CHAPTER-III

CONCEPTUAL FRAMWORK
CONCEPTUAL FRAMEWORK

Sources of Finance

The availability of finance is one of the most important determinants in the establishment and growth of an enterprise. This is not only observed in under-developed regions but also evident at various levels of industrialization. It provides basis to all business activities. Without finance neither any business can be started nor successfully run. Provision of sufficient funds at the required time is the key of success of a business. As a matter of fact, finance may be said to be the circulatory system of economic body, making possible the needed cooperation between the many units of activity. In an organization composed of a myriad of separate enterprises, each working for its own ends but simultaneously making a contribution to the system as a whole, some force is necessary to bring about direction and coordination. Something must direct the flow of economic activity and facilitate its smooth operation. Finance is the agent that produces this result.1

The word ‘finance’ has been interpreted differently by different authorities. The concept of finance has changed markedly from time to time. The earlier approach towards finance was concerned with acquiring of funds used in an enterprise on reasonable terms and conditions and to pay the bills promptly. It laid stress on only one aspect of finance and therefore, it was considered as too restrictive. The second approach of finance is related with cash only. The emphasis under this approach is only on liquidity and financing of the firm. Since every business transaction ultimately resolve themselves into cash, all activities in an enterprises are considered to be the primary concern of the financial manager and as such this approach of finance is too broad to be meaningful. The third approach, a widely recognized approach, also known as managerial approach of finance or problem centered approach is concerned with procurement and wise and optimal utilization of funds.
The managerial approach of finance is a modern and a balanced one and modern finance scholars go by this approach and definition of some of the prominent experts of the modern era support this view.²

Practically, the firm is not using all of its sources for financing a particular activity at a particular time. Some times, firms may approach the market with equity issue and other times, it may be debenture or some other innovation and no specific formula can be fixed for regarding sources that could be used. A firm can raise funds through any source of finance as per the requirement.

**Equity Share Capital:**

Equity shares are regarded as the cornerstone of the financial structure of a company without which the company can not be founded. Equity shares are issued first but paid in last of all claimants. Equity shareholders sink and swim with the company, as there is no guarantee of dividend and repayment of capital. Equity shareholders get dividend only after the dividend on preference shares and interest on debentures has been paid. At the time of winding up, equity shares can be paid back only after all other claims have been paid. Equity shareholders bear maximum risk and, therefore, they can control the affairs of the company. They have full voting rights. They elect the directors and formulate policies of the company in the general meetings.³

The income on equity i.e. dividend depends on the quantum of profits. No profits, no dividend will be payable. Less profits – lesser dividend will be paid. Thus, due to variable nature of dividend, these securities are known as variable income securities. The dividend policy may also vary from company to company. Equity shareholders may also be entitled for bonus shares and right shares depending upon the policy of the company. However, its issuance is at the discretion of the company and is subject to the guidelines, etc. issued by SEBI. As a matter of fact,
equity share capital provides the financial base on which the ability on the firm to incur debt is established. 4

Preference Share Capital:

This type of corporate security is called mixed one i.e. it has ownership like equity and also fixed income like debentures. These shares have preferential rights for payment of dividend, along with arrears, if any. They are paid fixed dividend before any dividend is declared to equity share holders. It also has preferential rights over equity in the matter of payment of capital and share of assets in the event of winding up of the company, subject to the claims of creditors. This type of security is liked by those investors who would take some risk i.e. more than the debenture holders. These shareholders do not enjoy any voting rights like equity shareholders except when any resolution affects their rights.

According to section 85(1) of the company Act. 1956 a preference share is a share which carries preferential rights as to the payment of dividend at a fixed rate and as to the repayment of capital. 5

Debenture:

Debentures or bonds are creditor-ship securities representing long term indebtedness of a company. A debenture is an acknowledgement of debt by a company. It is an instrument in writing under which a company agrees to pay a fixed rate of interest a periodical interval and to repay the loan at the expiry of the stipulated period. A debenture has been defined as “A document under the company’s seal, which provides for the payment of principal sum and interest thereon at regular intervals, which is usually secured by a fixed or floating charge on the company’s property or undertaking and which acknowledge a loan to the company”. Debenture holders are the creditors of the company. They have no voting right but their claims rank prior to equity shareholders and preference shareholders. Their exact rights depend upon the nature of debentures they hold. 6
There are many reasons for the use of debentures in that field of corporation finance. Firstly, cost of debt capital (Debentures) is much lower than the cost of equity or preference share capital. This is because the interest on debenture is tax deductible and hence the effective cost of debenture is much less. Secondly, the company can make it capital structure more flexible because debenture can be redeemed when company wants but share capital can not be redeemed within the life time of the company. Thirdly, debt is the attractive since it does not disturb the controlling position of the existing owners. Fourthly, reduced fears of depression and long-term periods of easy money have made management less fearful of down turns in economic activity. The expansionary bias in terms of monetary and fiscal policies has been interpreted by them to mean that sales revenues will be high enough to meet interest expenses and that the leverage well be favourable. Fifthly, inflation has encouraged companies to use more of long term debt, since payment later is likely to be made in cheaper rupees. The real burden of interest on debentures can be estimated from nominal cost.7

Comparative Evaluation of Equity Shares, Preference shares and Debentures:

In the same course of financial planning, one of the important decisions to be made is the choice of securities to be issued. This decision needs a comparative evaluation of various types of securities. Often a company may choose all the securities. In order to determine the suitability of shares and debentures for a company, the following points should be taken into consideration:-

1. **Period of Finance**: Equity shares provide permanent finance for the lifetime of the company. Preference shares and debentures provide long term and medium-term finance. Funds received through these securities can be paid back whenever the company desires.

