

A STUDY OF CAPITAL STRUCTURE IN MAJOR INDUSTRIAL CONCERNS IN KERALA

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by
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CERTIFICATE

This is to certify that the thesis "A Study of Capital Structure in Major Industrial Concerns in Kerala" is a bonafide record of research work done by Shri.MATHEW, K.A., under my supervision and guidance. The thesis is worth submitting for the award of the degree of Doctor of Philosophy in Management.



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DECLARATION

I declare that this thesis is the record of bonafide research carried out by me under the supervision of Dr.P.R. Wilson, Lecturer, School of Management Studies, Cochin University of Science and Technology. I further declare that this has not previously formed the basis of the award of any degree, diploma, associateship, fellowship or other similar titles of recognition.

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MATHEW, K.A.

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CONTENTS

LIST OF TABLES	vii - x
LIST OF FIGURES	xi

<u>CHAPTERS</u>	<u>TITLE</u>	<u>Page No.</u>
I	INTRODUCTION	1-- 18
	Significance of the Study	7
	Problem	9
	Objectives of the Study	10
	Hypothesis	10
	Methodology	11
	Data and Sources	12
	Period of Study	13
	Scope	13
	Tools and techniques	15
	Limitations	15
	Scheme of the Study	16
	References	18
II	INDUSTRIAL ECONOMY OF KERALA	19 - 33
	References	33
III	THEORIES OF CAPITAL STRUCTURE - A REVIEW	34 - 73
	Capital Structure	34
3.1	3.1.1 Significance of Capital Structure	35
	3.1.2 Leverage	37
	3.1.3 Cost of Capital	40
	3.1.4 Risk	44
3.2	Theories of Capital Structure	48
3.3	Guidelines for Debt-Equity Mix	64
	References	68

	Section I	
4.1	Debt-Equity Ratios	76
	4.1.1 State Sector	77
	4.1.2 Private Sector	81
	4.1.3 Central Sector	84
	Section II	
4.2	Ratio of Debt to Paid Up Capital	88
	4.2.1 State Sector	88
	4.2.2 Private Sector	91
	4.2.3 Central Sector	95
	Section III	
4.3	Sources of Finance	99
	4.3.1 State Sector	99
	4.3.2 Private Sector	103
	4.3.3 Central Sector	105
	Section IV	
4.4	Relation between Equity Share Capital and Reserves	110
	4.4.1 State Sector	110
	4.4.2 Private Sector	114
	4.4.3 Central Sector	117
	Section V	
4.5	Accumulated Losses and Total Assets	120
	4.5.1 State Sector	120
	4.5.2 Private Sector	123
	4.5.3 Central Sector	125
	Section VI	
4.6	Sectorwise Comparison of Patterns of Capital Structure	127
	4.6.1 Debt Equity Ratios	127
	4.6.2 Ratio of Debt to Paid Up Capital	129

	4.6.3 Sources of Finance	131
	4.6.4 Relation Between Equity Share Capital and Reserves	131
	4.6.5 Accumulated Losses and Total Assets	135
V	ANALYSIS OF LEVERAGE	137 - 208
	Section I	
5.1	Percentage of Interest on Total Expenses	137
	5.1.1 State Sector	138
	5.1.2 Private Sector	141
	5.1.3 Central Sector	144
	Section II	
5.2	Interest Coverage	146
	5.2.1 State Sector	147
	5.2.2 Private Sector	150
	5.2.3 Central Sector	152
	Section III	
5.3	EBIT-EPS Analysis	155
	5.3.1 State Sector	158
	5.3.2 Private Sector	164
	5.3.3 Central Sector	167
	Section IV	
5.4	Statistical Analysis	170
	5.4.1 Simple Regression	170
	5.4.1.1 State Sector	170
	5.4.1.1.1 EPS based on Debt-Equity	171
	5.4.1.1.2 EPS based on EBIT	171
	5.4.1.1.3 EPS based on Interest	172
	5.4.1.2 Private Sector	173

	5.4.1.2.1	EPS based on Debt-Equity	173
	5.4.1.2.2	EPS based on EBIT	174
	5.4.1.2.3	EPS based on Interest	174
	5.4.1.3	Central Sector	175
	5.4.1.3.1	EPS based on Debt-Equity	175
	5.4.1.3.2	EPS based on EBIT	175
	5.4.1.3.3	EPS based on Interest	176
	5.4.2	Multiple Regression	178
	5.4.2.1	State Sector	178
	5.4.2.2	Private Sector	179
	5.4.2.3	Central Sector	180
	Section V		
5.5	5.5.1	Survey Report	182
	5.5.2	Analysis on the basis of C and AG Reports	189
	5.5.2.1	Inadequacies and Imper- fections in Project Reports	189
	5.5.2.2	Abandonment and dropping of projects	190
	5.5.2.3	Time lag and cost over runs	190
	5.5.2.4	Time of Expansion	191
	5.5.2.5	Idle Assets	192
	5.5.2.6	Interest burden and penal interest	193
	5.5.2.7	Rescheduling of loan arrangements and funding of interest	195
	5.5.2.8	Funds diversion	196
	5.5.2.9	Conversion of loan into equity	198
5.6	Sectorwise Comparison of Leverage		201
	5.6.1	Percentage of interest on total expenses	201
	5.6.2	Interest Coverage	202

	5.6.3	EBIT-EPS Analysis	204
	5.6.4	Statistical Analysis	205
	5.6.5	Survey Report	206
	5.6.6	Analysis of Reports of C&AG	207
		References	208
VI		ANALYSIS OF PROFITABILITY, LIQUIDITY AND SOLVENCY	209 - 257
		Section I	
6.1	6.1.1	Return of Total Assets	210
	6.1.1.1	State Sector	210
	6.1.1.2	Private Sector	214
	6.1.1.3	Central Sector	217
	6.1.2	Net profits as a per- centage on paid up capital	221
	6.1.2.1	State Sector	221
	6.1.2.2	Private Sector	224
	6.1.2.3	Central Sector	224
		Section II	
6.2	6.2.1	Current Ratio	227
	6.2.1.1	State Sector	228
	6.2.1.2	Private Sector	231
	6.2.1.3	Central Sector	233
	6.2.2	Quick Ratio	234
	6.2.2.1	State Sector	234
	6.2.2.2	Private Sector	237
	6.2.2.3	Central Sector	241
		Section III	
6.3		Solvency	243
	6.3.1	Percentage of borrow- ings in tangible assets	243

	6.3.1.1	State Sector	243
	6.3.1.2	Private Sector	247
	6.3.1.3	Central Sector	250
6.4		Sectorwise Comparison of Profitability, Liquidity and Solvency	253
	6.4.1	Profitability	253
	6.4.2	Liquidity	253
	6.4.3	Solvency	255
VII		FINDINGS, CONCLUSIONS AND RECOMMENDATIONS	258 - 268
	7.1	Patterns of Capital Structure	258
	7.2	Analysis of leverage	260
	7.3	Analysis of Profitability, Liquidity and Solvency	264
		Recommendations	266
		APPENDICES	j - xviii
		BIBLIOGRAPHY	xix - xxvii

LIST OF TABLES

<u>Table No.</u>	<u>Title</u>	<u>Page No.</u>
1.1	Distribution of Public Enterprises	4
1.2	An Overview of Performance of Public Sector Enterprises in Kerala (1981-82 to 1991-92)	6
2.1	Per Capita Income of India and Kerala	21
2.2	Net Value Added by Manufacturing Sector at Current Prices	24
2.3	Net Value Added by Manufacturing Factory Sector for 1987-88	26
2.4	Central Sector Industrial Investment in Kerala	28
2.5	Statewise (Selected) Value of Property (Gross Block) under Central Public Sector	29
2.6	Assistance Disbursed by all India Financial Institutions to the Southern States	31
4.1	Debt-Equity Ratio (State Sector)	78
4.2	Debt-Equity Ratio (Private Sector)	82
4.3	Debt-Equity Ratio (Central Sector)	85
4.4	Ratio of Debt to Paid up Capital (State Sector)	89
4.5	Ratio of Debt to Paid up Capital (Private Sector)	92
4.6	Ratio of Debt to Paid up Capital (Central Sector)	96
4.7	Sources of Finance (State Sector)	100
4.8	Sources of Finance (Private Sector)	104
4.9	Sources of Finance (Central Sector)	107

<u>Table No.</u>	<u>Title</u>	<u>Page No.</u>
4.10	Reserves as a Percentage of Paid up Capital (State Sector)	111
4.11	Reserves as a Percentage of Paid up Capital (Private Sector)	115
4.12	Reserves as a Percentage of Paid up Capital (Central Sector)	118
4.13	Sectoral Averages of Total Assets and Fictitious Assets	121
4.14	Paid up Capital and Revenue Reserves State Sector (1989-1990)	133
4.15	Paid up Capital and Revenue Reserves Private Sector (1989-1990)	134
4.16	Paid up Capital and Revenue Reserves Central Sector (1989-1990)	136
5.1	Percentage of Interest on Total Expenses (State Sector)	139
5.2	Percentage of Interest on Total Expenses (Private Sector)	142
5.3	Percentage of Interest on Total Expenses (Central Sector)	145
5.4	Interest Coverage Ratios (State Sector)	148
5.5	Interest Coverage Ratios (Private Sector)	151
5.6	Interest Coverage Ratios (Central Sector)	154
5.7	EBIT-EPS Analysis (State Sector)	159
5.8	EBIT-EPS Analysis (Private Sector)	165
5.9	EBIT-EPS Analysis (Central Sector)	168
5.10	Regression of EPS on (i) Debt-Equity (ii) EBIT (iii) Interest Coefficient and Test Statistics (1985-86 to 1989-90)	177

<u>Table No.</u>	<u>Title</u>	<u>Page No.</u>
5.11	Regression of EPS on Debt-Equity (x_1) and EBIT (x_2) Coefficients and Test Statistics (1985-86 to 1989-90)	181
5.12	Penal Interest Payments by State Enterprises	194
5.13	Details of Companies which rescheduled loans	195
5.14	Details of Companies whose interest obligations were funded	196
5.15	Debt Conversion in the State Sector	199
6.1	Return on Total Assets (State Sector)	211
6.2	Return on Total Assets (Private Sector)	215
6.3	Return on Total Assets (Central Sector)	218
6.4	Percentage of Net Profit to paid up Capital (State Sector)	222
6.5	Percentage of Net Profit to Paid up Capital (Private Sector)	225
6.6	Percentage of Net Profit to Paid up Capital (Central Sector)	226
6.7	Current Ratio (State Sector)	229
6.8	Current Ratio (Private Sector)	232
6.9	Current Ratio (Central Sector)	235
6.10	Quick Ratio (State Sector)	238
6.11	Quick Ratio (Private Sector)	240
6.12	Quick Ratio (Central Sector)	242
6.13	Percentage of Borrowings to Tangible Assets (State Sector)	245

<u>Table No.</u>	<u>Title</u>	<u>Page No.</u>
6.14	Percentage of Borrowings to Tangible Assets (Private Sector)	248
6.15	Percentage of Borrowings to Tangible Assets (Central Sector)	251
6.16	Return on Total Assets (Various Sectors)	254
6.17	Percentage of Borrowings to Tangible Assets (Various Sectors)	257

LIST OF FIGURES

<u>Figure</u>	<u>Title</u>	<u>Page No.</u>
4.1	Sources of Finance (State Sector)	102
4.2	Sources of Finance (Private Sector)	106
4.3	Sources of Finance (Central Sector)	109
4.4	Debt Equity Ratio	125
4.5	Ratio of debt to Paid up Capital - A Comparison	130
5.1	Percentage of interest to Expenses	203

Chapter I

INTRODUCTION

The industrial profile of Kerala, when compared to that of other States in India, has not been satisfactory. This is largely due to the slow pace of growth in the manufacturing sector. The State's industrial growth has been marginal for a long period. The average growth of the manufacturing sector before the Seventh Five Year Plan period of 1985-90 was only 2.2 per cent.¹

The contribution of Kerala in the industrial development of the country has not been very significant. With regard to the per capita value added in the factory sector, Kerala occupies eighth position. The rate of growth from the secondary sector has been far below the all India level. When compared with other parts of the country, economic development of Kerala continued to remain sluggish giving rise to low per capita income and high rate of unemployment. The over emphasis laid on social service sectors has adversely affected the industrialisation of the State. The State has been described as a high cost, non-competitive economy. This has kept industrial investors away from the State.²

The contribution of the private enterprise in promoting industrial growth in Kerala has been far from satisfactory.

For instance, Kerala accounted for only around 2 per cent of the total number of large private sector industrial units operating in the country and about the similar per cent of their total sales. Kerala ranked thirteenth among the fifteen major states in terms of the number of units during 1980s.³ In the private sector, the labour absorption has either been stagnant or falling. These evidences indicate the poor contribution of the private sector to the economic development.

The Central participation in the industrial progress of the State also has not been remarkable. The Central investment in the State has been far from satisfactory. In absolute terms, the value of gross block under Central public sector in Kerala as on 31st March 1991 was Rs.1853 crores while that of our neighbouring states of Karnataka and Tamil Nadu were Rs.2693 crores and Rs.7139 crores respectively.

Studies with reference to the performance of the State public sector reveal a deplorable state of affairs of this sector. As an agent of stimulating growth and development the public sector should have occupied a better position than the private sector. But it has failed in fulfilling this mission.

History of Kerala public sector begins from 1946 with two enterprises (Forest Industries (Travancore) Ltd., and

Travancore Titanium Products Ltd.). Since then there had been a phenomenal growth in the number of enterprises in the state sector. 1970s recorded the maximum number of additions of 21 companies in the state sector. By 1981-82 Kerala had the highest number of state enterprises in the country.⁴

As on 31st March 1992 there were 104 enterprises in the state sector with an investment of Rs.3448.24 crores (Rs.1168.67 crores as share capital and Rs.2279.57 crores as loans) distributed over 14 sectors. Of these, 5 units have been under the process of liquidation. Thus in effect there were 99 public sector undertakings (including one company incorporated in 1990-91) as on 31st March 1992. This includes eight statutory corporation also (Table 1.1).

During 1981-82 the capital investment in 84 undertakings was Rs.807.35 crores. By 1991-92, the investment was increased by Rs.2640.89 crores. In other words, the investment in the state sector undertakings was increased by Rs.327.10 per cent over the period of ten years.

Such a growth in the number of and the investment in the state sector enterprises was not peculiar to Kerala State alone. "After independence and with the onset of the planned era it became obligatory on the states forming the Indian Union to participate in industrial reformation and restructuring".⁵

Table 1.1

Distribution of Public Sector Enterprises

Sl.No	Sector Classifications	No.of Units
1	Developmental and Infrastructural Agencies	10
2	Ceramic and Refractories	6
3	Chemical Industries	11
4	Electrical Equipment	5
5	Electronics	10
6	Engineering	11
7	Plantations and Agro-based	12
8	Textiles	4
9	Wood based	3
10	Traditional Industries	7
11	Trading Units	3
12	Welfare Agencies	7
13	Public Utilities	5
14	Others	10
	Total	104

Source: Bureau of Public Enterprises, Government of Kerala, 1991.

Despite the increase in number as well as the total investment, it is disturbing to note that there were 62 undertakings activities of which resulted in an aggregate loss of Rs.127.17 crores in 1990-91. In 1981-82, 37 out of 84 concerns made profit while in 1990-91 the number of profit making concerns came down to 29. The net annual loss after adjusting profit in 1981-82 was to the extent of Rs.4.96 crores. Towards the end of 1990-91 the net annual loss after adjusting profit has been as high as Rs.93.57 crores. In other words, during ten years from 1981-82 the net loss has increased by about 19 times (Table 2).

As per the Sick Industrial Companies (Special Provision) Act 1985, there were 37 enterprises which might be designated as "sick" as their complete net worth had been eroded. The negative net worth of these 37 companies amounted to Rs.417.55 crores. Out of 98 units, 71 had carry forward losses and 53 had incurred cash losses during 1990-91. Only 11 undertakings were able to declare dividends.⁶ There were 39 units accumulated losses of which amounted to Rs.415.43 crores whereas the total paid up capital of the concerns was only Rs.283.91 crores.⁷

There were 50 modern manufacturing units with a total capital investment of Rs.790.23 crores. In other words, 22.92 per cent of total capital invested in the public enterprises

Table 1.2

An Overview of Performance of Public Sector Enterprises in Kerala (1981-82 to 1991-92)

Review Year	No. of Total Units Employment	Equity (4)	Capital Invested (5)	Units on Profit		Units on Loss		Net Annual Loss after Adjusting Profit (10)	Dividend Receipts		
				No. of Units (6)	Amount (7)	No. of Units (8)	Amount (9)		No. of Units (11)	Amount (12)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(a) Government Companies											
1981-82	77	65500	126.77	380.27	34	6.32	37	11.28	4.96	5	0.17
1982-83	77	70469	152.14	428.52	26	6.52	46	16.67	10.15	5	0.17
1983-84	81	70458	169.25	568.98	23	6.28	52	27.53	21.25	4	0.17
1984-85	86	73197	185.41	646.02	27	10.32	53	27.58	17.26	5	0.26
1985-86	88	73907	214.80	662.19	27	14.41	56	50.92	36.51	6	0.66
1986-87	90	72859	315.21	786.28	25	15.22	51	65.19	49.97	4	0.54
1987-88	85	72655	345.87	852.69	27	27.15	50	61.21	34.06	4	0.49
1988-89	85	95368	412.96	968.62	25	28.76	56	62.92	34.16	7	0.47
1989-90	88	97408	458.57	1078.59	29	23.99	55	52.45	28.47	10	0.63
1990-91	90	97822	513.54	1376.20	28	32.85	58	70.93	38.08	10	0.69
(b) Statutory Bodies											
1981-82	7	64455	32.32	427.08	3	11.68	1	8.27		1	0.02
1982-83	7	69361	37.14	473.06	2	12.78	2	0.09		1	0.10
1983-84	7	60091	50.02	509.95	2	12.59	2	21.55	8.96	1	0.10
1984-85	8	64643	55.69	535.15	3	29.68	1	21.56		2	0.38
1985-86	8	66963	61.06	697.44	3	29.81	1	20.11		2	0.36
1986-87	8	66856	68.35	859.95	2	0.87	3	21.07	20.20		--
1987-88	8	66101	73.95	982.65	1	0.23	4	45.88	45.65	1	0.51
1988-89	8	69424	573.59	1765.04	0	0.00	6	69.67	69.67	1	
1989-90	8	70150	646.13	2029.35	3	12.75	3	46.86	34.11	1	
1990-91	8	72950	655.12	2072.04	1	0.75	4	56.24	55.49	1	--

Source: Public Enterprises Survey, Bureau of Public Enterprises, Government of Kerala, Thiruvananthapuram, 1992.

had been in these modern manufacturing units. They employed 23532 persons that formed 13.72 per cent of the total Kerala public sector employment. Out of these 50 units, 32 incurred losses totalling Rs.53.71 crores and 16 made profits of Rs.19.95 crores. As on 31st March 1992, 23 out of 45 units had an accumulated loss of Rs.385.64 crores as against their paid up capital of Rs.140.99 crores.⁸

Considering the sources of funds employed, borrowings alone came to 73.70 per cent of the total. Share capital and reserves and surpluses had been 23 per cent and 3.3 per cent respectively. Out of the total investment, 16.3 per cent was represented by accumulated losses and miscellaneous expenses not written off. Only 83.7 per cent could be considered as productively employed in the form of fixed assets (42.7 per cent), current assets (34.9 per cent) and investments (6.1 per cent).

Significance of the study

A number of studies have already been conducted on the state sector undertakings based on various problems. Some of these studies focus attention on certain industries in particular while others focus on aggregate level. Unitwise studies also have been conducted. In all these, problems such as surplus labour force, high wages, low productivity, low capacity utilisation, absence of inter-industry linkages,

technological backwardness etc., were dealt with. Apart from these, there have also been studies in the area of finance. But there is hardly any comprehensive study which has been reported highlighting the importance of the capital structure in the public sector manufacturing concerns of the state in comparison with the private and central sector undertakings. Thus, in the present study, an attempt is made to evaluate the capital structure and its effects with special reference to the state sector.

As every business activity has got financial implications, management of finance may be taken as the most important area of business management. In the area of finance, capital structure (Leverage) decision is, perhaps, the most important one.

