a fall in the ordinary share price due to high degree of risk.

PLANNING THE CAPITAL STRUCTURE

Planning the capital structure involves the major task of selection of the best combination of various types of
securities. In so doing the following problems are faced:

Problems:

(i) Business enterprises are not identical in all respects. They differ in their characteristics of organisation, planning, control, policy matters and so on. The characteristics may change their position even in the same enterprise from time to time. Problems of finance and other related matters are changing their shape frequently even within the same enterprise. As such, there cannot be a model or ideal capital structure to suit all the enterprises or for a particular enterprise for all time to come. Yet as a policy matter two important decisions may be considered to plan the capital structure of all the enterprises.

(a) It must decide what balance is to be maintained between debt and equity fund sources.

(b) It must decide how much it will rely on short term and how much on long term sources of debt.

(ii) The problem of selection of security type and the choice of their quantity, shape and timing are mostly connected with the new corporations at their promoting stage. So, for a going concern the financial manager gets little scope to design the structure of capital de-novo. He has to deal with
an existing capital structure. Yet the importance of planning the capital structure can not be neglected even after the promotional stage. A rapidly growing firm will ever need outside capital. The selection of sources of these fund and the timing of the use of them as well as the internal sources of fund is a matter of no less importance. The requirement of additional fund is to be anticipated well in advance and choice between internal and external fund is to be made by the financial manager which forms an important aspect of financial planning.

iii) The decision to design a capital structure is a dynamic one, optimum capital structure of even a single firm differs during the different parts of its life. In the initial stage when uncertainty prevails in its full form a very conservative capital structure is to be designed by the finance manager. In the growth stage when the firm gains confidence of profitability and growth an offensive capital structure with higher debt finance may be suggested. At a higher and ripe stage of maturity the firm will have enough funds generated from the internal source (Retained profits, depreciation fund etc) to cope with its need for additional finance, and outside finance may be neglected.

iv) It is often said that a capital structure should be ascertained in such a way that the long-run market value of the equity shares is maximised. Such market value depends on the
earnings per share and capitalisation rate. Capitalisation rate on the other hand depends on several factors like growth and stability of earnings, dividend payout ratio, psychology of the investors etc. So determination of capitalisation rate and maximisation of long run value of ordinary shares offer considerable difficulty to the finance manager.

v) The problems of determining a proper balance between debt and equity - the major task of capital structure planning should be viewed from different angles of vision from which securities are evaluated. The different view points are of existing share holders, new or prospective share holders, creditors, management etc. The relative uses and abuses of securities in a capital structure appear in a different manner to the aforementioned persons having diverse relationship with the firm.

Factors influencing capital structure decision:

Planning the structure or design of capital is a continuous problem which varies from unit to unit. The desirability of alternative sources of fund also varies in each individual case. Yet the general factors influencing the capital structure may be outlined as under:

(1) **Stable cash flow and earning capacity**:

An important test of the strength of a firm's capital
structure is its ability to generate cash flow, regular and steady, to meet properly and adequately the burden of its fixed charges. The fixed charges of a firm include interest, preference dividend and repayment of principal money, the amounts of which depend on the amount of debt (long-term and short-term) and preference capital. A company having no capacity to meet the fixed charges will have to face financial insolvency. So before planning to design a capital structure with heavy fixed charges bearing securities the finance manager must examine the stability of earnings and generation of cash flow of his firm.

(2) Size of the business:

A small firm is generally capitalised with equity shares narrowly held. There would be no market for debenture or preference shares for a small firm which generally retains a large share of earnings. Financial institutions generally favour the large sized business by granting loans of different nature. As a result the debt equity ratio of a small firm remains at very low level.