2. **Cost**: Equity shares are a costlier source of finance then preference shares and debentures. Equity shareholders expect a higher return to
compensate them for the higher risk, which they bear. Debenture interest
is deductible from profits for income tax purpose.

3. **Risk and Return:** Return on equity shares depends upon the profits and
involves no fixed burden on the company. Issue of equity shares involves
no risk of insolvency even if the company fails to earn sufficient profits.
But dividend on preference shares and interest on debentures represent a
fixed burden on the company. If earnings are constantly insufficient,
company may have to go into liquidation. Interest on debentures is a
charge on profits.

4. **Trading on Equity:** If a company issues only equity shares, there is no
scope for trading on equity. Use of non-participating preference shares
and non-convertible debentures help to increase the return to equity
shareholders.

5. **Control:** Equity shareholders have full voting rights in the meeting of the
company. Therefore, issue of equity shares may dilute the control of
company's affairs. Preference shares and debentures carry limited or no
voting rights. When the company does not want to diffuse control, it is
likely to raise further capital by issuing preference shares and debentures.

6. **Capacity to borrow:** The issue of equity shares increases the capacity of a
company to borrow funds as its credit worthiness is increased. But issue
of debentures reduces the company's capacity to borrow funds. Issue of
preference shares has no significant effect on the borrowing capacity and
credit worthiness of the company.

7. **Flexibility of Financial Structure:** Equity shares provide freedom for the
issue of other securities, but make the capital structure rigid as equity
capital can not be paid back in the normal course of business. Preference
shares and debentures can be redeemed and, therefore, help to bring
elasticity in the financial structure of the company.
Retained Earnings:

Retained earnings or ploughing back of profits refers to the process of reinvestment of earnings year after years. Well-established companies commonly use retained earnings or undistributed profits to finance their business need. This method is also known as "self financing" because it is an internal source of finance. Retained earnings are a popular source of finance for modernization and expansion programme. Such earnings can also be used to redeem old debts and to meet working capital requirements. Basically they represent net saving of the business corporation and belong to the shareholders. 'Retention of earnings implies the use of funds as a long-term source, forming part of the shareholder's equity. Effectively, therefore, it is equivalent to a fresh issue of capital at par.

Retained profits are one of the most significant sources of capital formation for the corporate sector. It enables the company to withstand seasonal reactions and business fluctuations. It creates resistance power for the company to face business fluctuations and depressions. Financing with retained earnings helps in enhancing the credit worthiness of the corporation and making further 'trading on equity' possible. Retained earnings help in doing away with dependence on external finance when investment requirements are equal to internally generated funds. Since it is not always feasible for a company to resort to capital market in order to meet its financial requirements, plough back profits provide an alternative in such conditions.

The amount of retained earnings in a company depends on several factors. Generally, more are the net profits of a company; greater is the capacity to plough back profits. Secondly, dividend policy of the company determines the extent to which profits can be retained for investment in business. A company which follows a policy of paying liberal and regular dividend every year may not be able to retain as much profits as company following a conservative dividend policy. Thirdly, the age of the company affects the practice of self financing. New companies generally do not retain profits due to their desire to satisfy the shareholders. On the other
Hand, an old company may distribute only a small part of the profits among shareholders and may retain the major part for ploughing back. Lastly, the future plans of the company regarding modernization and expansion also have an influence on retained earnings. Much would depend on the status, character and period of time the units have been in operation.\textsuperscript{8}

**Term Loans:**

Term loans as a source of debt financing offer the following advantages: firstly, term loans do not result in dilution of control, as lenders do not have the right to vote. Secondly, in post tax terms, the cost of term loans are lower than the cost of equity capital or preference capital. Thirdly, term loans earn a fixed rate of interest and have a definite maturity period. Fourthly, term loans represent secured lending. Fifthly, term loans carry several restrictive covenants to protect the interest of the lender. The disadvantages of term loans from borrower’s as well as lenders point of view, first the interest and principal repayment are obligatory payments. Failure to meet these payments may threaten the existence of the firm. Second, term loan contracts carry restrictive covenants, which may reduce management freedom. Further, they entail the lender to put their nominee(s) on the board of the borrowing company. Third, term loans increase the finance risk of firm. This in turn, tends to raise the cost of equity capital. Fourth, term loans do not carry the right to vote. Fifth, term loans are not represented by negotiable securities.\textsuperscript{9}

**New Financing Instruments**

In the past, companies relied mainly on the traditional instruments for raising their finances. Of late needs for finance have increased many folds. Companies are on the look out for innovation in the existing instruments of finance such as additions of warrants, loyalty coupons, automatic life insurance cover for the shareholders and their families, scholarships for advanced study in or outside the country, etc. Companies have introduced altogether new instruments in order to attract large number of small investors to their fold to meet the increasing requirements of funds.
New instruments of finances seem to be the potent sources to bridge the gap between the demand and supply of funds for the Indian companies in the times to come.