With regard to the state public sector this is a vital aspect which needs due consideration but which is often neglected.

Majority of the state sector enterprises are facing serious financial problems. This is not because of inadequate financial resources but due to inappropriate capital structure decision. There are a number of instances which highlight the evil effects of defective capital structure decisions. Firms running with huge losses do not refrain from borrowings. These additional finance do not always facilitate growth of longterm assets. At the same time, the mounting interest burden puts the firms in difficulties.

Certain firms, in order to overcome the difficult situations resort to further borrowings to pay off old liabilities and interest thereon making the problem more serious. Even conversion of debt into equity fails to solve the problem.

Problem

Hence the problems posed are:

1. What are the differences in the patterns of capital structure in state, private and central sector enterprises? This could be simplified as:
 - (a) Does the capital structure vary from one another and between different sectors?
 - (b) Does the capital structure vary from the accepted norms?
 - (c) Does it undergo lopsided changes?
 - (d) Do the state, private and central sector concerns take formal capital structure decisions?
2. Does the capital structure prevailing in the state, private and central sectors of Kerala have any theoretical support with regard to the financial leverage?
3. Does the capital structure have a positive bearing on the returns and liquidity and solvency of the concerns?

Objectives of the study

Following are the objectives of the present study:

1. To make an analytical description of the considerations for the capital structure decision and to explain the patterns of capital structure prevailing in the state, private and central sector manufacturing concerns in Kerala.
2. To evaluate the capital structure highlighting the effect of financial leverage in an EBIT-EPS tangle.
3. To find out the effect of capital structure on the returns and liquidity and solvency of the firms.

Hypotheses

As the first objective is concerned with the analytical description of the considerations for capital structure decisions and explanation of the prevailing patterns of capital structure, no hypothesis has been formulated. However, for the rest of the objectives, the following hypotheses have been formed:

(1) The capital structure prevailing in the state, private and central sector manufacturing concerns in Kerala have justifiable theoretical support with regard to the financial leverage.

The above hypothesis has been divided into the following sub hypotheses:

(a) There is much more significant and positive correlation between the Debt-Equity ratio and EPS ^{than} between EBIT and EPS.

(b) Interest has a more significant influence on EPS when compared to the effect of EBIT on EPS.

(c) The capital structure decisions already taken are justifiable with reference to the indifference levels.

(2) The Existing Capital structure has a positive bearing on the returns and liquidity and solvency of the firms.

Methodology

In the present study the analysis is carried out based on the capital structure and the data variables relating to capital structure in the manufacturing enterprises in Kerala. The appropriate starting point of the study is the outlining of the general profile of the industrial sector in Kerala with due emphasis being placed on the state sector manufacturing enterprises.

The study is organised as descriptive as well as analytical. It is descriptive as far as the theory is concerned. It is also analytical in the sense that it analyses various financial variables and their effects and influences. The analytical part depends mainly on the secondary data.

Data and Sources

Both primary and secondary data are used. The primary data were collected through personal interviews with financial personnel who are directly involved in taking financial decisions. The interviews were conducted with the help of a pre-structured interview schedule perfected after a pilot study. This course was helpful in highlighting the major factors considered, in practice, in taking the capital structure decision. It enabled the researcher to proceed to an evaluation of the fact whether the financing decisions were taken on the basis of any theoretical framework.

The source of secondary data were documents and records such as annual reports and accounts of companies, various issues of A Review of Public Enterprises (BPE) Reports of the Comptroller and Auditor General of India, published and unpublished theses, research papers, working papers, various files and records with the Registrar of Companies, etc.

The information contained in the financial and income statements of companies were standardised mainly on the basis of the concepts and forms used by the BPE which is often described as the Secretariat of the Public Enterprises Board. Such a course was chosen owing to two main reasons. One is that the main focus of the study is on

the state sector enterprises. The other reason is that it is organised as a comparative study and therefore, common parameters had to be used. The comparison was made between the state public enterprises in the modern manufacturing sector on the one side and the manufacturing concerns in the private and central sectors on the other. According to the BPE, modern manufacturing sector includes the manufacturing industries related to chemicals, electrical equipments, electronics, engineering, textiles, wood based and ceramics and refractories.

Period of Study

As the results may be affected by fortuitious factors, the financial results of a concern for a short period may not be a clear representative of its financial position. The trend of variables may not be clearly understood and explained if a short term analysis of financial data is made. It was, therefore, decided to take a period of ten years from 1980-81 to 1989-90.

Scope

The universe of the study is the Major Industrial Concerns in Kerala. The term Major Industrial Concerns has been used to include firms which have an investment (Gross Block) of 5 crores and above as on 31st March 1990. Such a criterion has been chosen considering the relationship between the capital investment and capital structure.

Any other criteria such as the number of employees, sales turnover, cost of production, paid up capital, etc., are not taken into account since these do not seem to be appropriate for the study. Financial institutions like KSIDC, IFCI, ICICI and IDBI define medium and large scale industries in different ways. According to KSIDC industrial units with an investment (gross block) within Rs.45 lakhs and Rs.2 crores are considered as medium scale industries. Industrial units with more than Rs.2 crores investment are treated as large scale industries. Certain financial institutions like IFCI, ICICI and IDBI do not classify the industrial concerns into medium scale and large scale separately. But they use the term medium and large scale to include those industries with a project cost of Rs.5 crores and above. For the purpose of the present study industrial enterprises with capital investment of Rs.5 crores and above are treated as Major Industrial Concerns.

For fixing the universe of the study, the manufacturing concerns fulfilling certain requirements alone are considered. They are, concerns which were registered in Kerala; whose date of registration is on or before 31st March 1980; which have started their commercial production on or before the said date; and which have been continuously working throughout the period under study.

All the manufacturing enterprises based on the above said criteria were selected. Accordingly, there were twelve manufacturing enterprises in the state sector; fourteen in the private sector and four in the central sector which altogether constituted the universe. All the units in the universe were taken for study.

Tools and techniques used for analysis

The data collected from the primary and secondary sources were compiled and analysed. The analyses include both vertical and horizontal. The vertical analysis was meant for studying the companywise variables over the period. The horizontal analysis is made for understanding the inter-company variations and also for drawing a sectoral picture for all the period under study. Various statistical tools and techniques such as averages, percentages, regression and correlation and financial tools and techniques such as accounting ratios and EBIT-EPS analysis were made use of.

Limitations of the study

The following are the important limitations of the study:

1. The manufacturing concerns coming under state sector, private sector and central sector only are considered.
2. Companies registered outside Kerala and which function in the state are not brought under the study.
3. Even though necessary precautionary measures have been taken to mitigate the influence of biased opinions and statements of personnel interviewed, the researcher does not rule out the possibilities of its effect on the study.
4. Emphasis has been given only to the financial aspects of the enterprises brought under the purview of the study.

Scheme of the study

The thesis has been organised into seven chapters. The first chapter deals with the introduction, significance, problem, objectives, hypotheses, methodology, data and sources, period of study, scope, tools and techniques and limitations of the study.

The second chapter gives a description of the industrial economy of Kerala compared to that of the neighbouring states as well as on an all India basis.

The third chapter provides a review of theories and studies on Capital Structure.

The fourth chapter makes a description of the patterns of Capital Structure employed in the State, Private and Central sector manufacturing enterprises in Kerala.

Chapter five deals with the analysis of financial leverage. Evaluation of the capital structure decisions has been made by resorting to an EBIT-EPS analysis and correlation and regression analysis, based on the secondary data. The decisions have been further evaluated on the basis of the primary data.

Chapter six gives an account of profitability, liquidity and solvency positions of companies.

And seventh chapter gives the findings, conclusions and recommendations.

References

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5. Mishra, R.K., and Nanda Gopal, R., Working of State Level Manufacturing Public Enterprises: Promise and Performance, EPW, May 25, 1991, M.42.
6. Bureau of Public Enterprises, A Review of Public Enterprises in Kerala, 1992.
7. State Planning Board, Economic Review, 1991, Government of Kerala, p.54.
8. Ibid., p.58.

Chapter II

INDUSTRIAL ECONOMY OF KERALA

2.1 Kerala State, now in the process of the eighth plan, has already completed its seven five year plans and four annual plans during the period of last forty years. It has, in its past development effort, attained remarkable achievements in some aspects. The state has the highest general rate of literacy in the country - 91 per cent as against a national average of 52 per cent. The decennial rate of growth of population has come down from 19 per cent during 1971-81 to 13.5 per cent during 1981-91. The state has very low death rate and infant mortality rate. The per-capita state expenditure on education and health has been the highest in Kerala. Investment in social infrastructure has helped in creating an egalitarian approach among all sections of the society. With regard to the physical infrastructure also the state occupies a commendable position. These altogether enabled to raise the physical quality of life (PQL) of the people. The overall social consumption of people at all levels has become high. These are the features of one side of the coin.¹ But the general economy of Kerala shows a dismal picture. Despite the aggregate public sector investment of over Rs.12000 crores in the

state economy, and almost an equal amount of investment in areas like agriculture, industry and social service sectors which would also have taken place in the private sector of the economy, the overall average annual growth rate has been hovering around three per cent against the national average of five per cent. Wide fluctuations in the rate of growth ranging between 1.56 per cent and 5.55 per cent during different plan periods is another feature.² Kerala has been reported to have the lowest per capita investment in the manufacturing sector in India.³ The commodity production base, which is considered to be one of the accepted measures of economic development has been low and fragile in Kerala.

The per capita income of the state has been reported to be very low when compared to the national level. It has never crossed the all India level during the period from 1960-61 to 1989-90.

Table 2.1 shows a clear picture of the state's per capita income from 1961. From 1975-76 onwards, the index has been continuously declining till 1987-88. But when the pattern of expenditure is considered one can see that the per capita consumption of the state has been paradoxically high.

During the period from 1970-71 to 1984-85 the growth in per capita state domestic product in manufacturing in Kerala has been 0.58 per cent as against 2.48 at national level.⁴

Table 2.1

Per capita Income of India and Kerala

Period	India	Kerala	Index	Rate of Change for Year
1960-61 to 1964-65	573	510	0.90	
1965-66 to 1969-70	580	546	0.94	0.04
1970-71 to 1975-76	620	603	0.97	0.03
1975-76 to 1979-80	678	599	0.88	-0.09
1980-81 to 1984-85	735	615	0.83	-0.05
1985-86	1842	1462	0.79	-0.04
1986-87	1866	1400	0.75	-0.04
1987-88	1903	1416	0.74	-0.01
1988-89	2078	1530	0.74	0.00
1989-90	2142	1596	0.75	0.01

Source: State Planning Board, Government of Kerala,
Draft Eighth Five Year Plan 1992-97 and Annual
Plan 1992-93 Vol.1, p.3, Table I.

Note: 1960-61 to 1984-85 - at 1970-71 prices
1985-86 to 1989-90 - at 1980-81 prices

Index: Proportion of per capita income of Kerala
to that of India

From the experience of our planned development it is felt that the emphasis laid on the social service sectors in the past, to the subordination of commodity producing sectors, has resulted in an inherent weakness of the economy. Industrialisation has been at a slow pace. Investments have been tardy in forthcoming. The growth rate has been low. The annual average rate of growth of the state income from the primary sector has been (-) 0.43 per cent while the all India growth rate has been 4.45 per cent during the period 1961-62 to 1988-89. The rate of growth in state income from secondary sector has been as low as 3.48 per cent as against 6.9 per cent in the national level during the same period.⁵ Kerala's industrial performance measured by various parameters such as annual growth of its manufacturing sector, share of manufacturing in the state domestic product, value added by factory sector etc., have been on the low side.⁶

It is relevant to see that eventhough we have completed seven five year plans, we could never maintain the rate of per capita manufacturing product which we achieved in 1950. The per capita manufacturing product in the state was Rs.48 in 1950 while that in all India was Rs.37. But now the case is deplorable. The rate is much below the national average and that of the neighbouring states.⁷

The value added by the manufacturing sector has been showing a deceleration in its growth during the first six years of the eighties. The state income from the manufacturing sector was Rs.531.52 crores in 1980-81. It has declined to Rs.523.45 crores in 1986-87 recording a decline by 1.5 per cent. The average growth of manufacturing sector was only nominal (2.2 per cent) though the seventh five year plan period of 1985-90 recorded a slight increase (2.42 per cent).⁸ State's net value added at current prices relatively to other southern states of India has also been low. When a fairly long period of 1970-71 to 1987-88 is taken, it is seen that Kerala occupies the lowest position among the neighbouring states (Tamil Nadu, Karnataka and Andhra Pradesh). While the rate of Tamil Nadu (highest among the southern states) was Rs.309 crores in 1970-71, Kerala could attain only Rs.90 crores. The values in 1987-88 moved to Rs.2821 crores for Tamil Nadu and Rs.867 crores for Kerala at current prices. With respect to the per capita value added also Kerala occupies the lowest position among the southern states excepting Andhra Pradesh. In this respect also Tamil Nadu tops the list with Rs.75 in 1970-71 and Rs.507 in 1987-88. The share of Kerala has been Rs.42.2 in 1970-71 and Rs.298.9 in 1987-88. (Table 2.2)

In 1987-88, out of Rs.867 crores NVA of all industries in Kerala, the contribution from manufacturing industries was the lowest when compared to other southern states, the

Table 2.2

Net Value Added by Manufacturing Sector at Current Prices (Rs. in Crores)

States	Net Value Added				Per capita Value Added (Rs.)					
	1970-71	1975-76	1980-81	1985-86	1987-88	1970-71	1975-76	1980-81	1985-86	1987-88
Kerala	90	162	391	676	867	42.2	69.5	153.6	248.6	298.9
Karnataka	181	323	603	1172	1343	61.8	97.9	162.4	287.3	299.7
Tamil Nadu	309	544	1229	2402	2821	75	121.8	253.9	462.8	507
Andhra Pradesh	125	319	584	1262	1245	28.7	66.1	109.1	211.8	187.8
All India	3148	6387	11930	23266	28332	57.4	104.4	174.6	306.4	335.7

Source: Basic Statistics Relating to the Indian Economy, CMIE, Vol. II, States, Sept., 1992.

share being 86.3 per cent. Andhra Pradesh tops the list with 95.2 per cent. The next position is occupied by the Karnataka state with a share of 92.3 per cent. Among the four southern States, Tamil Nadu occupies the topmost position with regard to the percentage share of NVA to all India level with 10 per cent. Thus the data also shows a relatively low industrial profile of Kerala (Table 2.3).

The depressing situation is easily understood when the percentage share of all industries to all India and the share of manufacturing sector in all industries of Kerala are assessed. A 3.1 percentage rate to all India is too low. At the same time, the contribution from the manufacturing sector is also low.

The central investment in Kerala also has not been encouraging. Central industrial investment in the state during the First Five Year Plan was practically nil. It is interesting to note that the investment in Kerala during the Second Five Year Plan was only 0.1 percentage of the total central public sector investment in the country. Though there has been slight improvement since then, the central investment in Kerala continued to be much less when compared to the proportion of state's population to that of all India. The state has a population of about 3.7 percentage of the country. But the percentage share of central investment has declined from 2.9 percentage in 1971-72 to 1.6 percentage in 1987-88.⁹ Central investment

Table 2.3

Net Value Added by Manufacturing Factory Sector
for 1987-88

States	Value Added (Rs. in Crores)		% Share in all Industries		% Share of all Industries to Manufacturing Others all India
	All Industries	Manufacturing Industries	Manufacturing	Others	
Kerala	867	748	86.3	13.7	3.1
Karnataka	1343	1239	92.3	7.7	4.7
Tamil Nadu	2821	2461	87.2	12.8	10
Andhra Pradesh	1245	1185	95.2	4.8	4.4
All India	28334	24189	85.4	14.6	100

Source: CMIE, Basic Statistics, Vol. II, States, Sept., 1992.

in terms of Gross Block has been continuously declining from 1974-75 onwards when it was 3.24 per cent of an all India investment of Rs.6242 crores. By 1990 the share has come down to 1.53 and again to 1.43 in 1990-91 (Table 2.4).

During 1990-91 the central sector industrial investment in the country as a whole increased by Rs.16282 crores. Kerala's share was only 0.93 per cent. It is worth noting that 62 per cent of the total investment made by the Government went to New Delhi, and five states of Maharashtra, West Bengal, Andhra Pradesh, Uttar Pradesh and Tamil Nadu. Table 2.5 displays the neglect shown towards Kerala with regard to central public sector investment.

It is a fact that the financial institutions play a vital role for the development and growth of industries by participating in the equity of and granting medium and long term loans to industrial undertakings. With regard to the assistance sanctioned and disbursed by all India financial institutions Kerala lags behind and the share of assistance availed has been nominal. The percentage of disbursements to the state out of a total of Rs.1424.3 crores in 1980-81 was only 3.2. It came down to 2.8 per cent in 1984-85 and again to 1.8 per cent during 1990-91 through 2.6 per cent during 1989-90. In the case of other states in South India, though the percentage disbursements showed a more or less mixed trends, the rates were more than that of Kerala. Among the southern states, perhaps, Kerala is the

Table 2.4

Central Sector Industrial Investment in Kerala

Year	Investment (Gross Block) as on 31st March		Percentage of Kerala to all India
	(Rs. in Crores)		
	All India	Kerala	
1970	3795	116	3.06
1975	6242	202	3.24
1980	18161	423	2.33
1985	47323	831	1.76
1986	56806	923	1.62
1987	68052	1074	1.58
1988	82180	1298	1.58
1989	96881	1524	1.57
1990	113431	1701	1.50
1991	129713	1853	1.43

Source: Economic Review 1992, State Planning Board,
Thiruvananthapuram, p.59.

Table 2.5

Statewise (selected) Value of Property (Gross Block) under Central Public Sector

(Rs. in Crores)

States	As on 31st March 1988		As on 31st March 1989		As on 31st March 1990		As on 31st March 1991	
	Value of Property	Percentage to Total	Value of Property	Percentage to Total	Value of Property	Percentage to Total	Value of Property	Percentage to Total
Kerala	1298	1.58	1520	1.57	1701	1.5	1853	1.43
Kannataka	1926	2.34	2181	2.26	2589	2.28	2693	2.08
Tamil Nadu	4026	4.92	4925	5.1	5902	5.21	7139	5.5
Andhra Pradesh	8262	10.05	9907	10.26	11412	10.06	12969	10
Madhya Pradesh	10229	12.45	11340	11.74	12580	11.09	12900	9.95
Maharashtra	13941	16.96	16127	16.7	19933	17.59	22012	16.97
Bihar	7609	9.26	8439	8.74	9638	8.5	10693	8.24
Uttar Pradesh	6097	7.42	8298	8.59	8794	7.76	10229	7.89

Source: Economic Review 1990 and 1991, State Planning Board, Thiruvananthapuram, P.60 and p.194 respectively.

only state where the amounts released have been continuously falling for a long period of time. (Table 2.6).

Both in absolute and relative terms the financial assistance given has been very low. It is evident that these situations are not conducive to a satisfactory state of economic development. It is distressing to note that this continuous lower disbursement has affected the cumulative total also. It resulted in wide disparities between Kerala and other states in South India in this respect. While taking the total financial assistance granted by IDBI, IFCI and ICICI, Kerala's share has come to only Rs.1188 crores whereas Tamil Nadu records the highest among the other three states in South India with Rs.4839 crores. Next to it comes Andhra Pradesh with Rs.4127 crores. Karnataka has the third place with Rs.3135 crores.¹⁰

Throughout the plan period, one could see that due attention was not given with regard to investment in industry and mining sectors. During the first five year plan the investment in industry and mining was only less than two per cent of the state sector outlay. During the next three plans, the rate of investment in this sector was around 7 per cent. It was 11 per cent during the fifth plan; 8 per cent during sixth plan and between 10 and 11 per cent during seventh plan.¹¹ The constraints on State's resources have affected adversely the allocation for development programmes in the five year plans. Over the time the per capita

Table 2.6

Assistance Disbursed by all India Financial Institutions to
the Southern States

(Rs. in Crores)

States	Disbursements				Percentage to the Total			
	1980-81	1984-85	1989-90	1990-91	1980-81	1984-85	1989-90	1990-91
Kerala	45.00	86.60	268.49	195.30	3.20	2.80	2.60	1.80
Karnataka	127.20	292.30	556.26	550.90	8.90	9.50	5.39	5.20
Tamil Nadu	153.20	346.90	958.68	938.30	10.80	11.20	9.29	8.80
Andhra Pradesh	83.40	276.90	851.95	645.90	5.90	9.00	8.26	8.90
All India	1424.30	3086.20	10315.46	10660.40	100.00	100.00	100.00	100.00

Source: Basic Statistics Relating to the Indian Economy, CMIE, Sept., 1992.
Economic Review 1990, State Planning Board, Thiruvananthapuram.

plan outlay of the state has been diminishing in terms of the average outlay of all the states. It is interesting to note that there was not much differences in the per capit outlays in the fifties (during the first and second plan periods). But in the subsequent periods the gap between state's per capita and national per capita outlays gradually increased. During the seventh plan the per capita state plan outlay for Kerala was Rs.727 crores. The corresponding figure for all states was Rs.1026. Thus Kerala's per capita outlay was lower by Rs.299 crores which deserves prime attention.