The following table will show the trend:
### TABLE III
Debt equity ratio of Public limited company
(small, medium & large)

<table>
<thead>
<tr>
<th>Year</th>
<th>Small company %</th>
<th>Medium &amp; large company %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970-71</td>
<td>12.9</td>
<td>38.4</td>
</tr>
<tr>
<td>1971-72</td>
<td>13.6</td>
<td>37.00</td>
</tr>
<tr>
<td>1972-73</td>
<td>22.6</td>
<td>36.5</td>
</tr>
<tr>
<td>1973-74</td>
<td>24.6</td>
<td>42.7</td>
</tr>
<tr>
<td>1974-75</td>
<td>23.00</td>
<td>38.8</td>
</tr>
<tr>
<td>1975-76</td>
<td>21.3</td>
<td>40.8</td>
</tr>
<tr>
<td>Average</td>
<td>19.66</td>
<td>38.68</td>
</tr>
</tbody>
</table>

Source: R.B.I. Bulletin

(3) **Expected rate of growth**: When a firm expects a rapid growth the need for external sources of funds also grows. It is suggested that fast growing corporations with greater demand for funds can use debentures and preference shares profitably. By trading on equity (leverage) it is expected to increase the earnings of the firm and to repay the debts from such increased profit. Therefore the expectation of growth rate also influences the design of capital structure.
(4) Dilution of voting rights:

The use of bonds and non-voting preference shares avoids dilution of voting right. Majority of voting power is sometimes needed specially for a closely owned company. In such a case the issue of equity shares with voting right may be discouraged. Of course a rights issue (pre-emptive right to existing share holders) may serve the purpose. This problem does not arise generally for a widely owned public limited company, where the management does not suffer frequently from the fear of loss of control.

(5) Cost of capital:

The relative costs of the various sources of funds is an important factor on which the pattern of the capital structure of a firm depends. The cost of a particular source of fund is rate of return on the source expected by its supplier. The return depends on the quantum of risk the suppliers are compelled to bear. The greater the risk the greater will be the cost. Debt is a cheaper source of fund due to the tax deductibility of the cost of debt and due to security and priority of repayment etc. Of course a company cannot minimise the overall cost of capital indefinitely by using debt. Cost of equity source of fund and cost of retained earnings etc. should also be individually considered before arriving at a decision to select the source.
(6) Flexibility:

The capital structure must be flexible. It must be able to change its shape to cope with the changing conditions of capital market. It should be designed in such a way that within a minimum span of time it can raise fund for a profitable investment from any advantageous source.

(7) Monetary & Fiscal policy of the Govt.:

Pattern of the financing mix of a firm depends on the nature of the monetary and fiscal policy of the Govt. If the Govt. follows a dear money policy the interest rate will be high. A high amount of debt financing therefore should not be planned. The case will be just contrary if the Govt. follows cheap money policy.

Tax policy of the Govt. also has an important bearing on the financial decision of a firm. The capital structure of a firm may be required to be changed according to the tax rate changes. Tax rate influences capital structure in two ways. Firstly tax deductibility of interest charges makes debt capital cheaper. Secondly, various tax incentives in the shape of development rebate, investment allowance, temporary tax holiday etc. can favour corporate investment in some fixed assets.
Market conditions:

The condition of capital market is facing a continuous and rapid change. Sometimes the market favours debenture issue, sometimes it may be avert to accept equity share issue. The financial manager is to decide whether to raise fund by debenture issue or ordinary share issue according to the prevailing sentiment of market.

Conclusion:

An efficient finance manager should consider all the above factors before chalking out a plan for a sound capital structure. A sound capital structure must be flexible, solvent, profitable and conservative at the same time. Conservatism does not mean risk aversion. A bold and shrewd management must not hesitate to take the help of low cost debt finance at the time of depression to purchase fixed assets to get the best advantage of the following boom in sales. When the boom period progresses the debt securities are retired out of earnings.

Before drawing a conclusion to the study of this chapter let us have a look to the security pattern of the corporate sector in India which has been presented in Table below. During the period from 1977 to 1980 excepting the year to year variation in the proportion of securities, the
the major trend is the increased use of debenture for existing companies.

**TABLE IV**

Capital raised by Existing & New
Non-Govt. and Govt. Companies (Rs crores)

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<tr>
<td>Equity</td>
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<td>63.55</td>
<td>47.46</td>
<td>43.92</td>
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<td>11.06</td>
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<td>1.70</td>
<td>1.37</td>
<td>5.35</td>
<td>1.30</td>
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<tr>
<td>Debenture</td>
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<td>85.69</td>
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<td>63.65</td>
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References:


5. Prof. S. Chakravarty: 'Corporate Capital Structure and Cost of Capital', I.C.W.A.I.