The traditional sources of financing have not proved adequate or optimal in overcoming the severe financing shortage and reducing the overall cost of capital, etc. Hence, companies are forced to use newer instruments like commercial paper, factoring and securitization. With the evolution of the capital market, new financial instruments are being introduced to suit the requirement of the companies. Keeping in view the yield expected by investors, price and credit risk, liquidity, quantum of funds, etc. the merchant bankers and fund managers design new instruments to cater to the changing needs of issuers and the investors. Some of the new financial instruments introduced in recent times are explained below:

Warrants:-

A share warrant is an option to the investor to buy a specified number of equity shares at a specified price over a specified period of time. The warrant holders have to surrender the warrant and pay some cash known as the exercise price of the warrant to purchase the shares.

On exercise of the option, the warrant holder becomes a shareholder; warrant is a popular means of raising finance in developed countries. In India, warrants are commonly used as a sweetener with non-convertible debentures (NCDs). Gradually, the trend is changing and detachable warrants are issued with convertible debentures and equity shares too. The pricing of warrant is an important factor. However, warrants can be issued only by existing dividend paying companies – warrant is yet to gain popularity in India owing to the complex nature of the instrument, which can be appreciated only by a mature class of investors. Warrants are of the several types such as Detachable Warrants, Puttable warrants, Wedding warrants and Naked warrant.
Zero Interest Bonds/Debentures (ZIB/D)

Also known as zero coupon bonds/debentures, ZIBs do not carry any explicit/coupon rate of interest. They are sold at a discount from their maturity value. The difference between the face value of the bond and the acquisition cost is the gain/return to the investors. The implicit rate of return/interest on such bonds can be computed as follows:-

\[ \text{Acquisition price} = \text{Maturity (face) value} (1+i)^n \]

Where \( l = \text{rate of interest} \), \( n = \text{maturity period (years)} \)

Deep Discount Bond (DDB)

A deep discount bond is form of zero interest bonds. It is used at a deep/steep discount over its face value. It implies that the interest (coupon) rate is far less than the yield to maturity. The DDB appreciates to its face value over the maturity period.

The merit of DDBs/ZIBs is that they enable the issuing company to conserve cash during their maturity. They protect that investors against the reinvestment risk to the extent the implicit interest on such bonds is automatically reinvested at a rate equal to its yield to maturity. However, they are exposed to high repayment risk as they entail a balloon payment of maturity.

Secured Premium Notes (SPNs)

The SPN is a secured debenture redeemable at a premium over the face value/purchase price. It resembles a ZIB. There is a lock-in period for SPN during which no interest is paid. The holder has the option to sell back the SPN to the issuing company at par after the lock-in period. The redemption is made to installments. The SPN is a trade able instrument.

Floating Rate Bonds (FRBs)

The interest on such bonds is not fixed. It is floating and is linked to a benchmark rate such as interest on treasury bills, bank rate, call rate, maximum rate
of term deposits. It is typically a certain percentage point higher than the benchmark rate. The prices of FRBs tend to be fairly stable and close to par value in comparison with fixed interest bonds. They provide a protection against inflation risk to investors; particularly banks and financial institutions.\(^\text{11}\)

**Options:**

In the world of investments, an option is a type of a contact between two parties when one person grants the other person the right to buy specific assets at a specific price within specific time period. Alternatively, the contract may grant the other party the right to sell a specific asset at a specific price within a specific time period. The person who has received the right and thus has a decision to make is known as the option buyer since he or she must pay the right. The person who has sold the right to the buyer and thus must respond to the buyer’s decision is known as the option writer.

Generally, stock options are looked upon as a speculative vehicle as in any option there is a risk of loss to both contracting parties – a buyer who uses the option and a seller who makes good the option terms. The optionee might realize no benefit for services performed under the option. The corporation might be required to forego a much larger cost sum during the option period than they wished to pay in cash compensation at the date the option was granted. Yet, the expectation of market increase must be such that it outweighs the expectation of loss and thus provides a desirable speculation acceptable to both parties. It is desirable to the corporation as a means of obtaining valuable services for a minimum current cash outlay and it is desirable to the optionee as means of obtaining a large amount of income than could otherwise be obtained on a straight cash payment basis. There are two basic types of stock option (i.e. put option and call option). Options are tools of derivative market and are popular in Europe, U.S.A. and Far East. The Indian stock market have also started trading in options recently and it will take time to get popularized.\(^\text{12}\)
Capital Structure:

Composition of capital structure is normally studied by employing debt equity ratio (DER). DER is an arithmetical expression of relative composition of debt funds and equity funds of a company. The ratio is called, “gearing” in the U.K., “financial leverage” in the U.S.A. and “trading on equity” in India. This expression describes the use of DER in helping the company to improve the earning of equity on the implicit assumption that additional debt can be raised at a lower cost than the return on investment.13

Capital structure refers to the decision about deciding the proportion of different securities of enterprises. It is constituted out of long-term financial sources of an organization. It includes the long-term sources of finance, such as equity share capital, preference share capital, debentures, reserve and surplus and long term borrowings. It means both owned funds and borrowed funds are included in capital structure. The ‘owned funds’ include the share capital and reserve and surplus or retained earnings, on which dividend is paid. The ‘borrowed funds’ include debentures and long term loans supplied by various financial institutions and others, on which interest is paid at a certain rate. Thus both the fixed charges and variable charges funds (excluding short term) are included in capital structure.