Refernces

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2. Ibid.
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5. State Planning Board Economic Review 1991, Government of Kerala, p.2.
6. Subramanian, K.K., Development Paradox in Kerala Analysis of Industrial Stagnation EPW, Vol.XXV, No.37 Sept.15, 1990, p.2053.
7. Ibid.
8. State Planning Board Economic Review 1990, Government of Kerala, p.62.
9. State Planning Board, Eighth Five Year Plan 1990-95 Report of the Steering Committee on Industry and Mining 1990, p.11.
10. Centre for Monitoring Indian Economy (CMIE) 1992 Table 12.21.
11. State Planning Board, op.cit., p.10.

THEORIES OF CAPITAL STRUCTURE: A REVIEW

3.1 Capital Structure

Capital structure is the permanent financing of the firm, represented primarily by long-term debt, preferred stock, and common equity, but excluding all short term credit.¹ It means the combination of various sources of longterm capital employed in a business. In other words, the term capital structure represents the relationship between various longterm forms of capital such as equity share capital, reserves and surpluses, preference share capital and long term debts. Van Horne also holds a similar view. In this context, he speaks of debt versus equity financing.² In the words of Datta "Capital structure of a firm refers to the structural combination of the different types of sources of finance (securities and otherwise) which are tapped for raising funds for a business".³ Different types of sources of finance, here, implies long term sources alone. Another scholar speaks of capital structure by explaining the components thereof. According to him the components of capital structure include different kinds of paid up capital, retained earnings and surpluses and different types of long term borrowals.⁴

The views stated above are almost similar. All of them consider long term sources of capital alone. But scholars like Walker are of different opinions. According to Walker, capital structure includes not only long term obligations and equity capital but also short term obligations.⁵ Accordingly, short term capitals also form part of capital structure. Lindsay and Sametz define capital structure as "capitalisation plus surpluses both paid in and ploughed back"⁶ It appears that they are not rigid with regard to the exclusion of short term sources in the capital structure. They opine "It seems artificial to omit short term or informal debt from capital structure problems especially for small firms where current liabilities comprise a large part of the sources of funds".⁷ Here more emphasis has been given to small firms. When we follow this view, it may not be logical to take into account long term funds alone in case of concerns which hold a very small proportion of fixed assets by their nature. The reason is that a large measure of their investment may be in the form of non-fixed assets in which case a working capital financing decision may be more relevant.

3.1.1 Significance of Capital Structure

The problem of capital structure is relevant only in the case when there is a mix of various kinds of capital

in the financial structure of a business concern. Since the equity shareholders are the real owners of a company they always expect to get maximum benefit. They invest their funds with the sole objective of enjoying maximum return. Return may take the form of either dividend or capital appreciation or both. This is possible with an ideal combination of debt and equity. Though the capital structure (Leverage) decision has nothing to do with the total operating earnings of the firms, it is capable of adjusting the return on shareholders' funds by a judicious combination of various elements of long term sources. When the return on equity is favourable to the equity shareholders it would have the reflection on the earnings per share (EPS). Increased EPS naturally increases the market value of the firm. In fact, this is the outcome expected of a capital structure decision. The volume of benefit in the form of returns to equity largely depends on the quality of the financing decision. The objective of the firm is to maximise its value to its shareholders.⁸ For the attainment of such an objective the role played by the capital structure is very important. It is so because the capital structure can affect the value of a firm by reducing the cost of capital and thus increasing the income available to the owners.

The overall cost of capital can be reduced by employing low cost capital. Broadly, low cost capital may be classified into two: Preference share capital and long term loans. So long as the costs of these sources are less than the (expected) return on investment the owners would benefited by an increased rate or return on equity. In other words, the cost advantage owing to the employment of fixed cost capital enables the equity shareholders to earn a higher return on equity. It does not mean that a business firm can freely employ any amount of fixed cost capital in its capital structure. There are certain limits imposed by some influencing factors. An ideal capital structure decision determines the quantum of each element of capital a firm can employ in its financial structure in order to maximise the wealth of shareholders. That combination of various types of capital which maximises the wealth of shareholders with minimum cost of capital is called the optimum capital structure.

3.1.2 Leverage

Leverage is the force used to generate a relatively higher power. In financial circles, the term is used to mean utilisation of fixed cost assets and/or funds, to magnify the returns to the owners of a concern. The significance of a capital structure decision lies in an appropriate Financial Leverage. Financial leverage

(Trading on Equity) means the use of fixed charge sources of funds such as debt and preference shares along with owners' equity in the capital structure, with a view to magnifying the earnings of ordinary shareholders. This is possible only when the company can obtain funds at a cost lower than its rate of return on assets. Earnings generated by such funds after deducting their costs result in additional earnings to the shareholders without increasing their own investment. As a result, the Earnings Per Share (EPS) increases. However, excessive leverage may prove dangerous due to the risk attached to borrowings. Hence the success of leverage depends on striking a balance between risk and return (risk return trade-off). Financial leverage can be measured in the following manner:

$$\text{Financial leverage} = \frac{\text{Earnings Before Interest and Taxes (EBIT)}}{\text{Earnings Before Tax (EBT)}}$$

A greater ratio indicates use of high leverage.

$$\text{Degree of Financial leverage} = \frac{\text{Percentage change in EPS}}{\text{Percentage change in EBIT}}$$

While using financial leverage, due concern should be given for operating leverage also. When there exists fixed expenses in the total operating expenses of a concern, the concern is said to be using operating leverage. In the presence of fixed costs, a certain percentage change in sales causes a higher percentage change in operating profit. Hence, operating profit is a necessary

pre-requisite for a favourable financial leverage. A firm with a high operating leverage should not have a high financial leverage. The degree of operating leverage depends upon the amount of fixed charges in the cost structure.

$$\text{Degree of operating leverage} = \frac{\text{Contribution}}{\text{Operating Profit or EBIT}}$$

when the ratio approaches one, operating leverage is said to be low.

Combined effect of Financial and Operating leverage measures their interaction on a firm.

$$\begin{aligned} \text{Degree of total leverage} &= \text{Financial leverage} \times \text{Operating leverage} \\ &= \frac{\text{EBIT}}{\text{EBT}} \times \frac{\text{Contribution}}{\text{EBIT}} = \frac{\text{Contribution}}{\text{EBT}} \end{aligned}$$

For the formulation of a capital structure decision, an EBIT-EPS analysis would be helpful. This analysis shows the sensitivity of EPS to changes in EBIT under different financial alternatives. The alternative from which the maximum EPS is generated can be selected.

Operating leverage causes a change in sales volume to have a magnified effect on EBIT. If financial leverage is superimposed on operating leverage, changes in EBIT have a magnified effect on EPS.⁹

On striking the indifference EBIT point - the level of EBIT for which the EPS is same under two alternative financial plans - an assessment of the probability of EBIT's falling below it is made. If the probability is negligible, a financial alternative which calls for more debt in the capital structure may be considered. If the EBIT is below the indifference point or if the probability of EBIT's falling below the point is high, equity is preferable to debt financing. On the other hand, if the EBIT is above the indifference point or if the probability of its falling below the level is very low, the opposite holds.

3.1.3 Cost of Capital

Needless to say, no ideal financial decision-making is possible by ignoring cost of capital. The financial profitability of a project is measured by keeping the cost of funds as a parameter.

The importance of cost of capital has been explained by an eminent scholar as, "The cost of capital is critically important in finance. First, capital budgeting decisions have a major impact on the firm, and proper capital budgeting procedures require an estimate of the cost of capital. Second, many other decisions, including those related to leasing, to bond-refunding, and to working

capital policy require estimates of the cost of capital. Finally, maximising the value of a firm requires that the costs of all inputs, including capital, be minimised, and to minimise the cost of capital we must be able to calculate it".¹⁰

In capital budgeting decision, cost of capital is used as a decision criterion. It is the discount rate used in evaluating the desirability of investment projects. A project is accepted if it has a positive net present value when the cash flows are discounted at the cost of capital, in the Net Present Value method. In the Internal Rate of Return method, the project is accepted if it has a rate of return greater than the cost of capital. If viewed this way, cost of capital is the minimum rate of return required on investment projects. It is the cut-off, or the target, or hurdle, rate.¹¹ "The cost of capital, then, represents a cut-off rate for the allocation of capital to investment projects; in theory, it should be the rate of return on a project that will leave unchanged the market price of the stock. In this sense, the cost of capital is the required rate of return needed to justify the use of capital".¹²

From the corporation's point of view, it is the cost of obtaining funds. According to an investor, cost of capital is the average return that he expects after having

invested proportionately in all the securities of the corporation.¹³ It is also described as the minimum return an investor would be willing to accept for investing funds in a particular project. This concept of a required rate of return applies just as much to the purchase of loan stock in a company as it does to the purchase of equity. The rate of return will depend on the form his investment takes (loan, equity, preferred stock, convertibles etc.) and the risk attached to the particular company.¹⁴

The cost of capital may be taken as the most difficult and controversial topic in Finance. In theory, it is mostly accepted that it is the rate of return on the project that leaves unchanged the market price of the firm's stock. But in practice, there exists differences of opinions as to how this cost should be measured.¹⁵ However, certain general framework has been proposed on the basis of which costs of various sources of capital are computed. Once the costs of various sources are found out, these costs are combined to obtain an overall cost or weighted average cost of capital to the firm.

In financial decisions, it is the weighted average cost of capital used as an acceptance criterion (weighted average cost of capital includes costs of equity-capital, preference capital and long term loans). "The rationale

behind the use of a weighted average cost of capital is that by financing in the proportions specified and accepting projects yielding more than the weighted average cost, the firm is able to increase the market price of its stock over the long run. This increase occurs because investment projects accepted are expected to yield more on their equity-financed portions than the cost of equity capital, K_e . Once these expectations are apparent to the market place, the market price of the stock should rise, all other things remaining the same".¹⁶

If the firm earns a return at least equal to the cost of capital, the market value of the firm remains unchanged. If the firm earns more, the excess earnings result in increased value of equity and also the market value of the firm. A reduction in the cost of capital (return on assets remaining the same) also fruitfully increases the value of equity and the market value of the firm. Thus cost has an inverse relationship with the market value. the capital structure that minimises a firm's weighted average cost of capital also maximises the value of its stock".¹⁷

Cost of capital is dependent on various factors. Nature of business, types of sources of finance, availability of funds, conditions in the capital market, proportions of debt and equity in the capital structure, financial

and business risks of the firm etc., are important among them. Among these, risk factor needs special attention. From the view of investors, the risk attached to the invested amount varies with the length of the periods for which the investment remains tied up in the business. The greater the length, the more is the risk from the investors' point of view, and consequently, the higher is the expectation of the investors.¹⁸ Risks of various kinds influence cost of capital.

3.1.4 Risk

The term risk is ordinarily used to mean in a negative sense though it may have positive consequence also. Grunewald says: "Risk implies the possibility of loss but also implies the prospect of gain. Suppliers of capital, in addition to demanding compensation for exchanging present funds for future funds, also require a chance for gain at least commensurate with the chance of loss which they expect. What really happens is that when the expected chance for loss is high, the supplier of capital demands a great chance for gain".¹⁹ Thus the expected returns and costs depend mainly on risk. The more the risk attached to a source of capital the greater will be its cost.

There are various factors that cause differences in actual cost and pure cost of funds. Put differently, in actual practice, the effective cost of capital may not be the same as its contractual cost. Effective cost can be computed by considering the contractual cost and other implied costs connected with the funds raised. But contractual cost is explicit which is agreed to be given to the suppliers of funds as provided in the indenture in the case of bonds issue. The inequilibrium in these costs is perhaps due to the operation of risk.

There are five aspects for the element of risk which are closely intertwined and which cannot be separated in any particular case, with precision. They are, the business risk, the financial risk, the purchasing power risk, the money rate risk and the market risk.²⁰

Business risk is an unavoidable risk in a given set of circumstances. It is the risk connected with default or variability of income from an investment in a particular business. "Business risks are those inherent in the firm's operations and are influenced by management policies, economic conditions, consumer demands and so on that contribute to variations in earnings before interest and taxes".²¹ It is related to the investment decisions or asset mix of the firm. It refers to the variability in return on assets. Such a variability is the result of the environment in which the firm has to operate.²²

Business risk also depends upon the operating leverage. High degree of operating leverage is characterised by the presence of high fixed costs. If the fixed costs are very high, even a slight variation in sales can deteriorate the earnings before interest and taxes.

Financial risk is associated with the financing decisions of the business. "Financial risk describes a firm's ability to meet its financial obligations such as interest on borrowed funds and preferred stock dividends. The degree of financial risk depends on the proportion of borrowed funds and the variability of earnings. Firms that are financed entirely with common stock have no financial risk. Those that have large proportions of long term debt have a high degree of financial risk.²³ Financial risk is related to financial leverage. For a firm which uses financial leverage, variability of earnings may lead to default in honouring financial commitments, both revenue and capital. Further, there is a probability of insolvency also. This is the behaviour of financial risk. "Financial risk encompasses both the risk of possible insolvency and the variability in the earnings available to common stock holders".²⁴

Financial risk is an avoidable risk. If the capital structure is made debt free, the firm is absolutely relieved of this risk.

Purchasing power risk is that risk which is caused by changes in the purchasing power of money due to price level changes. All securities are subject to such risk. Therefore, the suppliers of funds, especially long term investors, demand a rate of return which they anticipate would cover the expected decline in the purchasing power of money.

Money rate risk is the risk related to the changes in interest rates. This risk "refers to the premium in yield demanded by suppliers of capital to cover the risk of changes in interest rates. As with purchasing power risk, prior claim security holders, particularly high-grade bond holders, are more sensitive to this form of risk... even slight changes in expectations of future prices of interest rates have an important effect on the prices of these securities".²⁵

Market risk is the inability to liquidate the security as and when the security holder wishes to do so. In an attempt to sell the securities quickly, he may have to offer a substantial discount from the usual market price. This feature makes the supplier of capital expect a premium to compensate for the assumption of the risk.²⁶

3.2. Theories of Capital Structure

Considerable attempts have been made so far in the area of Corporate Capital Structure with a view to identify a model capital structure. Academicians, professionals and researchers are still on the look out. Day by day the problem is becoming more and more complex.

The thinking on this line became significant when the profit maximisation as a business objective, which was developed in the early 19th Century, began to shift towards the shareholders' wealth maximisation objective. The profit maximisation objective was relevant only with respect to business concerns which used only the owners' capital and which were managed by the owner manager, when the firm began to use various types of capital - broadly, owners' capital and creditors' capital - and when the management began to separate from ownership. As a result, in the modern world, profit maximisation is regarded as unrealistic, inappropriate and immoral.²⁷ Wealth maximisation, the present day objective, is more realistic which takes into consideration the time value of money, cost and risk factors. It is consistent with the maximisation of owners' economic welfare which is reflected in the market value of shares. Since business concerns employ different types of capital and they carry costs of different

magnitudes, it is on the financial decisions the core of wealth maximisation rests.

The traditional role of a financial manager which was mainly confined to problems relating to raising of funds proved inadequate in the mid 1950s. Now he is no more a staff officer who is vested with the responsibility of raising funds, maintaining records, preparing reports etc. He is rather entrusted with the responsibility of shaping the fortunes of the enterprise and is involved in the most vital decision of the allocation of capital. Significantly, it is in his decision that the value maximisation objective turns to be a reality.

Firms use a variety of funds for financing their projects. Usual forms are equity share capital, preference share capital, debenture and other long term loans, medium and short term loans, bank borrowings, trade credit etc. Among these the fixed charges funds form the basis for financial leverage. It is in this context that a financing decision demands concern.

Many a time a financing decision is talked about to mean the relationship between Equity and Long Term Debt and their costs. (Short term debts are excluded based on the view that they are free from explicit costs). A firm's value is dependent upon its expected earnings or on the cost of capital, or both .²⁸

As mentioned earlier, a financing (capital structure) decision is very relevant when there is a combination of debt in the capital structure. For the employment of debt, various theoretical explanations have been given by many researchers and financial experts. Scholars like David Durand, Ezra Solomon, Modigliani and Miller, Donaldson, S.C. Myers, Haim Ben Shahr, Ronald Masulis, Kim etc., have made extensive contributions to the theories of capital structure. Some considered the cost of funds as the main determinant of an optimum capital structure; others concentrated mainly on risk factor and certain others focused their attention on corporate taxes too. Theories which related cost and corporate taxes also are not rare. For ensuring more and more precision and perfection on the theoretical framework, efforts are still being continued.

Debates relating to the controversial issues regarding existence of an optimum capital structure, might have boosted up the thinking on modern lines. David Durand himself has identified both the views--Net Income approach (NI) and Net Operating Income approach (NOI).²⁹ The Net Income approach establishes that a capital structure at which the value of the firm is maximum can be achieved. Accordingly, the firm can increase its market value or lower the average cost of capital by increasing the debt funds in the capital structure. The theory states that due to increased use of financial

leverage the overall cost of capital, K_0 , decreases as the cost of debt, K_d , is less than the cost of equity, K_e . Thus K_0 approaches K_d when $\frac{\text{Market value of debt}}{\text{Market value of the firm}}$ approaches 'one'. In other words, a firm attains its maximum market value when it employs maximum amount of debt in its capital structure. The above contention is on the assumption that the use of debt does not change the risk perception of investors. However, this approach is not practically feasible. In the practical situation, risk avoidance is not possible. Increased risk naturally has a bearing on the cost of capital which would affect the value of the firm.

NOI approach, another approach put forward by Durand, brings into scene a capital structure irrelevance argument. According to this view, it is assumed that financial leverage increases the risk perception by the shareholders and the debt advantage is exactly offset by the increased cost of equity, K_e . Accordingly the total value of the firm remains unchanged irrespective of financial leverage. In other words, the advantage associated with the use of debt (supposed to be cheaper than equity) in terms of explicit costs is exactly neutralised by the implicit cost represented by the increase in K_e . As a result, the real costs of debt and equity are the same and equal to K_0 . Hence, financial leverage does not have any influence on the total value of a firm. There is no capital structure which is designated as optimum.

However, these approaches are not supported by the financial experts with the traditional view. The traditional financial theory states that investors do not become concerned about the increased risk until the amount of a company's debt grows sufficiently large to threaten it with bankruptcy.³⁰ It implies that the value of a firm can be increased by a reasonable degree of financial leverage. Upto that limit, the cost of capital declines due to the fact that debt is cheaper than equity. Therefore the weighted average cost of debt and equity together will be less than the cost of equity before debt financing.³¹ Upto the reasonable limit as said earlier, the 'K_e' rises slightly with leverage but not as fast as to cancel out the advantage of low cost debt. A further increase in leverage has a negligible effect on the value as well as cost of capital. This stage leads to the optimum capital structure. Beyond that stage a further addition of debt increases the cost of capital which implies reduction in the value of the firm. Thus the traditional theory asserts that the cost of capital is a U shaped function of the capital structure.³²

The dimensions of capital structure thinking has been widened by Modigliani and Miller by introducing a model proposing that capital structure is irrelevant.³³

This is a total value principle which is an elaboration of the NOI approach in terms of three propositions, viz.,

(1) The value of a firm is independent of its capital structure changes. That is, the changes in the composition of debt or equity in the capital structure do not influence the firm's valuation and the cost of capital. But it is the function of the net operating income.

