CHAPTER – 6

- **An Overview of findings**

An overview of Findings :

The objective of the study is to show the relationship between corporate capital structure (debt-equity ratio - the dependent variable) and its likely determinants - i.e, the independent variables, namely the assets composition, the business risk, size of the company, the debt service capacity, growth rate, earning rate, industry class and ownership pattern. For this purpose we have analysed the position and trend of both the dependent variable and the independent variables of the sixty companies belonging to five selected industries for a ten-years period from 1982-83 to 1991-92. The findings have been discussed as under.

- Debt-Equity Ratio

Debt-equity ratio, the dependent variable, for the 22 public sector companies did not show much significant change in most of the cases and there has also no uniformity in this ratio for those companies during the period under study. Out of the 22 companies, 8 companies were very close to the declared policy of 1:1, 10 companies above and 4 companies were below this norm.

In the private sector enterprises, Table No. 61. shows that the selected 38 companies did not use as much debt as expected, the usual expectation being 2:1 in favour of debt equity combination. In 28 companies the ratios were below the expected ratio, 6 companies gradually improved the position to reach the norm, whereas in case of 4 companies the ratio was above 2:1, indicating the dependence on debt capital by these companies.

In our study the debt-equity ratio varied from 0.2279 to 14.0149 on an average. In the public sector companies it was 0.5212 to 12.8121 and in the private sector units it varied from 0.2279 to 14.0149 The following table shows the number of companies under different groups of average debt-equity ratio for the period under study. (Ten years' average figures)

Table No. 6.1

Average Debt-Equity Ratio	No. of Companies (Public & Private)
0.0 - 2.0	43
2.1 - 4.0	08
4.1 - 6.0	03
6.1 and above	06
	60

So far as independent variables are concerned the analysis highlighted the following position and trend :

- Assets Composition :

This ratio though evenly distributed between 0 to 1, was fluctuating in nature in almost all the selected companies. 60% of the companies showed a decreasing trend whereas 40% showed increasing trend. Again, proportion of fixed assets except in six companies has been below fifty percent of the total assets. Though it is expected that long term debt capital is associated with fixed assets financing, but what we observed that, the companies under study did not use much debt capital. The following short table shows the number of companies under different groups showing the respective average assets composition for the period under study (average of ten years).

Table No. 6.2

Assets Composition	Number of Companies
0.00-0.30	23
0.31-0.40	15
0.41-0.50	09
0.51-0.60	09
0.61 and above	04
	60

In public sector companies the ratio was 10.5205 and that in private sector it was 1.8765 on an average.

- Business Risk

This is measured by standard deviation (S.D) of percentage change in EBIT, and this had increased rapidly during the passage of time for the period under study in almost all the selected companies (83%). It had remained constant in the case of 3 companies (5%) and a decreasing trend of business risk was noticed in case of 7 companies (12%). So we found the higher the business risk, the lower, is the use of debt financing by the companies in five industries under study both in the public and private sector. In our study it varies from 5.2142 to 694.0134 ; 46 companies having the business risk between 0-100, 7 companies between 100-300, and above 300, there are also 7 companies (figures are arrived at based on an average of 10 years).

- Corporate Size

Here we have measured the corporate or company size by using sales or total assets value as the size indicator of the companies. It showed an increasing trend both in terms of sales and total assets in all the selected companies. Our hypothesis is that the larger companies use more debt in their capital structures. But the analysis of the debt equity ratio did not support this proposition.

In our study sales figure has varied from Rs 19.389 to Rs 5702.468 crores. Number of companies having less than Rs 300 crores is 36, between Rs 700 crores is 15 and above Rs 700 crores is 9. Similarly the total asset figure has varied from Rs 8.91 to Rs 16922.31 crores.

- Debt service capacity

The higher the Debt service capacity ratio, the higher is the capacity of the firm to serve the debt and therefore higher will be the proportion of debt in the capital structure. But in our study we have got increasing, decreasing, constant

and positive and negative ratios. This indicates that debt burden capacity was mixed in nature in both in the public and private sector companies under study during the period 1982-83 to 1991-92. Out of 60 companies, 19 companies showed an increasing trend of debt capacity burden, which was decreasing in case of 20 companies and remained constant in case of 11 companies. But this ratio in the case of companies showing a negative result indicates that in these companies profit earning capacity was not satisfactory at all and for this reason they were unable to bear this burden of serving debt capital. The study shows that it varies from -6.1920 to 11.1082. There are 6 companies whose debt service capacity was between -6 to 0.32; 32 companies between 0 to 3 and 16 companies between 3 to 6 and 6 companies were above 6. Here the ratio was calculated on the basis of average of 10 years In the case of decreasing and negative ratios, the liquid position (i,e, cash flow) of the companies were also not satisfactory.