Financial structure is the composition of both long term and short-term sources of finance. In other words, we can say that total liability side refers to financial structure, from which the total assets of the firm are financed. Thus, capital structure is a part of financial structure. Few financial experts believe that there is no significant difference between financial structure and capital structure. To favour this concept, they argue that, practically, there remain no criteria that only long-term assets are finance by long-term sources and short-term sources are used to finance current assets. In practice, the long-term sources are used to finance both fixed and current assets. But this concept is not popular and is also risky for the firm to use. This way capital structure differs from financial structure.
In a business organization, of any type and size, funds are invested for the acquisition of assets and otherwise, which is used for earning revenue. Such employed funds are collected from the different sources and are collectively known as capital. Capital is termed as lifeblood of every enterprises engaged in any kind of the trade, industry and commerce, whether it is in public sector or in a private sector. No commercial activity, or otherwise, can be convinced without capital. The capital requirements differs from enterprise to enterprise, depending upon the factors like nature and size of business, types of products, cost of production, marketability of products, availability of financial and other resources like raw materials, machines, labour, etc. Depending upon the sources of collection and employment, the capital can be categorized from various aspects. The most significant aspect is fixed capital and working capital. This constitutes, the capital structure of the firm.

The financial plan of a firm, in which various funds from different sources are mixed up in such a proportion as to provide a distinct capital set up, which is most suitable for the requirement of firm, is termed as capital structure. At the establishment of any enterprise, the first step is to plan its capital structure. If a firm does not plan its capital structure, it may face difficulties in raising funds and their economize use in future. The decision regarding capital structure in any firm is of crucial importance on account of its long term financial implication.

The induction too much of any one type of security may be unprofitable or risky for the firm, as if a firm decides to run its business only with equity capital it may forgo the advantage of leverage and it will be difficult to maximize the shareholders return to an optimum level. On the other hand, if the proportion of debt capital is too much in the capital structure, the firm can maximize its shareholders return but with the excess fixed charges obligation (interest burden), it may be exposed by market risk. So, the capital structure should be planned very carefully.
It is impossible to plan a uniform capital structure, which may fulfill the requirement of almost all types of companies. Every firm has to plan its own capital structure according to their financial needs. Thus, it seems that capital structure refers to the quality aspects of capital.

In company form of organization, shareholders are the owners, therefore, due care is taken that their interests are served in the best possible way. This can be achieved when the market value per share is kept at the possible highest level and the average cost of capital is reduced to the minimum. To quote Swartz "A capital structure which can produce a given income at lowest possible cost of capital could have been considered to be at its optimum level, provided the securities in total could be sold in the market at their maximum values."

It is generally understood that the optimal capital structure of a firm is the composition of debt and equity which results in the minimum cost of capital. But the determination of an optimal capital structure is not to an exact science. Firms have to first analyse a number of factors such as the firm’s business risk, its need for financial flexibility, shareholder wealth maximization, survival against competition, assurance of a steady source of funds, acquisition and maintenance of a good rating in the market, profitability and growth rate before deciding upon an appropriate capital structure. All these factors are a pointer to one important fact, that, companies will have to search for the right capital structure, which enhances firm value while minimizing costs. The capital required for investment, while often scarce, can be generated from a variety of sources. How firms choose among various sources and why, have been the source of much debate in financial literature. Differing views have been expressed over the years on the various factors influencing capital structure decisions. Especially, the question of whether corporate capital structure influences the cost of capital and consequently the value of firm has engaged the attention of financial theorists for long.
The major capital structure theories are:-

(i) Net Income (NI) Approach,
(ii) Net Operating Income (NOI) Approach,
(iii) Traditional Approach, and

**Net Income Approach:**

This approach is originally developed by Durand. The capital structure decision is relevant to the valuation of the concern. This approach states that firm can increase its value or lower the cost of capital by using the debt capital. The implication is that as the degree of leverage increases, the proportion of an inexpensive source of funds in the capital structure increases. Consequently, the overall cost of capital trends to decline, thereby bringing about an increase in the total value of the company. Finally, the propounder of this approach is of the opinion that the financial leverage is an important factor in the capital structure decision of a concern. With a proper mix of debt and equity, a company can evolve an optimum capital structure, at which the market price per share would be maximum and the overall cost of capital minimum. Hence, under this approach a company can employ hundred per cent debts to maximize shareholders wealth. \(^{22}\)

**Net Operating Income Approach:**

According to the Net Operating Income (NOI) Approach, the capital structure decision is irrelevant to the valuation of a concern. This approach is suggested by Durand. It is quite opposite to the NI Approach.

Any change in debt equity ratio will not affect the total value of the firm and the market price of the shares, since the overall cost of capital is independent of the proportion of debt to equity. As the debt increases, the net income for shareholders increases but on the other side, the risk perception of shareholders also increases. So
the increased capitalization rate of earnings cancel the benefit derived from the use of debt and thus cost of capital remains unchanged.

Since in this approach, leverage can not alter the cost of capital that is why the concept of optimal capital structure is not much significant here. Almost all sort of capital structure are taken as optimal because leverage is not going to effect the market value of the firm. 23

**Traditional Approach:**

This traditional approach of the capital structure theory is the mid-way between the **NI** and **NOI** approaches, 24 and more sophisticated version of **NI** approach. 25 This theory contends that overall cost of capital can be minimized and value of the firm can be maximized with the judicial mixture of debt and equity. So, optimum capital structure is possible for every firm.