(2) The cost of equity (expected yield on equity) of a levered firm = cost of equity of an unlevered firm + a risk premium.

$$\text{ie., } K_{el} = K_o + (K_o - K_d) D/S$$

where K_{el} = Cost of equity of levered firm.

K_o = Cost of equity of an unlevered firm
(cost of capital)

K_d = Cost of debt

D = Market value of debt

S = Market value of equity

Thus K_e is a linear function of D/S .

(3) The cut-off rate for investment decision making for a firm in homogeneous risk class (equivalent risk class), K_e , is not affected by the manner in which the investment is financed. The investment and financing decisions are independent because the average cost of capital is not affected by the financing decision.

The capital structure irrelevance proposition holds good only in a situation when the capital markets are perfect, investors are rational and they have homogeneous expectations about future earnings, firms can be grouped into homogeneous risk classes and there is no income tax (corporate and personal).

While cost of capital (K_0) curve is a saucer shaped function of the capital structure according to the traditional theory, the M.M. version of the theory asserts that in a world free of tax, the cost of capital is independent of the firm's capital structure. The overall cost of capital, K_0 , is static for all levels of leverage from $L = 0$ to $L = \infty$. The theory does not favour the argument that two firms, identical in all respects except for their capital structure, have different market values or have different cost of capital. If these firms have different market values and costs of capital, arbitrage would take place to enable the investors to engage in personal leverage as against the corporate leverage until the return from the unlevered firm would be equal to that of the levered firm or vice versa.

This approach had been subjected to so many criticism. The practical application of the homemade leverage in United States had been questioned by Durand.³⁴

Even though, inherently there exists sharp controversies regarding the practical utility of the theory formulated by Modigliani and Miller, needless to say, they have, in fact, added stimulus to thinking on the leverage problem in modern lines. Wipperfurth totally rejects the M.M. assumption of homogeneity of risk and argues that firms within an industry cannot be of homogeneous risk class.³⁵ His main finding from analysing the data variables of fifty firms in seven diverse industries was that shareholder's wealth is enhanced by the firm's judicious use of fixed commitment financing (Traditional view). He argues that the capital markets are not sufficiently perfect to validate the M.M. arbitrage argument and, in addition to tax effects, firms do gain by employing a mix of financial resources.³⁶ David Durand also holds the similar view that the capital markets are not at all perfect. The corporate borrowings would be controlled (limited) by the lenders.³⁷ The working of arbitrage process has got limited validity. It is more theoretical and logically inconsistent. Market imperfections exist in capital markets in the real world. A perfect market as pointed out by M.M. is a matter of suspect. Therefore, there may be necessarily differences between market values of levered and unlevered firms. Even though there are rational investors, purchase and sale of securities without transaction costs, personal borrowings in the very similar style as the corporation does, grouping of firms

according to homogeneous risk class, conveyance of capital market information etc., are far from reality. Girish Jakhotiya raised a strong criticism against the M.M. proposition. He argues that this model is highly theoretical and that profitable companies, by increasing the financial leverage, can fruitfully enjoy the benefit of trading on equity. He has favoured the use of financial leverage on various measures.³⁸

But in their 1963 article, M.M. modified their proposition in a startling fashion and came to the conclusion that the value of the firm would increase or the cost of capital would decrease with leverage due to the deductibility of interest for tax purposes (and non-deductibility of dividend and retained earnings). In a world of tax, value of the levered firm, V would be greater than the value of the unlevered firm, V_u .³⁹ It implies that where corporate tax is considered, the cost of capital goes on decreasing with more and more leverage. This might not be true because "under perfect markets, the cost of debt cannot exceed the overall capitalisation rate of a pure equity firm. As a result, the cost of capital cannot decline continuously with leverage rather a minimum point will be reached at some level of leverage".⁴⁰ Solomon also puts an argument in this way, "whether, in a tax free world, the traditional view that K_0 does fall is correct, or whether the Modigliani-Miller argument that K_0 does not fall is correct, in a world of

taxable corporate incomes in which interest payments are tax deductible, everybody agrees that upto a certain 'judicious' limit of debt, Ko declines as leverage is increased".⁴¹ He says that as far as the leverage effect alone is considered, there exists a clearly definable optimum position, ie., the point at which the marginal cost of more debt is equal to, or greater than, a company's cost of capital.

The M.M. model of 1963 was further modified by Miller by incorporating personal taxes also. Miller opines that eventhough interest payments are fully deductible for corporate tax purposes, the value of the firm, in equilibrium would still be independent of its capital structure. Thus with the introduction of progressive income tax, his model has the similar conclusion as in the original M.M. model. Accordingly, the corporate tax shield is exactly offset by the personal income tax on interest payments when full statutory tax is paid by the firm.⁴² It is also a capital structure irrelevance argument. He tries to establish that even with taxes, leverage does not have effect on the firm value.

Richard Castanias criticises the capital structure irrelevance argument of Miller empirically. He has found that the bankruptcy costs have a significant influence on the corporate capital structure decision. He does not

think bankruptcy costs unimportant as assumed by Miller. He examines a general cross sectional prediction of the Tax Shelter Bankruptcy Costs (TS-BC) hypothesis. The relationship between bankruptcy and leverage ratios has been estimated. Results of the analysis have been found inconsistent with Miller's irrelevance hypothesis but consistent with a (variation of) TS-BS hypothesis that firms choose value maximising mixes of debt and equity on account of bankruptcy costs and the tax deductibility of interest payments.⁴³ Alan Kraus and Robert Litzen Berger have shown that the total market value of a firm is not in general a concave function of financial leverage. In their valuation model they introduced corporate taxes and bankruptcy penalties. According to them, the firm's financing mix determines the states in which the firm earns on its debt obligation and receives the tax savings attributable to debt financing and also determines the state in which the firm is insolvent and incurs bankruptcy penalties.⁴⁴

Alex Kane and others try to find an answer to the question, "What magnitude tax advantage to debt is consistent with the range of observed corporate debt ratios?"⁴⁵ Their attempt is to see whether the model formulated by them can potentially account for the observed range of debt equity ratios in the United States. The model formulated is for a levered firm with bankruptcy costs incorporating personal taxes. They found that differences across

firms in bankruptcy costs alone cannot account for the simultaneous existence of levered and unlevered firms. A simulation analysis to determine a reasonable cross-sectional range for optimal debt ratios, given the tax advantage to debt indicates that if the tax advantage to debt is small, then the cost substantially deviating from the optimal debt ratios is small. They opine that there is the possibility that other factors, such as moral hazard considerations, may be more important determinants of debt policy than traditional tax and bankruptcy cost considerations. It is concluded that the tax advantage/bankruptcy cost trade off is unlikely to play a major role in explaining observed leverage patterns.⁴⁶

Masulis examines the valuation effects of leverage altering capital structure changes. The study estimates the impact of change in debt levels on firm values. Capital structure changes due to issuer exchange offers and re-capitalisations have been studied. (These do not involve any asset structure changes). The most important findings of his analysis are:

- (1) Stock prices and firm values are positively related to changes in debt levels and leverage;
and
- (2) Changes in non-convertible senior security prices are negatively related to these capital structure changes.⁴⁷

Joseph and Steven speak of tax advantage of debt in their paper. They present detailed estimates of the marginal effective tax advantage. The estimates quantify the impact of increasing interest deductions. A significant wedge between the statutory and effective tax rate is implied by their estimates. Significant variations in the after tax marginal cost of debt faced by different firms and industries were also observed.⁴⁸

Warner made an attempt to weigh the cost of bankruptcy by analysing the data which the Interstate Commerce Commission (ICC) reported for eleven rail-road firms which were in bankruptcy proceedings between 1933 and 1955. He could find that the cost of bankruptcy was on an average about one per cent of the market value of the firms prior to bankruptcy. But the data covered only the direct costs of reorganisation in bankruptcy. Indirect costs due to the lost sales, lost profits inability and inefficiency to obtain credit etc., were not taken into account though, according to him, it might be substantial. So the empirical evidence rests in a limited range only. The influence of the bankruptcy costs on debt, therefore, cannot be precisely seen. The ratio of direct bankruptcy costs to the market value of the firm, he says, appears to fall as the value of the firm increases. It implies that for larger firms the bankruptcy costs might be smaller and it cannot do much for computing cost of debt.⁴⁹

Myers gives a description of the "Static trade off hypothesis". According to the hypothesis, a firm's optimal debt ratio is usually viewed as determined by a trade off of the costs and benefits of borrowing without changing its asset and investment plans. The firm is portrayed as balancing the value of interest tax shields against various costs of bankruptcy or financial embarrassment. Though there are controversies regarding how valuable the tax shields are and which of the costs of financial embarrassment are material, the disagreements are mere variations on a theme. Until the value is maximised, the firm is supposed to substitute debt for equity or vice versa.⁵⁰ The models of Kraus and Litzen Berger⁵¹ (op.cit) and Kim⁵² also trade off the tax advantage of debt against the cost disadvantages of bankruptcy.

J.Michael Pinegar and Wilbricht in their survey, finds little support for the static trade off models. The survey examines the extent managers use the assumptions and/or inputs of capital structure models generated by academicians in making financing decisions.⁵³ According to them corporate managers (in their sample) are more likely to follow a 'Financing hierarchy' than to maintain a target debt equity ratio. In Financial hierarchy internal equity is the most preferred source, external equity is the least and the straight and convertible debentures in the middle. They have concluded by saying that,

in general, financial planning principles are more important in governing the financing decisions of the firm than the specific capital structure theories.

Myers also says about the Pecking Order Theory.⁵⁴ It is a model in which a firm prefers internal to external financing. If the firm issues securities, debt is preferred to equity. In the pure Pecking Order Theory, the firm has no well-defined target debt-to-value ratio. According to the Pecking Order Theory the firm's financing decision are as follows:

Firms prefer internal finance. They adapt their target dividend pay out ratios to their investment opportunities, although dividends are sticky and target payout ratios are only gradually adjusted to shifts in the extent of valuable investment opportunities. Sticky dividend policies, plus unpredictable fluctuations in profitability and investment opportunities, mean that internally-generated cash flow may be more or less than investment outlays. If it is less, the firm first draws down its cash balance or marketable securities portfolio. If external finance is required, firms issues the safest security first. That is, they start with debt, then possibly hybrid securities such as convertible bonds, then perhaps equity as the last resort. In this, there is no well defined target equity debt composition.⁵⁵

Certain financial purists have diverted their attention in suggesting guidelines for capital structure policies and decisions. Some speak of the determination of the capacity to hold debt and others give description of the components to be included in the Debt/Equity Composition. Girish Jakhotiya has dealt with the components to be included in D/E ratio according to Indian requirements. A suggestion is made for the inclusion of preference share capital as a part of debt fund. He is of the view that depreciation reserve also should be included as a component of equity.⁵⁶

Seymour Friedland explains the importance of the ratio of $\frac{EBIT}{I}$ and the ratio of debt and equity to determine the capacity to hold debt in the capital structure. "The capacity of a firm to hold debt in its capital structure is sometimes tested by the two operating statement ratios: the ratio of earnings before interest and taxes to interest, called the times interest earned; and the ratio of debt to equity. A large times-interest-earned ratio and a low debt/equity ratio would indicate a safe firm, and the reverse".⁵⁷ It is more or less, a conservative approach which does not permit for high leverage.

Another scholarly view is to consider the interest cover as the measure of capital structure decision. It is said that the lender or borrower determines a cover and

uses it as a criterion with which a potential level of debt is to be judged. The maximum level of debt the firm wishes to carry and the management's risk preferences are influenced and reflected by the interest coverage ratios so chosen. The lower the required amount of cover, the more debt can be carried, but correspondingly, the greater the possibility of default and liquidation.⁵⁸ This is a conservative approach which does not permit limitless leverage due to the impact of risks of default and bankruptcy. "A firm may borrow so long as incremental returns from borrowing exceed incremental costs of borrowing, taking into account the additional risks that may be involved by incurring more debt".⁵⁹

All these are the theoretical discussions made on the capital structure problems. However, a model capital structure or an optimum capital structure still remains as a problem yet to be solved.

3.3 Guidelines for Debt-Equity mix

In India, the significance of 'Capital Structure' was felt in the official level, probably for the first time, when the Government of India in 1961 suggested a Debt-Equity ratio of 1:1 for public sector undertakings.⁶⁰ The Ministry of Industrial Development also held the similar view.⁶¹ But

in 1967 the Administrative Commission felt that the ratio could not be prescribed as a rigid one for all undertakings. It was also opined that separate norms were to be presented for capital intensive units and trading concerns. Committee on Public Undertakings (COPU) also had made a similar suggestion.⁶² The government began to think on more practical lines other than sticking on a 50:50 criterion. The government in a circular recognised the fact that the borrowings had a direct influence on the profitability and it wanted this fact to be taken into account in the preparation of feasibility studies and detailed project reports so that right Debt-Equity ratio might be decided for a project. In principle, the government agreed to consider individual cases on merit even though the original decision of 1:1 still remain unchanged.⁶³

For the public companies, the Capital Issues (Control) Act allowed a Debt-Equity ratio of 2:1. For capital intensive industries a larger proportion of debt was permitted.⁶⁴

The financial institutions have their own norms in this regard. For example, IFCI suggested the following norms:⁶⁵

<u>Type of companies</u>	<u>Debt-Equity ratio</u>
Medium and Large Scale Projects	2:1
Highly Capital intensive Projects	3:1
Project with a capital cost of below Rs.5 crores	1:1 to 1.5:1
Project with a capital cost of Rs.5 crores to Rs.10 crores	1.5:1 to 2:1
Projects with a capital cost of more than Rs.10 crores	2:1 or more

These norms were taken as broad guidelines of general indicator.

The inadequacy of the governmental norms and guidelines had been criticised even in the 1970s. There was a strong suggestion for a higher Debt-Equity ratio. For instance, the President of Indian Paper Mills Association argued that, "in view of the magnitude of investments involved the Debt-Equity ratio should be raised to 3:1".⁶⁶ The President of the Association of Synthetic Fibre Industry also pleaded for such revision.⁶⁷ Similar suggestions for higher revisions have resulted in permitting high debt component in the capital structure of certain industries. For example, a ratio of 4:1 for manufacturing companies had been allowed. For shipping companies it hovers around 5:1 to 6:1.

This was not favoured by the financial institutions. The lending institutions were not entertaining high ratios for the purpose of lending. For instance, ICICI is unwilling to extend credit if the firm's Debt-Equity ratio is more than 2:1. The norm adopted by SBI for providing working capital was 2.5:1. The ratio insisted by Bank of India was 2.75:1. Bank of Baroda allows a much higher ratio of 3:1.

The main reasons for such strict norms were the growing popularity of equity and the desire of banks and financial institutions to participate in equity. Another reason is that with funds becoming scarce and costly companies try to trim Debt-Equity ratio by tapping the market. To quote the Treasurer of Hindustan Levers Ltd., "In a stable environment, it is possible to service high debt but in an uncertain and volatile scenario even a small shock could badly hit a highly geared company".⁶⁸ According to Pradip Shah, M.D., CRISIL, in a competitive environment, even 1.5:1 ratio was too high.⁶⁹

However, it is not an easy task to determine a standard ratio. It depends a variety of factors such as the nature of industry, state of capital market, availability of institutional finance, government policy, interest rates, investors' choice etc.⁷⁰ Above all, the operating earning of the business must be sufficiently greater than the interest payable on debt.

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CHAPTER IV

PATTERNS OF CAPITAL STRUCTURE

The focus of the present chapter is on the patterns of capital structure in the state, private and central sector manufacturing undertakings in Kerala. The analysis of various patterns of capital structure is significant in itself in that a capital structure is the combination of various long term sources of capital classified generally under two broad heads viz., equity and debt. Since the costs of these sources are not always alike, its combination in various proportions has an impact on the financial performance of companies.

In the manufacturing undertakings of Kerala, three patterns of capital structure are found. They might be classified as debt intensive, equity intensive and a pattern with debt alone. The first two patterns are quite common. But the capital structure without equity capital is not very common. As special cases, it is the feature of the Kerala State Electricity Board, Kerala State Housing Board and Kerala Khadi and Village Industries Board. These undertakings are financed by grants from Government, Debentures, Reserves and loans from Government, financial

institutions, public etc. In all other cases the capital structure includes debt and equity in varying proportions over the time.

Each type of capital structure has its own merits depending upon the circumstances. However, unless the operating earnings are large enough to bear the fixed financial commitments, it is not advisable to employ more debt in a capital structure.

The significance of a capital structure (financing) decision rests on how efficiently various elements of capital are combined in the capital structure so as to offer maximum benefit to the owners.

Here an attempt is made to compare the capital structure patterns as adopted by the state sector manufacturing enterprises with that adopted by the other two sectors.

Methodology

In the study, the patterns of long term financing as reflected in the financial statements of companies have been analysed. Financial statements, when properly analysed and interpreted, reveal a variety of valuable information. For the purpose, the balance sheet figures of companies have been converted mainly in terms of percentages and ratios.

The chapter is divided into 6 sections. The first section deals with an evaluation of the Debt-Equity ratios. The second section is designed to relate debt and paid up capital (another version of Debt-Equity ratio). The results of these two sections, when compared, will give an idea about the role of reserves and surpluses in capital financing. Section three makes an evaluation of sources of finance. The fourth section deals with the relation between equity share capital and reserves. The fifth section evaluates the accumulated losses in relation to the total assets. The Sixth section contains the sectorwise comparison of patterns of capital structure.

Section I

4.1 Debt-Equity ratios

Determining a capital mix with debt and equity is relevant both for profit making and loss making concerns. Profitable concerns can leverage the capital structure with debt for magnifying the wealth of share holders through increased rates of returns so long as the cost of debt is less than the expected return on equity. For a loss making concern, debt in the capital structure will increase the intensity of loss through the fixed interest charges.

The present analysis begins with the company wise differences in the capital structure within the State as

evidenced by the proportion of paid up capital plus reserves to long term borrowings.

4.1.1 State Sector

The estimated ratios reveal that the patterns of capital structure of the state sector manufacturing enterprises remain tilted in favour of debt. Six out of twelve undertakings have debt ratios of more than two on an average. TELK and KSO top the list with 3.31 and 3.34 respectively (Table 4.1). The long term loans of TELK which was Rs. 1,301 lakhs in 1980-81 had increased to Rs. 3,018 lakhs by 1989-90. In certain years the proportion of debt had been very high. For example, in 1983-84 the debt component in the capital structure was 83 percent of total long term capital. Long term borrowings were Rs.2,230 lakhs as against an equity of Rs.459 lakhs. KSO had a debt of Rs.431 lakhs against the equity of Rs.150 lakhs in 1980-81. Towards the end of 1989-90 the debt had grown to Rs.1,091 lakhs against an equity of Rs.196 lakhs (Appendix 1). In other words, the long term debt in the capital structure was as high as 85 percent. Most of the debt ratios over the period were more than 3, the average working out to 3.24. Out of the twelve companies, only three concerns viz., TCC, TTP and TCL appear to have had lesser proportion of debt in their capital

Table 4.1

Debt-Equity Ratio (State Sector)

=====

YEARS	TRACO	KREL	TELK	TCC	KSD	KSDP	KMM	KSDC	TTP	KCCL	SCJ	TCL	Sect. Mean
1980-81	0.73	3.20	2.50	1.98	2.87	0.47	0.21	2.05	0.96	2.82	1.99	0.01	0.92
1981-82	0.70	3.70	3.70	1.72	3.66	0.97	1.17	2.13	1.03	2.95	2.20	0.01	1.21
1982-83	0.56	2.47	3.98	1.35	2.93	1.08	1.90	2.63	1.19	3.93	2.16	0.01	1.23
1983-84	0.32	2.73	4.85	1.47	2.46	1.46	2.21	2.60	1.23	3.73	2.62	0.18	1.60
1984-85	0.12	2.98	1.86	0.97	2.74	1.24	2.60	2.07	1.04	3.06	1.24	0.01	0.94
1985-86	0.18	3.25	4.15	0.59	3.06	1.40	2.95	2.06	0.82	2.66	0.62	0.09	1.14
1986-87	0.82	2.62	4.66	0.59	3.34	1.59	3.29	2.34	0.42	1.97	0.38	0.19	1.25
1987-88	2.20	2.10	2.87	0.43	3.12	1.81	3.63	2.62	0.01	1.26	0.22	0.18	0.85
1988-89	3.19	1.62	3.09	0.25	3.49	2.07	3.57	3.91	0.01	1.14	0.49	0.11	0.90
1989-90	2.11	1.52	2.78	0.06	5.57	2.53	3.51	5.47	0.01	1.85	0.64	0.04	0.80
G Mean	0.69	2.52	3.31	0.66	3.24	1.34	2.03	2.64	0.23	2.35	0.93	0.04	1.06
STD	0.99	0.68	0.93	0.63	0.82	0.55	1.08	1.04	0.48	0.91	0.86	0.07	0.57

Source: Computed from the Annual Reports of the companies

structure, on an average. It was observed that there was wide range of variations among the firms with regard to the Debt-Equity ratios. The average ratios varied between 0.04 to 3.31. Quite a few enterprises seemed to have employed low levels of debt in their capital structures. For example, TTP did not have any long term borrowings in its capital structure for the last three years of the period of analysis. The company had Rs.467 lakhs as borrowings against an equity of Rs.488 lakhs in 1980-81. Towards the end of 1986-87 the company could reduce the debt element to Rs.377 lakhs. The subsequent years did not record any long term loans. Similarly, TCL had not been employing any long term borrowings for the first three years of analysis and in 1985. The ratios of the remaining years ranging from 0.19 to 0.04 showed that the company had not been employing any significant amount of borrowings for its capital financing. TCC is another example where the company had been consistently reducing its debt element in the capital structure and this is clear from the Debt-Equity ratios which came down from 1.98 to 0.06. There was Rs.1,578 lakhs as long term borrowings in 1980-81 which had been reduced to Rs.78 lakhs in 1989-90.

