CHAPTER – 1

♦ Introduction

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Introduction:

For more than three decades financial economists have tried to cope with the issue of whether or not there exists an optimal capital structure that will maximise the value of the firm. During this time many models have been proposed to explain the observed capital structure both domestically and internationally, but we know relatively little about why firms finance the way they do. For the corporate managers, of course, this matter is of central concern, i.e., to set a target capital structure. In practice one has to go beyond the theories and models developed for this purpose as no single valuation formula can definitively determine the appropriate financial structure of the firm. Recognising this, Weston and Brigham[1] have indicated that both analysis and judgement are required with reference to financial mix, i.e., and debt-equity combination.

The crucial problem facing companies while raising funds is whether to raise debt or equity. Though there is continuing debate on this issue, relatively little empirical evidence exists on how companies actually select between financial instruments. Decisions on capital structure or the plan of long time financing are not always based on a consideration of objective factors. Management differ in their attitude towards risk-taking. The age, experience and personal ambitions of the management and its confidence in the information on which financial decisions are made, will influence its decision towards or away from a conservative capital structure. Inspite of the fact that management makes its own decision on its capital structure of an enterprise, the composition of capital structure is governed by a number of factors and no uniform standard can be prescribed for all the enterprises. Sectors of industry or trade to which a particular enterprise belongs can, however, provide a broad pattern of composition. For instance, a public utility concern, such as an electric supply company can absorb a greater proportion of borrowed funds than an enterprise in a more competitive sector of industry due to more stability in

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1. Weston, J.F. and Brigham, F. – Managerial Finance, Holt, Renehart and Kingston, New York, 1972, PP. 97-98

earnings in the case of former than the latter. Within these broad parameters, each enterprise will have to plan its own capital structure keeping in view both its short-term requirements and long term expansion programme.

The financial manager has to plan the capital structure in such a way that owners' interest is maximised. Accordingly that pattern of capital structure should be selected which minimises the cost of capital and maximises the wealth of the shareholders. The problem of finance manager is to develop a proper mix of the various sources of long term funds with a view to arrive at an appropriate capital structure.

Which capital structure is most suited to the company should be decided in view of the fundamental principles laid down in this regard. These principles may be conflicting with each other. A prudent financial manger strikes an appropriate balance among them. Here is required managerial wisdom to adjust debt equity mix conditioned by availability of different types of sources of finance in desired quantum. However, while designing the capital structure of an enterprise, certain basic principles have to be complied with. These are:

1. **Cost principle** - Under the principle, securities should be issued so as to entail the least cost of financing and maximising earnings per share.

2. **Control principle** - While designing capital structure for the company, the financial manager should also keep in mind that the control with the existing owners remain undisturbed.

3. **Risk principle** - This principle suggests that such a pattern of debt equity mix should be designed as would not create the risk of bankruptcy of the company.

4. **Flexibility principle** - The capital structure should be flexible to meet the changing conditions. It should be possible for a company to adopt its capital structure with a minimum cost and without undue delay if required by a changed situation.

5. **Principle of timing** - Time factor is an important element in financing, especially in a growing concern. In times of boom when there is all round business expansion and economic prosperity with investors'

desire to invest, it is not difficult to raise required funds through the issue of equity shares. But in periods of depression funds should be raised through debt because investors are afraid of raising their investments in shares.

The capital requirements of a firm are viewed not merely in terms of its amount, but with reference to its composition, that is the kind of securities and the term on which a particular kind of security is issued. The objective of maximising profit and wealth of the owners of the business is achieved by alternative designs of capital structure best suited to the circumstances of a firm.

As the objective of a firm is to maximise the value of a firm, capital structure decision should be examined from the point of view of its impact on the value of the firm, which depends upon its expected earnings stream and the rate used to discount this stream. The rate so used to discount earnings stream is the firm's required rate of return or the cost of capital. The capital structure decision can affect the value of the firm either by changing the expected earnings or the cost of capital, or both. Debt capital or leverage cannot change the total expected earnings of the firm, but it can affect the shareholder's earnings. The effect of leverage on the cost of capital is not very clear, as conflicting opinions have been expressed on this issue. However if debt capital affects the cost of capital and the value of the firm, an optimum capital structure would be obtained at the combination of debt and equity that maximises the total value of the firm or minimises the weighted average cost of capital. Ezra Solomon [*] has stated that an optimum capital structure affords a two-fold advantage:

a) By maximising the value of the company it helps to achieve the objective of financial management which is to maximise the wealth of shareholders.

b) By minimising the cost of capital it provides greater scope for the company to undertake high return, high-risk projects.

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[*] Ezra Solomon – " The Theory of Financial Management", Colombia University Press, New York, 1963.

Objectives of the study:

Based on the previous discussion, the objectives of the present study may be enumerated as follows:

1. To examine the relevance of capital structure theories for explaining the inter-industry variation in capital structure in India.

2. To perform an inter-industry analysis to determine if there is significant relationship between a firm's capital structure and its determinants. In other words an attempt has been made to judge and justify the influence of several institutional characteristics on the corporate capital structure (debt-equity ratio).

3. To perform intra-industry analysis to determine if there is a significant relationship between determinants of capital structure and debt-equity ratio.

4. To provide an overview of underlying causes of our findings.

Research Methodology:

This section deals with the methodology adopted in analysis of the data for the study. The hypothesis to be tested, the procedure followed for selection of sample, collection and classification of data, the techniques used for the analysis, the specification of relevant variables and their measurement etc have been discussed here.

(a) Hypothesis:

According to the objective of the present study, the following hypothesis have been formulated and tested.