The behaviour of cost of capital and value of the firm, under this approach, showed with respect to the changes of capital structure is divided in the following three steps:

**First Step:**

In the first step with a change in the debt – equity ratio i.e. using more debt in place of equity a relatively cheaper source of funds replaces a source of funds which involves a relatively higher cost. At this state, the cost of equity remains constant or rises slightly with debt. But when it increases, it does not increase fast enough to offset the advantage of cheaper source of funds. As a result, the value of the firm increases or the overall cost of capital falls with increasing leverage.

**Second Step:**

Once the company reaches a certain degree of leverage, increases in leverage have a negligible effect on the value, or the cost of capital of the company. This is so because the increase in the cost of equity due to the added financial risk offsets
the advantage of low cost debt capital. Within that range or at the specific point, the value of the company will be maximum or the cost of capital will be minimum.

Third Step:

If the percentage of debt in the capital structure is enhanced further, it would increase financial risk for the investors who would penalize the company by expecting a higher equity-capitalization rate. The company would also prove to be very risky to the lenders who would like to be compensated by a higher rate of interest. As a result, the increase in equity – capitalization rate is more than to offset the advantage of low cost debt. Thus, the use of debt beyond a certain point will, therefore, have the effect of raising the overall cost of capital and conversely the total value of the company. Thus according to the traditional approach, the cost of a company as also its valuation are dependent upon its capital structure and there is an optimum capital structure in which the company’s cost of capital is the minimum and its value the maximum.\textsuperscript{26}

Modigliani – Miller (MM) Approach

An alternative approach to the cost of capital has been propounded by Modigliani and Miller, who argue that, in the absence of corporate income tax, the cost of capital and the market value of a concern is independent of the capital structure. This approach is identical with the net operating income theory. The NOI approach does not provide operational justification for the irrelevance of the corporate capital structure, while MM approach provides operational justification for the constant overall cost of capital and, therefore, the total value of the company. The hypothesis gets support from the presence of arbitrage in the capital markets.

Arbitrage Process:

Arbitrage is an act of buying an assets/security in one market (at lower prices) and selling it in another (at a higher price). Consequently, equilibrium is restored in the price of a security in different markets. Essentially, the arbitrage process is the purchase of securities whose prices are lower and sale of securities
whose prices are higher, in related markets which are temporarily out of equilibrium. It is a balancing operation and implies that a security cannot sell at different prices.

The most crucial factor in the MM model is the arbitrage prices which provide an operational justification to the MM hypothesis. The assumption of perfect capital market in which arbitrage is expected to work, is not met practically due to the existence of imperfections in that market. Therefore, the arbitrage process is no more realistic and the exercise based upon it is purely theoretical. As the basic assumption of the MM approach does not hold good, a company may increase its total value and lower its overall cost of capital with judicious mix of debt and equity capital in the capital structure. Consequently, the capital structure of the company is not irrelevant to its valuation and the overall cost of capital.27

**MM Approach Under Corporate Tax:**

MM hypothesis that the value of the company is independent of its capital structure decision is based on the critical assumption that the corporate income tax does not exist. However, later on MM incorporated taxes28 in their hypothesis and showed its impact on the value of the company and cost of capital. According to them, corporate tax causes leverage to affect the cost of capital in such a way that increased debt proportion in capital structure is accompanied with decreased overall cost of capital and increased value of the company. Since, interest on debt is tax deductible, the effective cost of debt capital is less than the contractual rate of interest. Debt capital, thus, provides an edge to the company. A levered company would have greater market value than an unlevered company.

The implication of MM's 'tax-corrected' analysis is that the value of the company is maximized when its capital structure contains only the debt. Thus, the optimum capital structure is reached when the company employs 100 per cent debt. But the situation in the real world is contrary to this view. Because the extensive use of debt financing would expose business to high probabilities of default, it would
find it difficult to meet the promised payments of principal and interest. In practice, companies do not employ large amount of debt, nor are lenders ready to lend beyond certain limits. Consequently, there are disadvantages of using more debt and excessive use of debt may cause a rise in the cost of capital due to increased financial risk and may reduce the value of the company. Again, we find that MM’s proposition is unjustified when leverage is extreme. MM also recognize that the extreme leverage increases financial risk as also the cost of capital. They suggest that companies would adopt a target debt ratio so as not to violate the limits of the debt level imposed by supplier of debt funds. This suggestion indirectly admits that there is a safe limit for the use of debt and companies should not use debt funds beyond that limit. It implies that the cost of capital rises beyond a certain level on the use of more debt in the capital structure. There is, therefore, an optimum capital structure.

With the analysis of capital structure theories, the theoretical relationship between capital structure, cost of capital and valuation, there are sharp differences of opinion in academic literature, although, the traditional approach provides a fairly close approximation of the position. The optimum capital structure would, of course, vary from case to case.