Certain concerns showed increasing tendencies towards borrowings. For example, the long term borrowings of KSDP which was Rs.124 lakhs in 1980-81 increased to as high as Rs.1,417 lakhs by 1989-90. In other words, the borrowings grew

by more than 11 times in a period of ten years, while the equity share capital only doubled from Rs.210 lakhs to Rs.420 lakhs. Consequently, the company's debt proportion increased from 0.47 in 1980-81 to 2.53 in 1989-90. KMM is another example where Debt-Equity ratios recorded significant increases over the years with the highest rate of fluctuations. A ratio of 0.21 in 1980-81 increased to 3.51 in 1989-90. Longterm borrowings in 1980-81 was Rs.428 lakhs. In the ten years period, the borrowings reached as high as Rs.11,229 lakhs (an increase by 26 times), while the owners' equity increased from Rs.2,034 lakhs in 1980-81 to Rs.3,199 lakhs in 1989-90. KSDC's borrowings moved from Rs.219 lakhs to Rs.941 lakhs during the period of ten years. It is interesting to note that the increase of equity was from Rs.107 lakhs to Rs.172 lakhs. The debt had increased by more than 5 times the equity in 1989-90. During the second half of the decade beginning with 1985-86, Traco Cables also appeared to have developed a tendency towards borrowings. Loans in this period rose from Rs.70 lakhs to Rs.2,179 lakhs while the increase in owners' equity was from Rs.388 lakhs to Rs.1,031 lakhs.

It is, therefore, evident that borrowings constitute the single largest source in long term financing in the state sector. The sectoral averages show the Debt-Equity proportions of the state sector over the ten years ending

in 1989-90. The ratios would have been still higher had there not been the reducing influence of ICC, TTP and TCL.

It is also observed that most of the profit making concerns employed low levels of debt in their capital structure (TCL, TTP, ICC and Traco Cables). KEL and KCCL are the only exceptions. In other words, the intensity of borrowings was more predominant in loss making concerns.

The analysis revealed that most of the profitable enterprises followed a conservative policy of employing higher proportions of equity in their capital structure while the loss making concerns employed higher proportions of debt.

4.1.2 Private Sector

Table 4.2 exhibits the Debt-Equity proportions of the manufacturing enterprises in the Private Sector. It discloses that eight out of fourteen companies studied had average Debt-Equity proportions ranging from 0.39 to 1 over the period of analysis. Only two concerns, Premier Cables and KELW, recorded ratios as high as 4.91 and 4.52 respectively. Apollo Tyres and Alind occupied the third and fourth positions in this regard with 1.94 and 1.83 respectively on an average. It is relevant to note

Table 4.2

Debt-Equity Ratio (Private Sector)

YEARS	APOLLO	TECIL	ALIND	MIP	GTN	EXCEL	OEN	TOSHIBA	PREITER	BPL	KELM	KSL	LAYMISRI	BHAG.	SECT.	MEAN
1980-81	2.93	0.43	0.42	1.73	0.95	2.07	0.45	0.23	1.34	0.65	2.56	0.66	0.61	0.80	0.87	0.87
1981-82	3.14	0.35	0.42	1.23	1.40	1.97	0.53	0.34	2.43	0.38	2.62	0.31	1.08	0.75	0.88	0.88
1982-83	3.42	0.35	1.00	0.94	3.13	2.18	0.61	0.56	2.77	0.42	2.56	0.47	2.12	0.42	1.09	1.09
1983-84	3.50	0.27	1.15	0.74	3.05	2.05	0.91	0.36	3.06	0.39	2.39	0.47	1.94	0.54	1.06	1.06
1984-85	3.59	0.62	1.56	0.56	2.12	1.52	0.63	0.48	6.92	0.81	5.28	0.51	1.97	1.10	1.34	1.34
1985-86	1.64	1.28	1.75	0.65	1.61	1.12	0.65	0.51	7.58	0.48	6.21	0.56	0.18	1.45	1.12	1.12
1986-87	0.92	1.21	4.47	0.29	1.48	1.56	0.88	0.54	9.33	0.48	7.47	0.49	0.24	1.23	1.16	1.16
1987-88	0.77	1.40	4.52	0.28	1.16	1.99	0.73	0.72	8.81	0.61	10.95	0.26	0.22	1.40	1.16	1.16
1988-89	2.47	1.57	5.84	0.62	1.49	1.10	0.57	0.45	8.31	0.74	5.69	0.21	0.20	1.58	1.21	1.21
1989-90	0.66	2.50	6.29	0.59	1.69	0.57	0.38	0.46	8.30	0.56	5.73	0.24	0.26	0.98	1.04	1.04
6 Mean	1.94	0.77	1.83	0.66	1.69	1.51	0.61	0.45	4.91	0.53	4.52	0.39	0.55	0.95	1.08	1.08
STD	1.13	0.69	2.17	0.42	0.71	0.51	0.16	0.13	2.94	0.14	2.61	0.14	0.78	0.37	0.14	0.14

Source: Computed from the Annual Reports of the companies

that twelve out of fourteen companies had the average ratios less than 2:1, the general rate prescribed by the Capital Issues (Control) Act. The ratio of the Private Sector as a whole averaged to 1.08 which is slightly more than the State Sectoral Average of 1.06 (Table 4.2). On a close examination one could see that in most of the years, the sectoral averages of the private sector had been influenced by Premier Cables and KELW with their highest rates. The Debt-Equity ratios of Premier Cables ranged from 1.34 to 9.33. The range of KELW had been 2.39 to 10.95. In most of the other cases examined, the rates of fluctuations in the debt proportions were not as high as those in the state sector undertakings. Even though Apollo Tyres recorded significant variations, the company could reduce the influence of debt over the years. A debt ratio of 2.93 in 1980-81 came down to 0.66 in 1989-90. Similarly, TECIL showed a tendency towards borrowings especially in the latter half of the decade. But the company could maintain a proportion of 0.7:1 on an average. As against the state sector undertakings, most of the private sector concerns expressed a tendency towards reducing the debt component in the capital structure. For example, WIP, which had a debt ratio of 1.73 in 1980-81 could reduce it to 0.59 by the year 1989-90. GTN is another example, where debt proportion which had risen to 3.13 in 1982-83 came down to 1.69 towards the end of the period under study. Yet another example is Excel whose debt ratio came down from 2.07 in 1980-81 to 0.57 in 1989-90.

It is important to note that in the private sector also the profit making enterprises employ relatively lower levels of debt in their capital structure. Eight out of nine profit making concerns had average Debt—Equity ratios ranging from 0.39 to 1.69. Apollo Tyres was the only profit making concern with a relatively higher ratio of 1.94. It was due to the higher proportion of debt in the first half of the decade. However, it does not mean that the companies with very low proportion of borrowings necessarily make profit. Toshiba Anand Batteries and Laxmi Starch Co. even though with low rates of 0.45 and 0.55 respectively were loss making concerns.

4.1.3 Central Sector

Considering four undertakings in the central sector, CRL, a profit making concern, alone seems to have employed relatively more debt in the capital structure in most of the years which is evident from the Debt—Equity ratios shown in table 4.3. The ratios varied between 9.14 and 0.58. In most of the years the ratios were more than 2, the highest being in 1985-86. This has resulted in an average rate of 2.89. Till 1985-86 the company was employing more of debt. Then it began to reverse the trend by employing more of equity. In 1980-81 total longterm loans amounted to Rs.986 lakhs as against an equity of Rs.1,030 lakhs. By 1985-86 the

Table 4.3

Debt-Equity Ratio (Central Sector)
=====

YEARS	CRL	CSL	FACT	HLL	SECT. MEAN
1980-81	0.96	1.15	0.60	0.73	0.84
1981-82	2.49	0.97	0.63	0.53	0.95
1982-83	3.31	1.04	0.68	0.29	0.90
1983-84	5.73	1.18	0.41	0.12	0.75
1984-85	7.59	1.37	0.33	0.04	0.59
1985-86	9.14	1.62	0.22	0.70	1.22
1986-87	6.91	1.70	0.12	0.02	1.05
1987-88	3.80	1.97	0.21	0.84	1.07
1988-89	0.84	2.17	0.27	0.57	0.73
1989-90	0.58	2.47	0.25	0.55	0.67
G Mean	2.89	1.50	0.32	0.39	0.86
STD	2.90	0.49	0.19	0.27	0.46

Source: Computed from the Annual Reports of the companies

respective figures were Rs.24,585 lakhs and Rs.2,689 lakhs. The later years witnessed reductions in the amounts of borrowings as well as increases in the amounts of equities (Appendix III). The increase in equity was largely due to retained earnings.

CSL, though the debt proportions were not very high, had been showing an inclination towards debt financing right from 1981-82 as evidenced from gradually rising Debt-Equity ratio from 1.15 to 2.47. The equity capital increased from Rs.5,411 lakhs in 1980-81 to Rs.7,436 lakhs in 1989-90 while its long term loans increased from Rs.6,228 lakhs to Rs.18,350 lakhs during the period. It did not have any kind of retained earnings throughout the period. FACT and HLL followed a policy of employing more of equity in the capital structure throughout the period under study as evidenced by the debt ratios. A considerable rise in debt sources is not seen in the case of FACT. Longterm borrowings were Rs.7,559 lakhs in 1980-81. The corresponding figure for 1989-90 was Rs.9,211 lakhs. The growth of equity was from Rs.12,546 lakhs in 1980-81 to 34,277 lakhs in 1989-90. Similar is the case with HLL too. The ratio of FACT varied between 0.12 and 0.68 while that of HLL, between 0.04 and 0.84.

In the Central Sector, the sectoral mean values appeared to have been influenced by relatively higher ratios of CRL. However, the debt intensity is the lowest in the Central Sector. Very wide variations were not found (except in the case of CRL).

Section II

4.2 Ratio of Debt to Paid up Capital

Ratio of Debt to Paid up capital (Debt-PUC), a variation of Debt-Equity ratio, is another measure of financial leverage from a different angle. Here, the debt is related to the paid up value of share capital which does not include reserves and surpluses. The definition given by the Bureau of Public Enterprises, Kerala, for Debt-Equity ratio has been in conformity with this relationship. A higher Debt-PUC ratio in comparison with the Debt-Equity proportion would be an indication of the large proportions of retained earnings in the capital structure.

4.2.1 State Sector

Both these ratios of the state sector manufacturing enterprises do not show significant differences in most cases. For example, KMM recorded an average Debt-PUC ratio of 2.06 against a Debt-Equity ratio of 2.03 showing a difference of as low as 0.03 on an average. KAEL also recorded a similar net rate of 0.06. Still another example is KSO which recorded the net difference of 0.16 (Tables 4.1 and 4.4). The total long term loans of KMM was Rs. 428 lakhs in 1980-81. Continuous increase in borrowings led to a

Table 4.4

Ratio of Debt to Paid up Capital (State Sector)

YEARS	TRACO	KAEI	TEIK	TCC	KSD	KSDP	KMM	KSDC	TIP	KCCL	SCL	TCL	SECT. MEAN
1980-81	1.02	3.20	3.26	2.39	2.87	0.59	0.22	2.46	2.99	3.09	2.22	0.01	1.14
1981-82	1.00	3.70	4.00	2.15	3.76	1.38	1.20	2.44	2.98	3.40	2.45	0.01	1.49
1982-83	0.80	2.47	4.49	1.74	3.13	1.56	1.91	2.92	3.36	4.58	2.42	0.01	1.52
1983-84	0.42	2.73	5.59	1.57	2.59	1.95	2.22	2.89	3.22	4.01	2.64	1.00	2.17
1984-85	0.14	2.98	2.07	1.15	2.89	1.66	2.61	2.30	3.30	3.29	1.50	0.01	1.14
1985-86	0.20	3.30	4.72	0.85	3.23	1.88	2.96	2.26	3.00	3.40	0.96	0.62	1.72
1986-87	0.87	2.67	5.30	0.74	3.52	2.13	3.32	2.56	2.13	2.91	0.70	1.30	1.96
1987-88	2.21	2.22	3.05	0.64	3.29	2.42	3.66	2.90	0.01	1.64	0.41	1.10	1.16
1988-89	3.31	1.73	3.21	0.43	3.68	2.77	3.69	4.34	0.01	1.65	0.64	0.70	1.21
1989-90	2.26	1.65	2.85	0.12	5.87	3.37	3.63	6.07	0.01	1.85	0.82	0.30	1.08
6 Mean	0.82	2.58	3.69	0.90	3.40	1.81	2.06	2.96	0.54	2.82	1.22	0.13	1.42
STD	0.98	0.63	1.09	0.72	0.87	0.73	1.11	1.14	1.41	0.95	0.83	0.48	0.77

Source: Computed from the Annual Reports of the companies

figure as high as Rs.11,229 lakhs in 1989.90. Increase in the amounts of paid up capital was from Rs.1,979 lakhs to Rs.3,093 lakhs. It is interesting to note that the position of earned reserves and surpluses was rather bleak throughout the period. Total reserves varied between Rs.11 lakhs and Rs.106 lakhs. The firm had retained revenue earnings only in 1980-81 and in 1981-82 amounting to Rs.47 lakhs and Rs.44 lakhs respectively. Thereafter the only reserves available with the company were investment allowance reserves appropriated. KAEL was another company, which did not have any retained reserves from 1980-81 to 1984-85. During this period, the year wise Debt-Equity and Debt-PUC ratios were one and the same. Like wise, KSO had no reserves other than the state subsidies ranging from Rs.4 lakhs to Rs.10 lakhs. This led the Debt-Equity and Debt-PUC ratios to remain without significant differences over the period. The average ratios recorded were 3.24 and 3.40 respectively. Similarly KSDC had only State Government subsidies as retained reserves in most of the years. The Debt-Equity ratios of the company varied between 2.05 in 1980-81 to 5.47 in 1989-90 while its Debt-PUC values varied between 2.46 to 6.07 during the period. Throughout the entire period, the year wise values recorded only marginal differences. The paid up capital ranged from Rs.89 lakhs to Rs.155 lakhs during the ten year period while the owners' equity (paid up capital + reserves and surpluses)

varied between Rs.107 lakhs to Rs.172 lakhs showing narrow differences. TELK is another company whose Debt-Equity ratios and Debt-PUC ratios did not record significant differences over the period. In the state sector TTP is the only company whose debt ratios from both the angles recorded the highest difference over the period. It is worth noting that the rise in paid up capital during the period was from Rs.156 lakhs in 1980-81 to Rs.177 lakhs in 1989-90 while the equity recorded a growth from Rs.488 lakhs to Rs.2,462 lakhs during the same period. Quite obviously, the major component of the owners' equity was accumulated earnings especially profits from operations which increased from Rs.137 lakhs in 1980-81 to Rs.1,520 lakhs in 1989-90.

The above analysis shows that the equity of state sector enterprises were mostly constituted by paid up capital. Insignificant difference between the two debt ratios is an indication of the insignificance of retained surpluses in the equity base.

4.2.2 Private Sector

As against the state sector, both the ratios of the Private sector as a whole exhibited wider differences in most of the companies (Tables 4.2 and 4.5). These differences indicate that a considerable portion of the owners' equity

Table 4.5

Ratio of Debt to Paid up Capital (Private Sector)

YEARS	APOLLO	TECIL	ALIND	WIP	GTN	EXCEL	DEN	TOSHIBA	PREMIER	BPL	KELM	KSL	LAYMI	SRI BHAG.	SECT. MEAN
1980-81	2.93	0.82	0.58	3.71	12.13	2.63	0.88	0.63	2.77	1.50	2.70	1.84	1.47	2.04	1.85
1981-82	3.14	0.74	0.66	3.19	12.88	2.49	1.27	0.84	5.10	1.15	2.65	1.62	2.67	1.46	2.00
1982-83	3.42	0.67	1.26	2.86	24.69	2.76	1.56	1.61	5.47	1.15	2.61	2.47	3.78	0.85	2.38
1983-84	3.50	0.55	1.35	2.62	26.31	2.27	2.44	1.60	6.60	0.75	2.65	2.50	3.39	1.10	2.39
1984-85	3.59	1.22	1.65	2.13	24.00	1.99	2.27	2.20	9.11	2.53	6.19	2.52	3.35	2.37	3.17
1985-86	3.26	2.48	1.84	1.12	12.75	1.73	2.33	1.86	11.39	3.02	7.67	2.50	2.40	3.12	3.11
1986-87	3.58	2.39	4.73	1.09	11.89	2.44	2.12	1.52	14.02	3.42	9.24	2.18	3.03	2.81	3.45
1987-88	3.60	2.75	4.77	1.16	13.75	3.14	2.11	1.67	13.50	4.60	13.54	1.16	2.61	3.40	3.64
1988-89	13.71	2.74	6.17	1.81	19.42	2.22	2.10	1.05	12.97	5.78	15.67	1.07	2.18	4.00	4.14
1989-90	3.18	3.63	6.50	1.79	18.52	1.17	1.15	1.07	12.95	5.06	16.51	1.41	2.52	4.06	3.57
6 Mean	3.85	1.46	2.11	1.97	16.83	2.21	1.73	1.32	8.37	2.35	6.14	1.84	2.66	2.24	2.87
STD	3.11	1.06	2.21	0.87	5.43	0.53	0.53	0.47	3.92	1.70	5.30	0.55	0.64	1.09	0.73

Sources: Computed from the Annual Reports of the companies

of most of the companies has been constituted by accumulated reserves. Certain companies exhibited higher proportion of reserves in relation to the paid up capital as disclosed by both Debt-Equity and Debt-PUC ratios. GTN is an example. It had an average paid up capital of Rs.28 lakhs and retained earnings of Rs.265 lakhs. It means that retained earnings constituted 90% of the owners' equity of Rs.293 lakhs. As a result, the average Debt-Equity ratio and Debt-PUC ratio showed a difference of as high as 15.14. The paid up capital which was Rs.16 lakhs in 1980-81 increased to Rs.60 lakhs in 1989-90 while the owners' equity grew from Rs.204 lakhs to Rs.657 lakhs. Though the Debt-PUC ratios recorded by GTN had been the highest in the private sector, it is worth noting that the company effected financial leverage or a strong equity cushion. Another company which had low amounts of paid up capital and which had effected financial leverage with larger equity base was KSL. In 1980-81 the company's paid up capital and owners' equity were respectively Rs.25 lakhs and Rs.70 lakhs. The respective figures in 1989-90 were Rs.34 lakhs and Rs.246 lakhs. The long term borrowings did not record wide variations over the period (Table 4.2). It had long term loans of Rs.46 lakhs in 1980-81 which increased to Rs.62 lakhs in 1989-90 recording a difference of as low as Rs.16 lakhs in ten years. In certain cases, the growth of equity over the period had been phenomenal. Typical example is Apollo Tyres. Till 1984-85 the company's

equity as well as paid up capital had been one and the same. But the subsequent years witnessed a substantial increase in the owners' equity. The equity which was Rs.1,686 lakhs in 1985-86 rose to Rs.13,333 lakhs in 1989-90. During this period, the accumulated profits had increased from Rs.836 lakhs to Rs.10,465 lakhs. In 1989 the company's Debt-Equity proportion was 2.47 as against a Debt-PUC ratio of 13.71. Another company which had utilised a considerable portion of accumulated earnings in the long term financing was WIP. Throughout the period under study its retained earnings were consistently increasing. The retained profit was Rs.164 lakhs in 1980-81. It grew to as high as Rs.594 lakhs by the end of the period i.e., 1989-90. The long term loans of the concern which was Rs. 530 lakhs at the beginning of the decade reduced marginally to Rs.516 lakhs in 1989-90. The lowest level of long term loans was recorded at Rs.215 lakhs in 1986-87. Here also it is clear that a considerable source of finance was internal savings as indicated by the difference in the average Debt-Equity and Debt-PUC ratios (0.66 and 1.97). Some of the other private sector enterprises which had exhibited differences between the Debt-Equity ratios and Debt-PUC ratios owing to the impact of internal savings were, OEN, BPL, TECIL, Sri Bhagavathi Textiles etc.