1. The debt-equity ratio is positively influenced by the assets composition.

2. The debt-equity ratio is negatively influenced by the business risk.

3. The debt-equity ratio is positively influenced by the size of the company.

4. The debt-equity ratio is positively influenced by the debt service capacity.

5. The debt-equity ratio is positively influenced by the growth rate.

6. The debt-equity ratio is negatively influenced by the earning rate of the company.

7. The industry class of the company influences the debt-equity ratio.

8. The debt-equity ratio is influenced by the ownership pattern of the company.

(b) Selection of Sample:

The study has been made with reference to sixty selected companies, which belong to Engineering, Chemical, Textile, Automobile and Iron & Steel industries of the public and private corporate sectors in India. Out of these sixty companies, thirty-eight companies from private sectors and twenty-two from public sectors were selected. These companies have been selected from the list of the companies compiled in "Centre for Monitoring Indian Economy"[@].

The companies were ranked on the basis of their total assets, sales, net worth and capital employed for the year 1991-92. From this list we have classified these companies into three categories, less than RS. 1000 Crores, 1000 to 4000 Crores and above 4000 Crores of total assets, sales, net worth and capital employed. From these frequency distribution we have chosen sixty companies through random sampling. In this way we have selected 10 companies from Automobile industry, 13 from Engineering industry, 16 from Chemical industry, 15 from Textile industry and 6 from Iron & Steel industry.

The rationale behind selection of companies from various categories is that performance of these companies broadly reflect the performance of the private and public sector of these five industries, i.e., the main criteria is their representative character in the selected group of industries.

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(c) Collection of Data:

For the purpose of the study the data were collected from "Centre for Monitoring Indian Economy" bulletin. It is a cross sectional analysis for the period 1982-83 to 1991-92. In certain cases when the data were given for less or more than a year due to change in accounting year, suitable adjustment was made to convert the data on yearly basis.

(d) Statistical Techniques:

Statistical techniques have been used to translate the impact of an independent variable on a dependant variable by many researches. Multivariate analysis is a general term used to describe a statistical method, such as multiple regression analysis, factor analysis and discriminent analysis. Multivariate analysis is the technique of analyzing the influence of several independent variables on a dependent variable.

In the present study, the Multiple Regression Technique has been used to analyse the influence of independent variables, i.e., assets composition, business risk, corporate size, debt service capacity, growth rate and earning rate on a dependent variable, namely, the debt-equity ratio.

The one-way analysis of variance (Parametric Test) has also been used to examine the impact of remaining two variables, i.e., industry class and ownership pattern on the debt-equity ratio.

For this purpose extensive reliance has also been made on the existing works and literatures on the subject.

We have divided the study in the following chapters.

1. *Introduction:* Here we have discussed the background of research work with its objectives and methodology.

2. *Review of existing works in India and abroad* - This chapter highlights the studies made on industry influence on capital structure in India and abroad and scope of further studies there on.

3. *Capital Structure Theories and Cost of Capital* - A critical analysis : In this chapter theories developed on Capital structure in the Pre-Modigliani Miller(M-M) era and post M-M era have been discussed and a critical appraisal of the same have been made.

4. *An appraisal of capital structure of companies from 1982-83 to 1991-92 :* Here we have identified the factors internal and external that influence financial management and also have shown an analysis of these factors in different companies of the industries under study.

5. *(a) Inter- industry relationship of determinants with capital structure*
   (b) Intra-industry relationship of determinants with capital structure.
In these two sectors, relationship, if any between (a) inter-industry and (b) intra-industry with capital structure decision has been shown with the help of statistical techniques.

6. *An overview of the findings:* An overview of the study has been focused in this chapter.

7. *Conclusion:* Here we have summarised our study with necessary observation

Limitation of the study:

The study is based on secondary data as were available in published Annual Report of the selected companies and published data of 'Centre for Monitoring Indian Economy ' bulletin for the period of study. The limitations of the company's financial statements for the purpose of economic analysis are well known. Despite limitations , annual financial statements continue to be a major source of data for analysis of company's behaviour. The size of the sample is also restricted. We have used some statistical techniques for interpretation of data for reaching our research objectives and proving the hypotheses drawn. But these techniques have their own limitations.

Only a limited number of explanatory variables has been selected for this study and some other important variables having a bearing on the debt-equity ratio might have been missed or ignored. The period of study has also been restricted to 10 years due to non-availability of data for more years for all sample companies.

An effort can be made to study the determinants of corporate capital structure on the basis of primary data , collected through questionnaire. It may be helpful to analyse the managerial views on the subject. But the response to this effort in our case was so insignificant that we are to ignore this.

The period of study was selected at the time of starting the research work in 1994, and obviously it was the most up to date period having regard to the constraints in respect of availability of data (we have used secondary data from "Center for Monitoring Indian Economy" bulletin, different Industrial directories and from published Annual Reports of the companies) in our country. Information relevant for the study was also collected from other related documents and existing literature on this subject.

In multiple regression analysis, the period of study has no significant influence. It is the quantum of data that may influence the result. We have to satisfy that the model is correctly chosen and all the assumptions are satisfied. As Y depends on both X and ε, unless we are specific about how X

and ε are created, there is no way we can make any statistical inference about Y and also about β1 and β 2. Thus the assumptions made about the variables and the error term are extremely critical to the valid interpretation of regression estimates. So the result that we have got from our statistical analysis may or may not vary if we change our period of study.

However in this connection this may be said that the trend of data has not much changed since our work had been undertaken. An annexure containing some recent data for understanding of the above fact has been attached herewith (data shown in Appendix F).