**Cost of Capital**

Capital is scarce in every economy and has a cost. The fundamental evil of world arose from the fact that the lord has not created enough money. The term cost of capital refers to the price paid by a firm for obtaining funds from investors through issuance of a specific type of security. In the sense, it means cost paid by the company for the use of capital i.e. ‘dividend’ is the cost paid by a company to use share capital; ‘interest is the cost paid by a company to use borrowed capital. Thus, the cost of capital is considered as central point in the financial management analysis for the allocation of capital in any firm.
The concept of cost of capital was used as the cost of specific sources of capital like debt capital and equity capital. The risk in both the cases is entirely different and cannot be clubbed altogether. It has been now agreed by experts that this term ‘cost of capital’ should be used in a composite sense of weighted average cost of capital.\textsuperscript{34} Thus, the project in which the investment is made, must earn a minimum rate of return which would be equal to its cost of capital. We can say that the cost of capital is a standard for the allocation of capital of a firm in an optimum style, and theoretically the rate of return will not alter the market value of the share.\textsuperscript{35} For the computation of total cost of capital the component cost are combined altogether, depending upon the weights allocated to it, and thus, the weighted average cost of capital is computed.\textsuperscript{36}

**Measurement of Cost of Capital:**

A firm can obtain its capital from various sources, like debt, equity, preferred stock, etc. out of this, equity capital is more complicated in the sense of its behaviour in the market. That’s why it requires the extra need of attention. Mostly, the date on which, the cost of capital is based on historical pattern and to make it more feasible and near to current cost. Thus, it is quite difficult to determine the accurate cost of capital. Since the cost of capital uses one of the most crucial factors in managerial decisions, it should be estimated with a reasonable range of accuracy.

**Cost of Debt Capital:**

The cost of debentures and long term loan is the contractual rate of interest. This rate is calculated on after-tax basis because interest payments are treated as tax deducted expenses. The debt capital may be issued at par, at premium or at discount. It may be perpetual or redeemable. The technique of computation of cost of debt capital (Kd) may be explained by the following formula:-

\[
\text{Kd(before tax)} = \frac{1}{NP} \times 100.
\]

\[
\text{Kd(after tax)} = \frac{1}{NP} \times 100(1-T)
\]

Where Kd-cost of debt capital
I=Annual Interest Payable
NP=Net Proceeds from Debenture issue.
T=Tax Rate.

Cost of Redeemable debt:

Normally a company issues a debt which is redeemable after a certain period during its life time. Such a debt is termed as Redeemable Debt. The cost of such debt is computed by using the following formula:

\[
K_d(\text{before tax}) = \frac{I + \frac{1}{n} (M.V - N.P.)}{\frac{1}{2} (M.V + N.P.)} \times 100
\]

\[
K_d(\text{after tax}) = \frac{I + \frac{1}{n} (M.V - N.P.)}{\frac{1}{2} (M.V + N.P.)} \times 100 (1 - T)
\]

Where:

- \(K_d\) = Cost of Debt Capital
- \(I\) = Annual Interest Payment
- \(n\) = Number of years in which debt is to be redeemed.
- \(M.V\) = Maturity Value.
- \(N.P\) = Net Proceeds
- \(T\) = Tax Rate.

Cost of Preference Share Capital:

In India preference share capital as a source of long term funds is not popular. The ratio of preference share capital to total capitalization of Indian company has been declining due to the fact that the cost of preference share capital amounts to more than the cost of debt capital as the dividend paid on preference share capital is not allowed as an expenditure for the purpose of computing taxable income whereas the interest paid on debentures is allowed as expenditure.

There are two types of preference shares: i.e.

- Irredeemable Preference Share.
- Redeemable Preference Share.
Cost of irredeemable preference share capital:
The cost of this type of shares, which have no specific maturity date, is computed by using the following formula:-
\[ K_p = \frac{D}{NP} \times 100 \]
Where
- \( K_p \): Cost of preference share capital
- \( D \): Annual Preference Dividend Payment.
- \( NP \): Net Proceeds of Preference Shares.

Cost of Redeemable Preference Share Capital:
When the preference shares are redeemable during the life time of company, the effective cost of redeemable preference share capital can be calculated as follows:-
\[ K_p = \frac{D + \frac{1}{N} (MV - NP)}{\frac{1}{2} (MV + NP)} \times 100 \]
Where:
- \( K_p \): Cost of Preference Share Capital
- \( D \): Annual Preference Dividend Payment
- \( MV \): Maturity Value of Preference Shares
- \( NP \): Net Proceeds of Preference Shares.
- \( N \): Number of Years to Maturity.

Cost of Common Equity:
The cost of common stock is not as easy to calculate as either cost of debt or the cost of preferred stock. As the company is not legally bound to pay dividends to equity shareholder, and also the rate of dividend on equity capital is not fixed, it is some time called that the equity capital is free of cost. But is fallacious to assume equity capital to be free of cost. Because equity shareholders supply funds to the firm in expectation of dividends plus capital gains. Thus, the shareholders required rate of return, which equates the present value of expected dividends with the market
price of the share, is the cost of equity. Estimating cost of equity is very much cumbersome because no specific and certain cash inflows by way of dividends in the future are available. Instead of profits, there may be losses. In fact, the cost of equity capital is the highest among all the sources of funds as these shares involve the highest degree of financial and business risk. However, in the financial literature, the experts have identified several alternative approaches for estimating cost of equity capital. Important among them are not far to seek.

Dividend to Price Ratio Approach:

According to this approach, the cost of equity will be equal to dividend to average market price of share. It means that the investor arrives at the market price for a share by capitalizing the expected dividend at normal rate of return. But this approach ignores the returns on company’s retained earnings. Moreover, the price rise of sharers may be due to the retained earnings and not on the account of high rate of dividends. So the cost of equity will be:

\[ Ke = \frac{DPS \times 100}{MP} \]

Where:

- \( DPS \) = Dividend Per Share
- \( MP \) = Market Price

Earnings to Price Ratio Approach:

This approach assumes that shareholders capitalize a stream of unchanged earnings by the capitalization rate denoted by Earnings to price ratio in order to evaluate their holdings. Average market price over some period in the past is used for determining the capitalization rate.