But there were a few exceptional cases. Alind is an example. The average Debt-Equity and Debt-PUC ratios of the company were 1.83 and 2.11 respectively showing negligible

differences between the ratios for different years. This was due to the insignificant share of reserves in the owners' equity. The paid up capital ranged from Rs.354 lakhs in 1980-81 to Rs.654 lakhs in 1989-90 while the range of retained earnings had been between Rs.204 lakhs and Rs.20 lakhs showing a narrow gap between paid up capital and owners' equity. Premier cables and KELW recorded significant differences between the ratios, 3.46 and 1.62. It is not because of the impact of high profit retention. They had high debt proportion in the capital structure and the gap between their paid up capital and owners' equity were not very wide. In the case of the Premier Cables, the paid up capital which was Rs.85 lakhs in 1980-81 increased to Rs.129 lakhs in 1989-90 while the owners equity were Rs.183 in 1980-81 and Rs.225 lakhs in 1989-90. The case of KELW also appears to be similar. It did not have any revenue surpluses in the period of study. All the reserves available were the investment allowance reserve. It had a relatively high proportion of debt in the capital structure ranging from Rs.297 lakhs in 1980-81 to Rs.1,816 lakhs in 1989-90.

4.2.3 Central Sector

An evaluation of the Central sector undertakings reveal (table 4.6 in comparison with table 4.3) that the rates of CRL alone exhibited a remarkable difference of 5.56 between the ratios on an average. Both the ratios of

Table 4.6

Ratio of Debt to Paid up Capital (Central Sector)

YEARS	CRL	CSL	FACT	HLL	SECT. MEAN
1980-81	1.41	1.15	0.60	0.76	0.93
1981-82	4.06	0.97	0.63	0.68	1.14
1982-83	8.05	1.04	0.68	0.45	1.26
1983-84	20.53	1.18	0.41	0.22	1.21
1984-85	28.88	1.37	0.33	0.05	0.88
1985-86	35.12	1.62	0.22	0.82	1.78
1986-87	30.32	1.78	0.12	1.09	1.64
1987-88	19.90	1.97	0.22	1.11	1.76
1988-89	1.84	2.17	0.29	0.82	0.99
1989-90	1.74	2.47	0.27	0.90	1.01
6 Mean	8.45	1.50	0.33	0.53	1.22
STD	12.60	0.49	0.19	0.33	0.67

Source: Computed from the Annual Reports of the

CSL were the same throughout the period of analysis. It was due to the fact that no amount was available with the company in the form of reserves since it had been a loss making undertaking for years. The net loss of Rs.195 lakhs in 1980-81 had increased to Rs.2,777 lakhs in 1989-90. Its accumulated losses were mounting up. The total of fictitious assets in 1989-90 was Rs.14,513 lakhs. FACT, though a profit making concern, was not able to retain any of its profits except in 1988-89 and 1989-90 of Rs.303 lakhs and Rs.329 lakhs respectively. The profits available over the years were utilised mostly in amortising the accumulated losses of the past years. Thus the company was able to wipe off completely its fictitious assets totalling Rs.7,320 lakhs in 1982-83 by the end of 1988. In the case of HLL, the ratios did not exhibit very significant relative changes. The reason could be increase in the volume of equity capital at a higher rate than that of long term borrowings. The paid up capital which was Rs.130 lakhs in 1980-81 reached a level of Rs.1,257 lakhs in 1989-90 while the growth of reserve and surpluses was from Rs. 5 lakhs to Rs. 803 lakhs during the period. From 1986-87 onwards, investment allowance reserve was the main component of retained surpluses ranging from Rs.400 lakhs to Rs. 429 lakhs. The case of CRL appeared to be entirely different. Among the four central sector undertakings, CRL appeared to have accumulated the highest amount of profits over the years. Its paid up capital which was Rs.700 lakhs remained the same until 1986-87. For the succeeding three

years its share capital had been Rs.1,000 lakhs, Rs.6,848 lakhs and Rs.6,891 lakhs respectively. Retained earnings which was Rs.330 lakhs reached a high level of Rs.13,651 lakhs in 1989-90. In other words, the accumulated earnings formed the major portion of the owners' equity. The company had an average Debt-Equity ratio of 2.89 against a Debt-PUC ratio of 8.45. Eventhough the debt component in the capital structure had been the highest in the Central Sector, it is worth noting that the financial leverage was effected on a strong equity base. In 1985-86 both the ratios recorded their highest values. (D-E 9.14 and D-P 35.12) It was in this year that the company had the highest amount of borrowings of Rs.24,585 lakhs. The subsequent years showed considerable reductions in the amount of borrowings and increases in paid up capital. Borrowings decreased to Rs.11,998 lakhs and the share capital increased to Rs.6,891 lakhs in 1989-90. Total reserves of Rs.1,989 lakhs in 1985-86 rose to Rs.13,651 lakhs in 1989-90. As a result, the company's Debt-Equity ratio came down from 9.14 in 1985-86 to 0.58 in 1989-90. Debt-PUC ratio also came down to 1.74 from 35.12.

Section III

4.3 Sources of Finance

This section describes various sources of finance, both short term and long term, employed by the manufacturing enterprises. The sources of funds are categorised into external and internal. External sources include those funds tapped externally such as share capital, long term borrowings and short term borrowings. Internal sources cover depreciation reserves and other reserves shown under the heading reserves and surpluses in the balance sheet of companies.

4.3.1 State Sector

Table 4.7 exhibits the details of sources of Finance - long term and short term - employed in the state sector enterprises. The data reveals that about 78 percent of the total capital had been represented by external sources in the state sector, on an average. The external sources include share capital, loans from financial institutions, government and banks, borrowings from banks for meeting working capital requirements and sundry creditors and other similar short term liabilities. Out of the total external sources, about 21 percent came from equity issue and about 79 percent from borrowings. It is worth noting that the proportion

Table 4.7

Sources of Finance (State Sector)

YEARS	(External)				(Internal)			
	PUC (%)	Long Term Loan (%)	BBWC (%)	CUL (%)	Total (%)	Depreciation Reserve (%)	Reserves and Surplus (%)	Total (%)
1980-81	22.76	36.80	3.03	17.53	80.13	14.63	5.25	19.87
1981-82	18.41	40.70	2.58	18.56	80.24	14.38	5.37	19.76
1982-83	19.25	41.30	1.68	17.84	80.08	15.32	4.61	19.92
1983-84	17.92	40.75	1.55	18.66	78.88	16.73	4.39	21.12
1984-85	16.13	37.56	7.76	17.11	78.57	17.27	4.16	21.43
1985-86	14.99	36.74	10.20	16.33	78.26	16.92	4.82	21.74
1986-87	14.69	36.99	10.32	15.70	77.70	17.08	5.22	22.30
1987-88	14.46	36.50	9.69	15.73	76.38	17.72	5.90	23.62
1988-89	13.83	36.50	9.67	16.07	76.07	18.06	5.87	23.93
1989-90	13.35	36.65	9.72	16.01	75.73	18.57	5.70	24.27
6 Mean	16.36	38.00	5.22	16.92	78.19	16.61	5.10	21.74

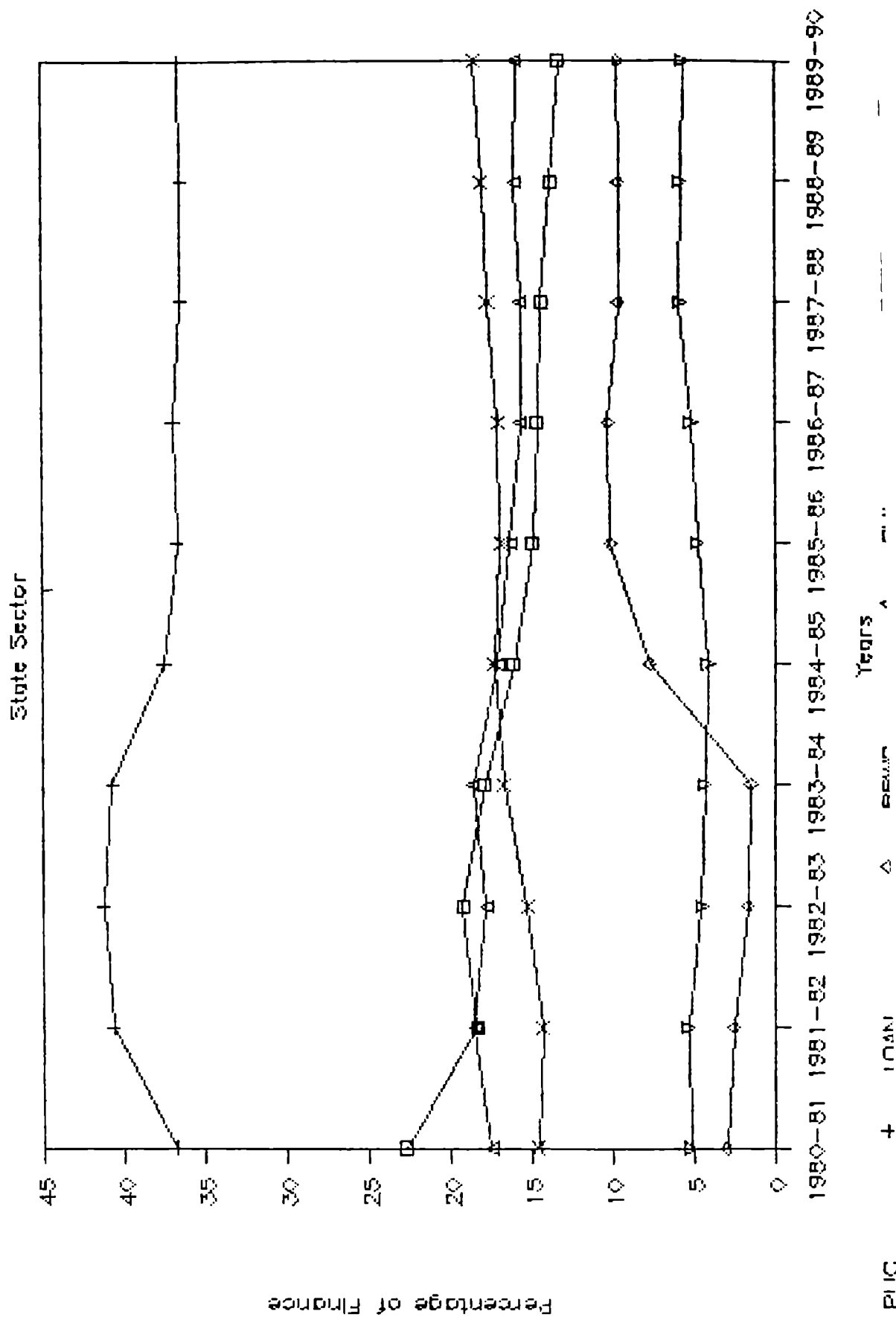
Source: Computed from the Annual Reports of the companies

of borrowings on total external funds had been increasing over the period. Accordingly, the percentage of paid up capital had been decreasing. It is observed that in 1980-81 about 23 percent of the total capital was represented by share capital. Over the period of ten years the rate had come down to 13.35 percent in 1989-90. However, the proportion of external funds to total funds came down from 80.13 percent in 1980-81 to 75.73 percent in 1989-90.

The data relating to internal sources show that the share of internal sources to total funds increased from 19.87 percent in 1980-81 to 24.17 percent in 1989-90 averaging to 21.74 percent. It is relevant to note that such an increase over the period was not mainly due to reserves accumulation but due to the increases in the proportions of depreciation reserves. The percentage of reserves to total finance was 5.25 percent in 1980-81. After slight fluctuations the rate reached at 5.70 percent in 1989-90 showing negligible difference. But the depreciation funds had increased from 14.63 percent in 1980-81 to 18.57 percent in 1989-90.

Fig. 4.1 shows the movements of individual items of finance employed in the state sector enterprises. Among the various items, the long term loans occupied the top position. The reserves line continued to be without much fluctuations.

Fig. 4.1 Sources of Finance



4.3.2 Private Sector

The mean value of external funds to total sources came to 69.24 percent for the period of ten years from 1980-81 to 1989-90 in the private sector. Out of the total external funds the share of share capital came to 17 percent. In the private sector also borrowings constituted the major portion of total finance. The long term loan which was 20.85 percent in 1980-81 had slightly increased to 21.47 percent in 1989-90 averaging to 21.89 percent (Table 4.8). The estimated values disclose that in the private sector, most of the borrowings were in the form of bank borrowings for working capital and current liabilities. In other words, the average rate of short term borrowings on total capital was 34.84 percent.

In the private sector about 31 percent of total funds was represented by internal sources. Depreciation reserves which was 16.42 percent of the total finance in 1980-81 increased to 21.06 percent in 1989-90. There was also increases in the rates of reserves and surpluses. A percentage rate of 9.66 in 1980-81 increased to 11.93 in 1989-90 averaging to 10.50 percent.

The proportion of internal sources which was 26.08

Table 4.8

Sources of Finance (Private Sector)

YEARS	(External)					(Internal)				
	PUC (%)	PSC (%)	Long Term Loan (%)	BBWC (%)	CUL (%)	Total (%)	Depreciation Reserve (%)	Reserves and Surplus (%)	Total (%)	Total (%)
1980-81	15.31	0.82	20.85	17.53	19.41	73.92	16.42	9.66	26.08	
1981-82	14.86	0.68	20.04	16.64	20.03	72.25	17.79	9.96	27.75	
1982-83	14.51	0.51	20.87	16.69	18.25	70.83	19.56	9.61	29.17	
1983-84	14.24	0.47	20.41	15.98	18.63	69.73	20.54	9.74	30.27	
1984-85	13.14	0.54	23.75	16.13	16.03	69.59	20.62	9.79	30.41	
1985-86	11.92	0.51	24.49	13.48	16.27	66.67	21.58	11.75	33.33	
1986-87	10.18	0.41	21.27	19.45	20.62	67.93	20.78	11.29	32.07	
1987-88	5.60	0.43	23.00	16.70	20.57	66.30	22.77	10.93	33.70	
1988-89	9.41	0.29	23.27	17.96	17.66	68.59	20.77	10.64	31.41	
1989-90	9.73	0.24	21.47	15.81	19.76	67.01	21.06	11.93	32.99	
6 Mean	11.44	0.46	21.89	16.19	18.65	69.24	20.11	10.50	30.62	

Source: Computed from the Annual Reports of the companies

percent in 1980-81 had reached 32.99 percent in 1989-90. Accordingly, the percentage of external sources came down from 73.92 percent to 67.01 percent over the period. Figure 4.2 exhibits the movement of the elements of external and internal sources of funds employed in the private sector enterprises.

4.3.3 Central Sector

In the Central Sector, the paid up capital and long term loans did not show a very wide difference between them as observed from table 4.9. The percentage of paid up capital in 1980-81 was 24.83 against the long term loans of 20.87 percent. Towards the end of the period under study the respective values had been 25.46 percent and 24.40 percent. On a comparison with the other two sectors, the proportion of paid up capital on total finance was the highest in the Central Sector. Borrowings for working capital and current liabilities showed declining trend despite slight variations. The decline in these items over the period has considerably influenced the reduction in the proportion of total external sources of 80.58 percent in 1980-81 to 69.03 percent in 1989-90.