- Growth Rate

Growing companies as a whole are likely to have a higher proportion of debt both of long and short term character. In our study we have observed three types of growth : increasing (in case of about 47% of the companies), decreasing (about 20% companies) and fluctuating (about 33% companies). But in all the cases the trend or phenomenon was very marginal. The dependence on debt capital by these companies was not reflected as expected.

In our study it varies from -3.2582 to 73.1412. 3 companies had negative growth rate, 37 companies lied between 0 to 20, 15 companies between 20 to 40 and 5 companies above 40. (In this case also 10 years average figure has been based for calculating growth rate of the companies)

- Earning Rate :

As regards earning rate of the selected companies in the private and public sector, the following trend was noticed.

Table No. 6.3

Increasing Trend	-	23 companies
Decreasing Trend	-	14 companies
Constant Trend	-	04 companies
Fluctuating Trend	-	18 companies
Negetive Trend	-	01 companies

As the earning rate is negatively correlated with debt equity ratio, the above analysis indicated that about 62% of the total selected companies should depend on debt capital whereas, in case of 38% companies, dependence on debt capital might not be so important or significant. But what we have observed from our analysis is that most of the companies specially private sector companies depended much on debt financing .

Industries Class and Ownership Pattern :

To judge the hypothesis that the debt equity ratio varies significantly with industry class and to investigate ownership pattern interest on debt-equity ratio, ANOVA technique has been followed or used. The result of this analysis is discussed later in this chapter.

For inter-industry and intra-industry relationship with capital structure, we have used multiple regression, the findings of which are also interpreted hereafter.

In our study we have used the multiple regression technique to test first six hypothesis postulating relationship between debt-equity ratio as dependent variable and assets composition, business risk, corporate size, debt-service capacity, growth rate and earning rate as explanatory variables, under three different classifications. Under the first classification, the impact of explanatory variables on debt-equity ratio has been examined by taking the sample as a whole and determinants of debt-equity ratio have been analysed here. Second classification is sector wise classification. The whole data is divided into two parts, Public sector companies and Private sector companies. Then

the relationship between debt-equity ratio and other variables has been analysed. The third classification is intra-industry classification. The whole data is here divided into five industries and industry wise determinants have been analysed. To test the influence of industry-class and ownership pattern (seventh and eighth hypothesis) on debt-equity ratio, the parametric one-way analysis of variance technique has been applied.

The first hypothesis of our study concerns the influence of assets composition on debt-equity ratio. The positive association which is thereoritical has received empirical supports from previous studies, such as Marsh[1], Martin and Scott [2], and Chudson [3]. But in classification one, our investigation did not support this view and we found negative insignificant result.

In case of sector wise classification, we found that in public sector companies assets composition was negatively related with debt-equity ratio but there was positive relation in private sector companies. But in both cases the result was insignificant.

In case of business risk, when we analysed the whole data, we found positively significant relationship between debt ratio and business risk. But when we tested the public sector companies and private sector companies separately, we found that the result was insignificant in both cases and the association was positive in both cases. From this investigation it was clear that, higher the debt ratio, greater would be the risk of the company.

So far as corporate size is concerned, we found negative association between the corporate size and debt-equity ratio in all cases, which implies that large companies used lesser debt in their capital structure. The result was not at all significant in public and private sector companies but when we analysed it taking the data as a whole, we found that the relationship was significant at 5% level of significance.

Bhat[4] and Venkatesan[5] have concluded negative association between debt-equity ratio and debt-service capacity, our result also supports this view in

case of first classification, which signifies that higher the debt-equity ratio, lower the debt service capacity. In case of private sector companies we also found that debt ratio was negatively related with debt service capacity and the result signified it. But the result does not signify in public companies, though the sign of the coefficient is negative in this case also.

In case of growth rate, the association is negative in private companies, positive in public companies and also positive in case of first classification, i.e., the companies taken as a whole. In all three cases, the result is not significant, which implies it does not seem to be an important determinant of debt-equity ratio.

So far as earning rate is concerned, the result is negative but not significant in public companies, positive and insignificant in private companies and negative and also not significant in companies taken jointly. It implies that the association between profitability and debt ratio may be positive or negative but the profitability has not at all great impact on corporate capital structure.

To avoid multicollinearity we have selected a subset by using same data and estimated the coefficients of multiple regression. In this case all the coefficients were significant with negative sign for corporate size and debt service capacity and positive for business risk and growth rate.

The statistical results of intra-industry analysis indicate that in case of Engineering industry, Automobile industry and Textile industry, none of the coefficient are statistically significant. In case of Chemical industry, coefficients of business risk, debt service capacity and earning rate are statistically significant and in case of Iron & Steel industry only the co-efficient of business risk is statistically significant.

In case of industry class and ownership pattern (i.e., seventh and eighth determinants) influence on corporate debt-equity ratio, we used the one way analysis of variance or ANOVA technique to test the hypothesis. The result shows that industry class is an important determinant of debt equity ratio, as it

is significant at 5% level of significance, but ownership pattern does not seem to be a determinant of corporate debt equity ratio.

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