So the cost of equity will be:-

\[ Ke = \frac{EPS \times 100}{MP} \]

Where:

- \( Ke \) = Cost of Equity Capital
- \( MP \) = Market Price of Equity Share when sold.
This approach is used in two situations, (i) when earnings remain constant and (ii) when the firm faces the situation of expansion, i.e. Ke is less than growth rate.

**Dividend to price Ratio+Growth Approach:-**

This approach emphasizes what the investor actually receives the dividend plus the rate of growth (g) in dividend in the future. The growth rate in dividend is assumed to be equal to the growth rate in earnings per share. The cost of equity will be calculated as follows:-

\[ Ke = \frac{DPS}{MP} \times 100 + G \]

Where:
- \( Ke \) = Cost of Equity Capital
- \( DPS \) = Dividend Per Share
- \( MP \) = Market Price of Shares
- \( G \) = Growth Rate in Dividends

**Earning to Price Ratio Plus Growth Approach:**

This approach is an improvement over the earlier methods. Here, the cost of equity will be calculated as:

\[ Ke = \frac{EPS}{MP} \times 100 + G \]

Where:
- \( Ke \) = Cost of Equity
- \( EPS \) = Earnings Per Share
- \( MP \) = Market Price
- \( G \) = Growth Rate of Earnings

Growth can be estimated as finding out the annual coverage compound rate of growth.
Realized Yield Approach:

This approach is based on the rate of return actually realized for a period of time by investors in a particular company. This realized yield is discounted at the P.V. factor and compared to the value of investment. The advocates of this approach suggest that it can be fairly be assumed that past behaviour will materialize in the future and the historic realized rate of return would be an appropriate indicator of prospective investors required future rate of return. By averaging the realized yield we can easily remove cyclical fluctuation in returns and a normal central tendency may be determined.

Cost of Retained Earnings:

Retained earnings are commonly known as internal equity of the firm. Hence, the cost of retained earnings is closely related to the cost of equity sharers. Retained earnings are undistributed profits and represented by uncommitted reserves and surpluses. Retained earnings have opportunity cost. There are two approaches to compute the opportunity cost. One approach is based on the assumption of what shareholders would have earned if dividends were distributed to them. This indicates that the firm must earn that much minimum return if it retains the earning. The other approach is external yield criterion, which is developed due to some limitations of the first approach. According to this approach, a firm considers what the investor would have earned if the amount were invested in some other similar funds working in the same risk area and hence at least, that much of amount must be earned by the firm. However, Kr would be slightly lower than the Ke due to differences in flotation cost. Thus:

\[ Kr = Ke (1 - \text{Percentage Brokerage or Floatation Cost}) \]

Where

Kr=Cost of Retained Earnings
Ke=Cost of Equity Capital.
Capital Asset Pricing Model Approach (CAPM)

The above mentioned approaches are used where a firm earns profits. But if the firm suffers losses, does it mean that it does not have any cost of equity because these approaches may result into negative figure, which may be ridiculous. The equity does have some cost. In such a situation, to calculate the cost of equity, another approach known as CAPM may be used.

The capital Asset Pricing Model Approach uses the beta co-efficient to estimate the required rates of returns on the securities. The CAPM specifies that the required rate of return on the share capital depend upon the beta. A security’s beta indicates how closely the security’s return move with the returns from a diversified portfolio. Thus, when the investors are well diversified, beta is an important indication of risk and hence determines what people are willing to pay for the security. The beta co-efficient for a security can be found by examining security’s historical returns relative to the returns of the market.

Thus, \( Ke = R_f + \beta(R_m - R_f) \)

Where
- \( Ke \) = Cost of Equity
- \( \beta \) = Beta
- \( R_f \) = Risk Free Rate
- \( R_m \) = Rate of Return on Market Portfolio.

This approach appears to be better as it incorporates risk element also while estimating cost of equity. From this point of view, this approach may be used irrespective of a firm having profits or suffering losses.

Overall Cost of Capital:

After determining the cost of each specific component of capital, the weighted average cost of capital is generally ascertained on the basis of weighted average method. It is also terms as ‘composite cost of capital’ or ‘overall cost of capital’. The weighted average cost of capital of each specific source of its funds.
The composite cost of all capital lies between the least and most expensive funds. The weighted average cost of capital can be calculated as:-

\[ K_o = W_d K_d (1-T) + W_p K_p + W_e K_e + W_r K_r \]

Where

- \( K_o \) = Overall Cost of Capital
- \( W_d \) = Percentage of Debt to Total Capital
- \( W_p \) = Percentage of Preference Shares to Total Capital
- \( W_e \) = Percentage of external equity to total capital.
- \( W_r \) = Percentage of retained earnings to total capital.
- \( T \) = Corporate Tax Rate.

The problem regarding the measurement of the weighted Average Cost of Capital is to assign to appropriate weights to each component of capital. The weight assigned to a particular component of capital will be the relative proportion of that component of capital to the total capital. These weights can be expressed in terms of book values or market values.