The percentage of reserves and surpluses was as

Fig. 4.2 Sources of Finance

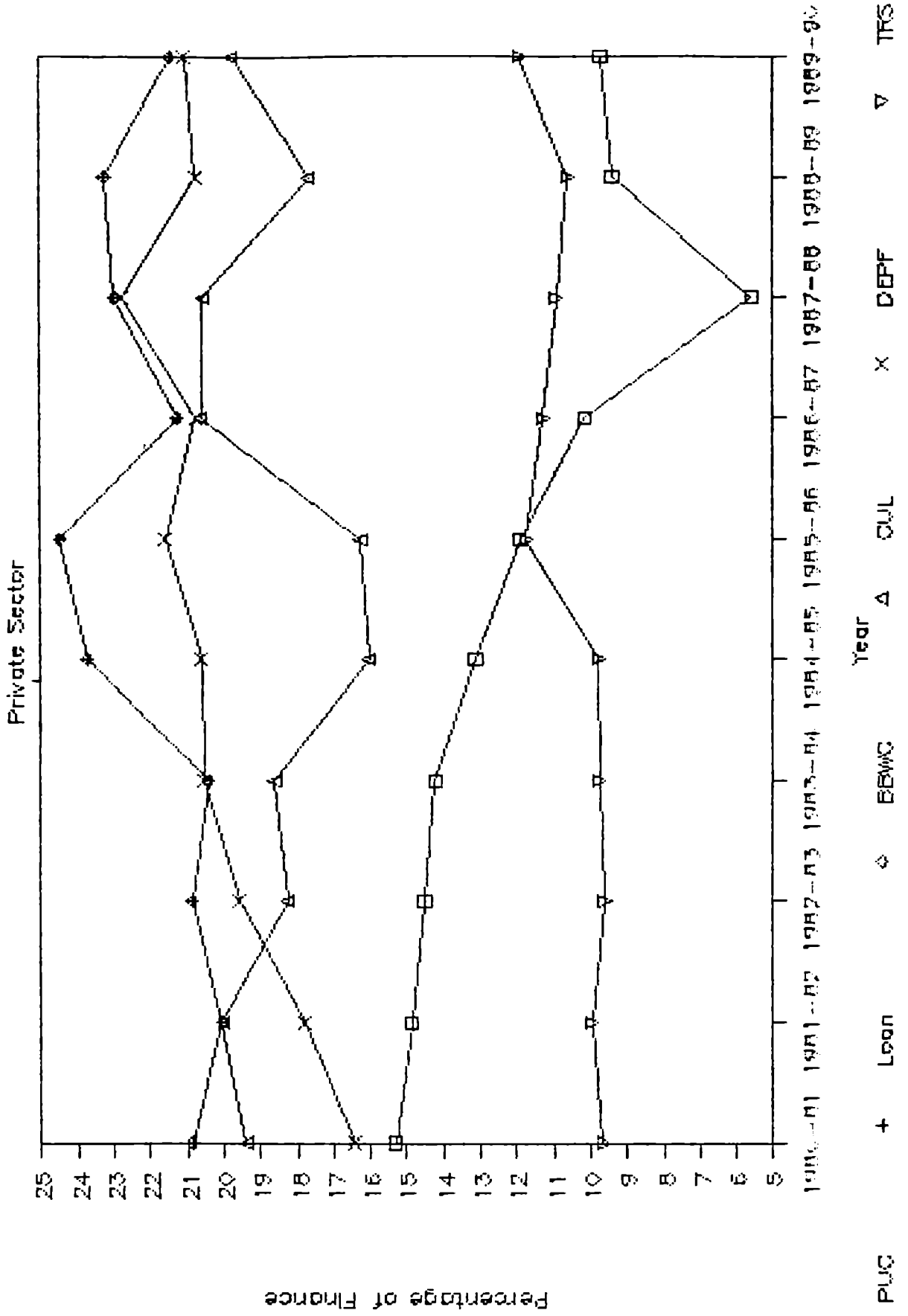


Table 4.9

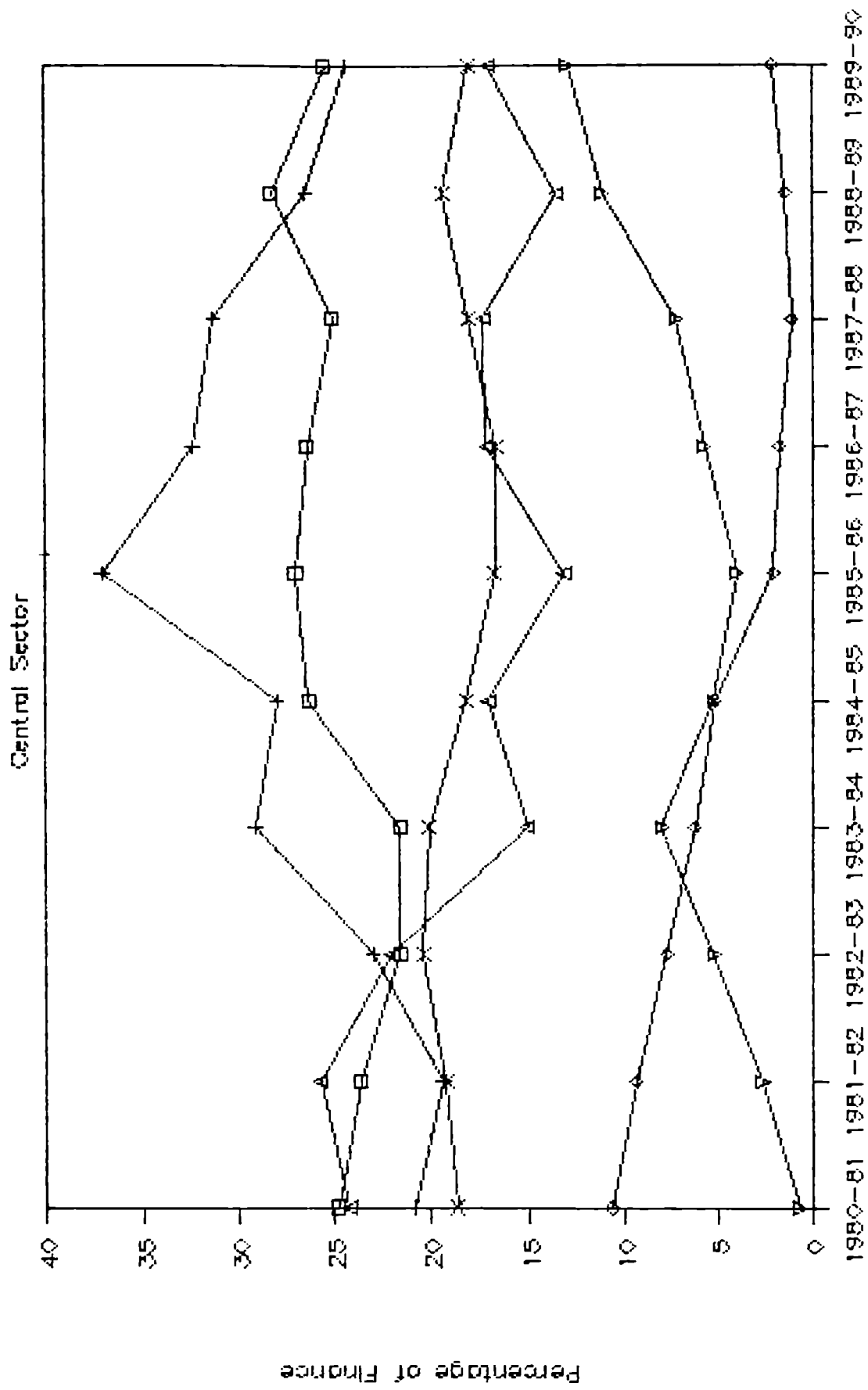
Sources of Finance (Central Sector)

YEARS	(External)				(Internal)			
	PUC %	Long Term Loan %	BBWC %	CUL % Total (%)	Depreciation Reserve (%)	Reserves and Surplus (%)	Total (%)	
1980-81	24.83	20.87	10.65	24.23	80.58	18.65	0.77	19.42
1981-82	23.63	19.41	9.36	25.70	78.10	19.23	2.67	21.90
1982-83	21.58	22.97	7.75	22.03	74.33	20.44	5.24	25.67
1983-84	21.59	29.08	6.23	15.00	71.90	20.11	7.99	28.10
1984-85	26.32	27.96	5.20	17.06	76.54	18.21	5.25	23.46
1985-86	27.00	37.06	2.09	13.12	79.27	16.71	4.02	20.73
1986-87	26.37	32.35	1.80	17.16	77.68	16.62	5.70	22.32
1987-88	25.07	31.28	1.13	17.26	74.74	18.08	7.19	25.27
1988-89	28.20	26.42	1.46	13.48	69.56	19.39	11.05	30.44
1989-90	25.46	24.40	2.16	17.01	69.03	18.04	12.93	30.97
0 Mean	24.92	26.68	3.57	17.76	75.08	18.51	5.04	24.54

Source: Computed from the Annual Reports of the companies

low as 0.77 in 1980-81, which had gone upto 7.99 percent in 1983-84 further came down to 5.25 during the subsequent year and settled at 4.02 percent in 1985-86. But the subsequent years witnessed consistent increase as disclosed by the estimated values. During 1989-90 the percentage of reserves and surpluses on total finance was the highest in the central sector (12.93 percent). The percentage of depreciation reserves did not show wide variations over the period of ten years. In fact, especially in the second half of the decade, the increase in the proportion of internal sources to total sources was mainly contributed by reserves and surpluses (fig. 4.3).

Fig. 4.3 Sources of Finance



Section IV

4.4 Relation between Equity Share Capital and Reserves

This section is to evaluate the retained earnings in the capital structure of the state sector enterprises in comparison with the private and central sector enterprises. For the purpose, the figures of reserves and surpluses as seen in the financial statements of companies are related with their paid up capital to highlight the participation of the former in the capital structure of firms. The more the profits retained the more would be the financial strength of companies which normally increase the wealth of share holders. Moreover, retained earnings serve as a favourable equity cushion when the firms seek financial assistance from various financing agencies. In other words, a strong and broad equity base steps up the companies' borrowing capacity. The market value of the firm also gets increased due to high retention of profits.

4.4.1 State Sector

It is found that the profile of reserve accumulation in the state sector enterprises had been quite unsatisfactory over a long period. Table 4.10 explains the position of accumulated earnings in the state sector enterprises brought under study. The percentages of

Table 4.10

Reserves as a Percentage of Paid up Capital (State Sector)

YEARS	TRACO	KEL	TELK	TCC	KSO	KSDP	KYM	KSDC	TTP	KOCL	SCL	TCL	SECT.MEAN
1980-81	39.23	0.01	30.08	20.45	0.01	26.19	2.78	20.22	212.82	9.32	11.61	188.00	7.06
1981-82	43.85	0.01	15.04	25.15	2.67	42.31	2.42	14.52	190.59	15.53	11.61	302.00	11.73
1982-83	42.18	0.01	12.53	28.79	6.62	44.52	0.53	11.11	181.36	16.77	11.61	386.00	11.13
1983-84	29.44	0.01	15.04	6.82	5.38	33.33	0.41	11.11	161.02	7.45	0.89	470.00	6.93
1984-85	21.32	0.01	11.79	19.09	5.38	33.81	0.44	11.11	218.64	7.45	20.98	542.00	9.80
1985-86	13.12	1.26	13.56	43.64	5.38	33.81	0.44	9.68	267.80	27.95	54.91	574.00	18.64
1986-87	6.24	1.99	13.56	25.15	5.38	33.57	0.82	9.68	412.99	47.83	84.82	586.00	20.63
1987-88	0.42	5.79	6.18	49.55	5.38	33.57	0.93	10.97	737.29	29.89	85.27	516.00	18.21
1988-89	3.55	6.80	3.74	72.42	5.38	33.57	3.11	10.97	1053.67	44.44	29.02	512.00	23.48
1989-90	6.73	8.47	2.74	101.97	5.38	33.57	3.43	10.97	1290.96	56.32	28.89	596.00	26.77
6. Mean	11.41	0.20	10.16	30.82	2.73	34.50	1.09	11.74	351.42	20.56	19.90	443.69	13.93
STD	16.08	3.13	7.32	27.35	1.82	4.85	1.18	3.01	389.40	17.07	29.10	128.04	6.67

Source: Computed from the Annual Reports of the companies

total reserves to paid up capital have been very low in almost all the companies. TCL and TTP which had recorded more than 350 percent average values appeared to be the only exceptions. In all other cases it did not reach even 50 percent of their paid up capital on an average. The average rates shown by these companies were within the range of 0.20 percent and 34.50 percent. KAEL, KMM and KSO recorded the lowest rates of 0.20, 1.09 and 2.73. KMM had Rs.55 lakhs as total reserves in 1980-81 constituted by Rs.47 lakhs as capital reserves and Rs.8 lakhs as investment allowance reserve. In 1989-90 the only reserves available with the company was the investment allowance reserves amounting to Rs.106 lakhs. During the period under study there was no other retained earnings. Similarly, KAEL did not have any form of accumulated reserves till 1984-85. From 1985-86 onwards, there were slight improvements as disclosed by the percentages ranging from 1.26 in 1985-86 to 8.47 in 1989-90. The company had Rs.874 lakhs as paid up capital in 1989-90 which had increased from Rs.122 lakhs in 1980-81. KSO, another company, had its paid up capital increased from Rs.150 lakhs in 1980-81 to Rs.186 lakhs in 1989-90. It is important to note that all the retained surplus available with the company was the State Government subsidy ranging from Rs.4 lakhs and Rs.10 lakhs (appendix 1). From 1983-89 to 1989-90 there was no change in the amount of paid up capital as well as reserves. Therefore, the reserves ratio remained the same for seven years continuously. Another

notable example is TELK. It had a total reserves of Rs.120 lakhs in 1980-81 represented by Rs.40 lakhs as revenue reserves; Rs.30 lakhs as development rebate reserve and Rs.50 lakhs as investment allowance reserve. During the nine years ending 1989-90 the company could not set aside any amount of revenue earnings due to its mounting losses ranging from Rs.91 lakhs and Rs.897 lakhs. Over the period of ten years the paid up capital of the company increased from Rs.399 lakhs to Rs.1058 lakhs. In the case of KSDC, all the reserves available with the company from 1982-83 to 1989-90 was the state government subsidy amounting to Rs.15 lakhs.

Among the twelve enterprises under study, TTP and TCL are the only companies which had accumulated revenue earnings continuously throughout the period of analysis. In the case of TTP a major portion of retained earnings was constituted by accumulated operating earnings which increased from Rs.137 lakhs in 1980-81 to Rs.1520 lakhs in 1989-90. In this case a substantial portion of owners' equity was constituted by accumulated reserves. From 1982-83 to 1989-90 the paid up capital remained the same (Rs.177 lakhs). The case of TCL also is not different. For the whole period the company had only Rs.50 lakhs as share capital. The increase in percentage of total reserves to paid up capital over the period, therefore, was due to the accumulation of retained earnings.

From the above it is evident that the share of retained earnings in the capitalisation of the state sector enterprises as a whole had been low, leaving the equity base thin.

4.4.2 Private Sector

In this case, the Private sector gives a different picture. Out of the fourteen enterprises studied, nine possessed total reserves exceeding their paid up capital in most of the years as evidenced by table 4.11.

GTN tops the list with as high as 895 percent on an average. In certain periods, the percentage of reserves to paid up capital was of high magnitude. The company's retained surpluses which was Rs.188 lakhs in 1980-81 rose to as high as Rs.597 lakhs in 1989-90. The range of paid up capital has been between Rs.16 lakhs and Rs.60 lakhs over the period.

The rates of reserves of Laxmi Starch also seem to be high in many years. In 1985-86 the accumulated reserves had grown to more than 14 times the paid up share capital of Rs.80 lakhs. But in this case, the major portion of the reserves have been constituted by revaluation reserves.

Table 4.11

Reserves as a Percentage of Paid up Capital (Private Sector)

YEARS	APOLLO	TECIL	ALIND	WIP	GTN	EXCEL	DEN	TOSHIBA	PREMIER	BPL	KEL	KSL	LAXMI SRI BHAG	SECT. MEAN
1980-81	0.01	89.30	48.52	119.71	1175.00	27.14	93.15	239.62	115.29	130.00	7.50	180.00	170.00	54.39
1981-82	0.01	112.83	75.56	165.69	818.75	26.76	141.10	177.14	116.67	205.00	1.25	414.71	173.33	53.51
1982-83	0.01	92.27	32.96	211.68	687.50	26.76	156.16	188.57	103.51	175.00	2.50	423.53	91.25	50.07
1983-84	0.01	106.44	22.96	266.42	762.50	10.64	168.49	340.00	122.81	92.50	15.00	435.29	86.25	54.37
1984-85	0.01	97.42	7.41	290.51	1031.25	30.85	263.01	354.29	41.86	210.00	23.75	441.18	78.75	58.27
1985-86	107.87	93.56	7.41	223.44	691.67	54.26	256.16	267.54	66.67	528.00	32.50	447.06	1447.50	152.47
1986-87	318.32	97.42	7.41	277.08	705.56	55.85	141.10	180.80	66.67	614.00	32.50	447.06	1316.25	158.75
1987-88	397.50	97.00	7.41	322.92	1088.89	57.45	203.42	131.20	70.54	650.00	32.50	447.06	1230.00	170.70
1988-89	498.45	75.11	7.41	196.53	1200.00	102.13	265.75	131.20	74.42	686.00	241.25	541.18	1143.75	207.44
1989-90	378.21	45.06	3.86	206.25	993.33	103.17	201.83	131.20	74.42	808.00	258.75	623.53	1012.50	194.89
6. Mean	1.74	88.31	13.73	219.81	894.90	40.44	180.08	200.57	81.18	318.02	21.15	422.92	371.12	97.43
STD	193.22	17.91	22.55	58.45	194.10	30.28	56.15	79.22	25.80	257.72	93.41	106.11	565.62	63.17

Source: Computed from the Annual Reports of the companies

In the private sector, Apollo tyres was the only enterprise which did not possess any reserves for a period of 5 years from 1980-81 to 1984-85. But the period after 1984-85 exhibited significant influence of reserves in capital financing. In absolute terms, the company had an accumulated reserve of Rs.10,465 lakhs towards the end of the period of analysis against a paid up capital of Rs.2767 lakhs.

The lowest rates recorded were those relating to Alind. The percentage of reserve on paid up capital was 48.52 in 1980-81. It came down to 3.86 in 1989-90. It is worth mentioning that the company had revenue reserves only in 1980-81 and 1981-82.

In the case of BPL, OEN, Sri Bhagavathi Textiles and WIP the most important factor which influenced the higher percentages was revenue reserves. BPL had only Rs.17 lakhs as accumulated revenue reserves in 1980-81 which had grown to Rs.259 lakhs in 1989-90. Accumulated revenue reserves of OEN was Rs.32 lakhs at the beginning. Towards the end of the period under study the figure had grown to Rs.183 lakhs. The corresponding figures for Sri Bhagavathi textiles were Rs.13 lakhs and Rs.127 lakhs. WIP had revenue reserves accumulation which ranged between Rs.104 lakhs and Rs.421 lakhs over the period of ten years.

KELW is the only private sector enterprise which did not have any amount of revenue surplus throughout the entire period

under study. Reserves available with the company were investment allowance reserve and development rebate reserve.

4.4.3 Central Sector

In the Central Sector, CRL alone exhibited relatively higher values. The amounts of retained surpluses have been continuously increasing over the period. A proportion of 47.14 percent of reserves on paid up capital was consistently increasing to 423.80 percent in 1987-88 (Table 4.12). During this period the amount of paid up capital was Rs.700 lakhs. The rate for 1988-89 came down to 119.96 percent. It was not due to reduction in the quantum of reserves but due to fresh issue of share capital from Rs.1,000 lakhs in 1987-88 to Rs.6,848 lakhs in 1988-89. The rates of retention were phenomenal over the time. An aggregate reserves of Rs.330 lakhs in 1980-81 increased to Rs.13,651 lakhs in 1989-90 (Appendix III). The company's revenue reserves alone rose from Rs.119 lakhs to Rs.9,358 lakhs during the period.

CSL, a loss making concern, did not have any sort of accumulated reserves during the period of ten years.

In the case of FACT, the ploughing back of profits was negligible till 1985-86 as is evident from the

Table 4.12

Reserves as a Percentage of Paid up Capital
(Central Sector)

YEARS	CRL	CSL	FACT	HLL	SECT. MEAN
1980-81	47.14	0.01	0.02	3.85	0.46
1981-82	63.29	0.01	0.02	28.46	0.81
1982-83	143.29	0.01	0.02	56.15	1.17
1983-84	258.57	0.01	0.02	86.92	1.48
1984-85	280.43	0.01	0.02	28.40	1.11
1985-86	284.14	0.01	0.05	17.35	1.24
1986-87	338.57	0.01	2.03	32.13	3.85
1987-88	423.80	0.01	5.51	31.90	5.22
1988-89	119.96	0.01	6.75	43.60	4.34
1989-90	198.10	0.01	7.24	63.80	5.50
G. Mean	176.91	0.01	0.21	30.73	1.83
STD	116.39	0.00	2.92	22.92	1.87

Source: Computed from the Annual Reports of the companies

table. But the subsequent years witnessed considerable increase in the amount of retained reserves. It increased from Rs.520 lakhs in 1986-87 to Rs.2,480 lakhs in 1989-90 the major component being investment allowance reserves ranging from Rs.500 lakhs in 1986-87 to Rs.2,050 lakhs in 1989-90. But when compared with the paid up values of share capital, the retained reserves appear to be very low. Similar is the case with HLL. In relation with the company's paid up values of share capital, the percentage of retained earnings appears to be low. However, the position of revenue earnings gradually increased from Rs. 5 lakhs in 1980-81 to Rs. 372 lakhs in 1989-90.

Section V

4.5 Accumulated Losses and Total Assets

Carry forward losses and miscellaneous expenditure not written off affect the earning capacity of companies. These fictitious assets in the financial statements would indicate the erosion of owners' equity. This situation would result in depletion of owners' stake in the business which may lead to insolvency and it makes the earnings unjustifiable with the investment.

4.5.1 State Sector

In the state manufacturing enterprises, the accumulation of miscellaneous expenditure and losses have been increasing over the time. Within the period of ten years from 1980-81 the loss accumulation had been manifold. In 1980-81 the average amount of these fictitious assets was Rs.130.08 lakhs as against an average total assets of Rs.1,194.58 lakhs. In other words, about 11 percent of the assets was constituted by carry forward losses and expenses. By the year 1989-90 the amount had risen to Rs.1,353.67 lakhs (about 34 percent of total assets) against an average total assets of Rs.3,995.25 lakhs. The highest rate recorded was in 1987-88 (36.11 percent). Where the whole period of ten years is taken, it is seen that 21.49 percent of the average total assets was represented by carry forward losses and expenses (Table 4.13).