**Marginal Cost Approach:**

This approach disregards the existing capital structure and takes into account the proportion of each type of security in the total additional funds raised from all the securities and assigns weight on this basis. The value of securities is taken to be their market values. This approach is more realistic than other approaches, it take into account of market price of securities in the computation of cost of each type of capital and assigns the weights to each type of capital in proportion of their relative shares in the total additional funds raised from all sources. However, this approach does not provide the investment decision criterion and should be used only as a guideline.
The weighted average cost of capital has a limited applicability and it is not relevant when:

- The company is considering radical changes in its debt policy.
- The dividend policy of the company is being changed with a view to adjust the proportion of retained earnings.
- The company makes significant change in its growth objective.

The company is contemplating a significant change in its capital structure involving a change in debt equity mix.

Therefore, in the broad sense, it can be said that "cost of capital is the minimum rate of return which a firm requires as a condition for undertaking an investment proposal." '

**Value of the Firm**

There is a plethora of literature available on the valuation of actively traded companies, in reality; we find there is numerous research analysis working in firms who spend substantial time in determining the value of the company. On any given day, one just has to look into the stock page in the business section of a newspaper to determine the market perception of the value of a publicly traded company. Many times there are no certified financial statements, and revenue and expenses need to be evaluated and required adjustment in determining the profitability of the company. The information that is publicly available about companies is simply not adequate to reach any full drawn conclusion about their valuation. Most importantly, there is no established market for the shares of stock or the sale of underlying assets.

In the present context, the term ‘wealth maximization’ of financial management is redefined as ‘value maximization’. The objective of maximizing economic welfare of shareholders is achieved through maximization of their wealth. The maximization of utility value of shareholders can be achieved by maximizing...
their economic welfare. In company form of business, the wealth created is reflected in the market value of the shares. Therefore, the financial decisions will cause to create wealth; it is indicated or reflected in market price of company's shares. Hence the prime objective of financial management is to maximize the value of the firm.42

The value of a firm depends on the earnings of the firm and the earnings of the firm depend upon the investment decisions of the firm. The earnings of the firm are capitalized at a rate equal to the cost of capital in order to find out the value of the firm. Thus, the value of the firm depends on two basic factors i.e. the earnings of the firm and cost of capital.

The operating profit of the firm i.e. the EBIT is divided among three main claimants (i) the debt holders who receive their share in the form of interest, (ii) the Government which receives its share in the form of taxes and (iii) the shareholders who received the residual. So, the EBIT is a pool which is to be divided among the three claimants. The investment decisions of the firm determine the size of the EBIT pool while the capital structure mix determines the way, it is to be sliced. The total value of the firm is the sum of its value to debt holders and its shareholders and is determined by the amount of EBIT going to them respectively. The investment decision can therefore, increase the value of the firm by increasing size of the EBIT whereas the capital structure mix can affect the value only by reducing the share of the EBIT going to the Government in the form of taxes.

The financing mix or the financial leverage or the capital structure does not affect the total earnings of the firm, which is a factor of the investment decisions and cost structure of the firm.

However, the earnings available to the shareholders may be influenced by the capital mix as it is already seen that the financial leverage helps increasing the EPS
for a given level of EBIT. The EPS on the other hand, affects the market value of the share and hence affects the value of the firm.

The overall cost of capital of the firm i.e., the weighted average of cost of capital WACC, depends upon the specific cost of capital of individual sources of finance and the proportion of different sources in the total capital structure of the firm. One financing mix or capital structure is represented by the WACC which may change whenever there is change in the financing mix. So, a firm can change its WACC by changing the financing mix and can thus affect the value of the firm. It may be noted that the cost of capital and the value of the firm are inversely related. For a given level of earnings, lower the cost of capital, higher would be the value of firm.43

The financial decisions, inter alia, affect the market value of a firm. Generally the objective of financial decisions is to maximize the market price of shares and to minimize the cost of capital which leads to increase in earnings per share and return on capital employed. Capital structure of a firm, cost of capital and thereby value of a firm are closely related to each other.44

Capital structure helps in attaining the goal of maximization of market value per share and minimization of cost of capital, which leads to the maximum returns to equity shareholders of a firm. The capital structure should be examined from the view point of its affect on the value of firm. Valuation and cost of capital are inversely related. Up to a certain level of earnings, value of a firm is maximized when the cost of capital is minimized and vice versa. While a combination of debt and equity can only affect the earnings belonging to shareholders, financial leverage influences the value of the firm through its cost of capital.

The theoretical relationship among capital structure, cost of capital and valuation of the firm, reveals sharp differences of opinion in the inter relationships
among cost of capital, capital structure and value of a firm. The NI approach favours
the exclusive use of debt as total capital to have the lowest Ko and maximum value
of a firm. As against this, the NOI approach is the other extreme of the spectrum. It
emphasizes that manoeuvrability in capital structure is irrelevant so far as the cost
of capital and market value of a firm is concerned. The traditional approach strikes a
balance between these extremes. It provides a fairly close approximation of the
position. The MM hypothesis gives only a partial explanation of empirically
observed financing behaviour of firm. Thus, it is difficult to measure the impact of
leverage on the firm’s value. Eventually, the MM hypothesis has also supported the
view that the value of a levered firm would be higher than the value of an unlevered
firm on tax considerations by an equal to cost of debt. As such, this study attempts
to examine relationships among capital structure, cost of capital and valuation of a
firm. The value of a firm measured with the help of the following formula:

Market Capitalization=
Number of Equity Shares Outstanding X Market Price of Equity Shares
(365 Days Average Market Price)

Debt=Long Term Debt

Financial Assets=Investment + Bank and Cash.
REFERENCES

1. Husband and Dockery, Modern Corporation Finance, P.8.

63