Table 4.13

Sectoral Averages of Total Assets and Fictitious Assets

YEARS	STATE SECTOR		PRIVATE SECTOR		CENTRAL SECTOR				
	TA (Mean)/FA (Mean)/FA/TA(%)	FA/TA(%)	TA(Mean)	FA(Mean)	FA/TA(%)	TA(mean) FA(Mean) FA/TA(%)			
1980-81	1194.58	130.08	10.89	1080.50	146.93	13.60	15555.75	1896.00	12.19
1981-82	1556.17	117.58	7.56	1314.64	145.57	11.07	15823.25	2000.75	12.64
1982-83	1752.08	151.83	8.67	1390.71	83.50	6.00	15711.50	2434.25	15.49
1983-84	2029.25	222.67	10.97	1555.71	155.86	10.02	16259.25	2673.50	16.44
1984-85	2285.33	420.42	18.40	1724.14	223.86	12.98	19454.25	2519.75	12.95
1985-86	2316.33	501.58	23.11	1954.14	269.71	13.80	21014.50	2468.75	11.75
1986-87	2725.42	864.75	31.73	2437.36	346.29	14.21	24581.50	1808.75	7.36
1987-88	3041.17	1098.17	36.11	3060.50	502.21	16.41	28748.50	2360.25	8.21
1988-89	3458.67	1160.92	33.57	3684.57	658.14	17.86	29986.25	2935.75	9.79
1989-90	3995.25	1351.67	33.80	4362.43	740.44	16.41	17604.75	1630.00	9.65
Mean	2455.43	610.17	21.49	2276.47	328.07	13.24	22473.95	2472.78	11.65

Source: Computed from the Annual Reports of the companies

In certain individual cases the rates of loss accumulation recorded were very high. For example, TELK had an accumulated loss of Rs.4 lakhs against a total assets of Rs.2,306 lakhs in 1980-81. In 1989-90 the figures had been Rs.4,543 lakhs and Rs.8,646 lakhs respectively. In percentage terms, the rise was from 0.17 to 53. During the period, the equity share capital grew from Rs.399 lakhs to Rs.1,058 lakhs. It is clear that the company had lost completely the owners' capital. Similarly, KSO had Rs.113 lakhs as fictitious assets against a total asset of Rs.700 lakhs in the beginning of the period under study. Towards the end of the period, the respective figures were Rs.1,784 lakhs and Rs.2,173 lakhs. In other words, the rate of loss accumulation had risen from 16 percent in 1980-81 to 82 percent in 1989-90. By the end of the period of analysis the amount of accumulated losses was as high as 9.59 times its paid up capital of Rs.186 lakhs. KMM is another example. The company had Rs.7,662 lakhs as fictitious assets against a total assets value of Rs.15,504 lakhs in 1989-90 (49 percent). It is relevant to note that, there was no accumulated losses in 1980-81 and 1981-82 in the financial statements. In fact the company lost 49 percent of its resources within a time span of eight years from 1982-83. Similar is the case with KSDP which had only Rs.46,000 as carry forward loss both in 1980-81 and 1981-82. But afterwards it was showing sharp increases reaching as high as Rs.1,187 lakhs in 1989-90 against a total assets of Rs.2,357

lakhs. Still another example is KSDC. The company had Rs.850 lakhs as carry forward losses against its total assets of Rs.1,281 lakhs in 1989-90 the percentage being 66.35 (appendix-I).

However, some undertakings could write off these nominal assets especially during the latter half of the decade. KAEL, TCC and KCCL are examples. It is notable that in the state sector there was no firm without accumulated losses when the whole period of ten years is taken.

4.5.2 Private Sector

In the private sector, though there appeared increases in the rates of accumulated losses, its magnitude had not been as sharp as that in the state sector. The highest rate of accumulated losses recorded by the private sector had been 17.86, in 1988-89. The percentage of accumulated losses ranged between 6 and 17.86 in the private sector as against a range of 7.56 and 36.11 in the state sector. In 1989-90, out of fourteen companies in the private sector, there were only two companies whose accumulated losses exceeded 50 percent of their total assets. They were, Alind with 57 percent and KELW with 52 percent. Alind had total assets to the value of Rs.8,256 lakhs

of which Rs.4,669 was represented by carry forward losses and expenses. The representative figures for KELW were Rs.3,343 lakhs and Rs.1,734 lakhs. As against these, out of twelve undertakings in the state sector, four had accumulated losses exceeding 50 percent of their aggregate assets.

When the private sector as a whole is considered, out of the total assets of Rs.63,870 lakhs Rs.10,761 lakhs was represented by carry forward losses and expenses in 1989-90 (16.41 percent) (appendix II).

The growth in the percentages of carry forward losses in relation to assets in the state sector showed an unhealthy trend throughout the entire period under study in comparison with the private sector. From 1981-82 the amounts recorded sharp increases till 1987-88 which is evident from the percentages rising from 7.56 to 36.11. Such hikes in amounts as well as in rates were not seen in the private sector. There were companies in the private sector without any amount of accumulated losses throughout the period. WIP, OEN and Sri Bhagavathi textiles are examples. Certain companies showed very low proportions (BPL and TECIL).

The year wise values averaged to 13.24 percent in the private sector as against 21.49 percent in the state public sector. The percapita loss had been showing sharp increases

over the period in the state sector enterprises which is clear from the hikes in the values from 130.08 lakhs in 1980-81 to Rs.1,353.67 lakhs in 1989-90.

4.5.3 Central Sector

When the analysis is extended to the central sector, it could be understood that the four enterprises brought under study had the total assets to the value of Rs.1,50,419 lakhs including Rs. 14,520 lakhs as carry forward expenses and losses in 1989-90. The share of losses had been as low as 9.65 percent of the assets as against higher rates recorded by the other two sectors. Most of the rates recorded also had been lesser than that shown by the state public and private sector enterprises. The range of fluctuation also was narrow. In the central sector as a whole, the highest rate recorded was in 1983-84 with 16.44 percent. The lowest rate was 7.36 percent recorded in 1986-87. A percentage of 12.19 in 1980-81 came down to 9.65 in 1989-90. The average rate for the entire period had been 11.65 percent, the lowest in all sectors.

It is worth noting that CSL was the undertaking which alone accounted for 99.95 percent of the total carry forward losses and expenses of the central sector as a whole. Out of the total amount of Rs.14,520 lakhs

Rs.14,513 lakhs pertained to CSL alone. The carry forward losses of CSL over the period had been showing sharp increases. The increase was from Rs.1,889 lakhs in 1980-81. The other company with accumulated losses was HLL the amount being Rs. 7 lakhs in 1989-90. CRL did not have any amount of such losses during the entire period under study. FACT which had Rs.5,687 lakhs as fictitious assets in 1980-81 could amortise all the losses before 1988-89. The financial statements of the company for 1988-89 and 1989-90 were free from any sort of fictitious assets. (appendix III)

Section VI

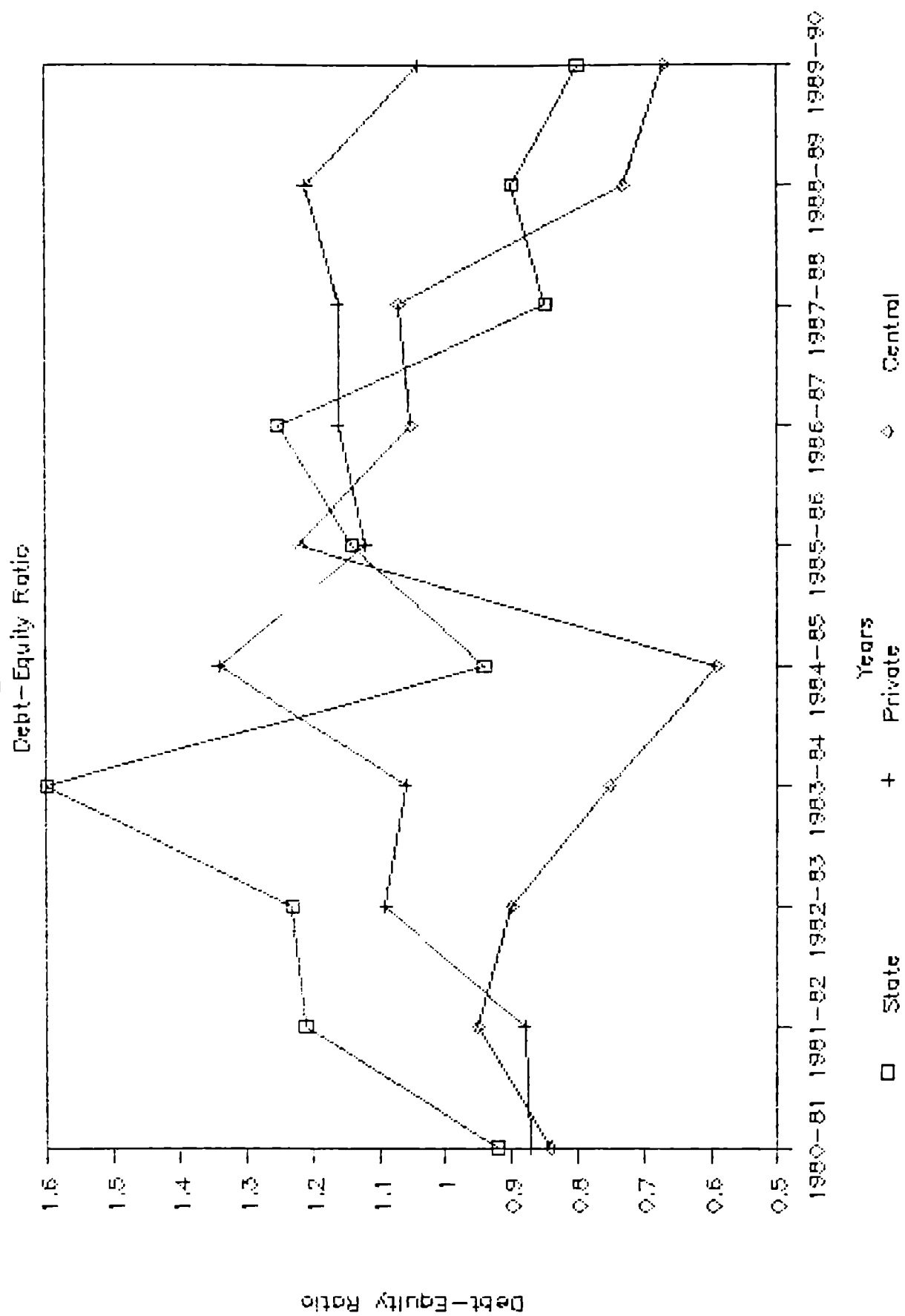
4.6 Sector wise Comparison of Patterns of Capital Structure

4.6.1 Debt Equity Ratios

Section I revealed that majority of the state sector undertakings employed relatively more of borrowings in their capital financing as evidenced by their Debt-Equity proportions. As against this, most of the companies in the private and central sectors appeared to have followed a conservative policy of employing low levels of debt in their capital financing. Generally in the state sector, the loss making companies depended mainly on borrowings while profit making concerns depended on equity. This is also true with many of the companies, both in private sector and central sector. The ratios of the state sector showed the highest rates of fluctuation as disclosed by the value of standard deviation of 0.57. The respective values for private and central sectors were 0.14 and 0.46 (Fig. 4.4).

The orientation towards debt in most of the state sector enterprises is not based on the capacity to borrow as disclosed by the higher Debt-Equity ratios

Fig. 4.4



in most of the loss making concerns. In other words, borrowings constituted the largest source of finance in the state sector especially in the case of loss making enterprises

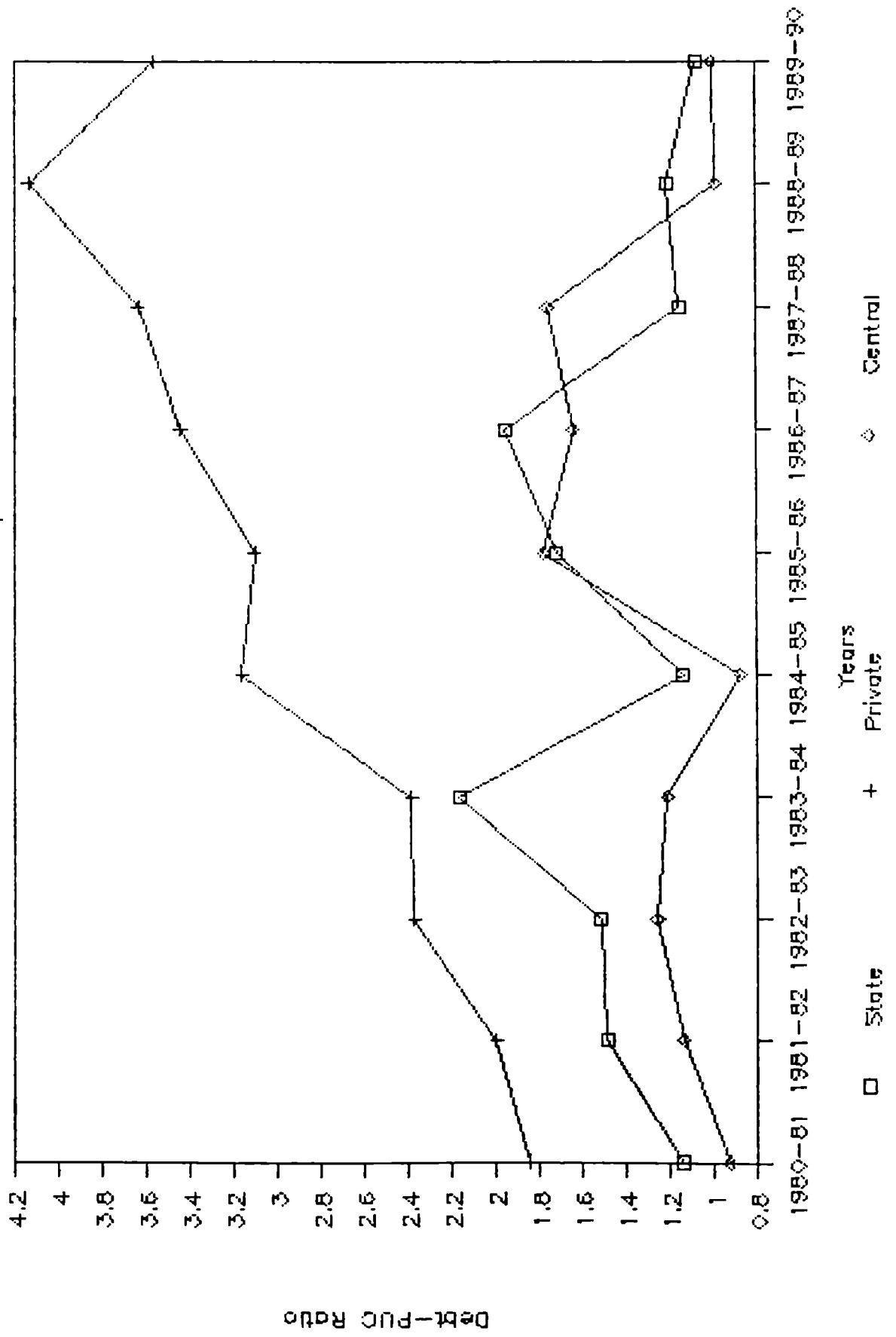
4.6.2 Ratio of Debt to Paid up Capital (Debt-PUC)

On a sectoral comparison, it is clear that the private sector has higher Debt-PUC ratios than the state sector and central sector. Significant differences between the Debt-Equity and Debt-PUC ratios indicate that the private sector has more backing of retained reserves in the capital structure than the state and central sectors which is evident from net values obtained after comparing the average ratios of the different sectors. The difference as shown by the private sector was 1.79 while it was 0.36 both in state and central sectors. The analysis brings to light the fact that the equity cushion of the private sector had been stronger than the other two sectors.

Figure 4.5 in comparison with figure 4.4 shows that, the Debt-Equity ratios and Debt-PUC ratios of the state sector exhibited narrower difference when compared to the private sector. The capital base of the state sector is not as strong as the private sector. A considerable portion of the equity of the private sector is made up of reserves as against the state sector which had paid up capital as the major portion in the equity base.

Fig. 4.5

Ratio of Debt to PUG: A Comparison



4.6.3 Sources of finance

The above analysis disclosed that during the period under study, borrowings constituted the largest source of finance in all the sectors. The intensity of borrowings was the highest in the state sector. Funds generated internally was the lowest in the state sector. The share of reserves and surpluses had been low. Moreover, its proportions had been static over the period with little variations.

4.6.4 Relation between Equity Share Capital and Reserves

The rate of profit retention was not satisfactory in most of the state sector undertakings of Kerala. The main reason is low profitability of the companies. Taking the average for ten years, ten out of twelve enterprises showed low values ranging from 0.20 to 34.50. All the sectoral values had been low, the highest rate being 26.77 in 1989-90. As against this, the private sector occupies a better position. Eight out of fourteen enterprises showed the mean values at higher levels as a result of high individual rates. As a result the sectoral values ranged between 50.07 and 207.44 over the period of ten years.

In the central sector, CRL alone exhibited a relatively better position. The retention rates of

HLL were still lower. The sectoral values had been the lowest of all the sectors the reason being absence of reserve retention in CSL and low rates of FACT.

A comparative position of revenue reserves in the three sectors for the year 1989-90 disclosed that all the state sector undertakings together accounted for an accumulated revenue earnings of Rs.2,424 lakhs which is 30 percent of the aggregate amount of paid up capital. Five enterprises with an aggregate paid up capital of Rs.4,912 lakhs fetched nothing by way of revenue reserves (table 4.14). TTP had Rs.1,520 lakhs as retained earnings against its paid up capital of Rs.177 lakhs which had attained a percentage of as high as 858. TCL occupied the second position with 344 percent and TCC, the third with a rate of 73.64 percent.

The private sector had the retained revenue earnings of Rs.4,341 lakhs against its aggregate paid up capital of Rs.4,703 lakhs which represented 92.30 percentage. BPL, GTN and OEN occupied first, second and third positions respectively (Table 4.15).

With regard to the central sector, CRL with a paid up capital of Rs.6,891 lakhs accounted for 93 percent of accumulated reserves of the sector as a whole. When the four undertakings are taken together the share of retained earnings

Table 4.14

Paid up Capital and Revenue Reserves
State Sector (1989-1990)

COMPANIES	PUC	REV. RES.	PERCENTAGE
TRACO	966.00	59.00	6.10
KEAL	874.00	74.00	8.47
TELK	1058.00	0.00	0.00
TCC	660.00	486.00	73.64
KSD	186.00	0.00	0.00
KSDF	420.00	0.00	0.00
KMM	3093.00	0.00	0.00
KSDC	155.00	0.00	0.00
TTP	177.00	1520.00	858.76
KCCL	261.00	93.00	35.63
SCL	225.00	20.00	8.89
TCL	50.00	172.00	344.00
Total	8125	2424	

Source: Computed from the Annual Reports
of the companies

Table 4.15

Paid up Capital and Revenue Reserves
Private Sector (1989-1990)

=====			
(Rs. in Lakhs)			
COMPANIES	FUC	REV. RES.	PERCENTAGE
AFOLLO	2767.00	3000.00	108.42
TECIL	233.00	0.00	0.00
ALIND	570.00	0.00	0.00
WIP	288.00	306.00	106.25
GTN	60.00	308.00	513.33
EXCEL	126.00	115.00	91.26
OEN	109.00	183.00	167.89
TOSHIBA	125.00	0.00	0.00
PREMIER	129.00	0.00	0.00
BFL	50.00	259.00	518.00
KELW	80.00	0.00	0.00
KSL	34.00	37.00	108.82
LAKSHMI	80.00	6.00	7.50
SRI BHAG.	52.00	127.00	32.69
Total	4703	4341	

Sources: Computed from the Annual Reports
of the companies

was only 20.17 percent of the total share capital of Rs.49,861 lakhs in 1989-90 the rate being the lowest among all the three sectors (Table 4.16).

When compared to the private sector the rate of reserves accumulation is very low in the state sector. When the state sector as a whole is considered the rates of reserve accumulation ranged between 6.93 percent and 26.77 percent which averaged to 13.93. In the private sector, the range of reserve accumulation was between 50.07 percent and 207.44 percent which averaged to 97.43 percent.

4.6.5 Accumulated losses and total Assets

The above analysis revealed that the state sector occupied a remarkably poor position in relation to the other sectors with regard to the assets position. A considerable portion of its investment had been eroded due to carry forward expenses and losses. The real worth of the companies in the state sector was far less than the total investments. In a number of cases, the owners' equity appear to be completely drained which is a clear indication of insolvency.

Table 4.16

Paid up Capital and Revenue Reserves
Central Sector (1989-1990)

=====

(Rs. in Lakhs)			
COMPANIES	FUC	REV.RES.	PERCENTAGE
CRL	6891.00	9358.00	135.80
CSL	7436.00	0.00	0.00
FACT	34277.00	329.00	0.96
HLL	1257.00	372.00	29.59
Total	49861	10059	

Source: Computed from the Annual Reports
of the companies

Chapter V

ANALYSIS OF LEVERAGE

The Chapter is divided into 5 sections. First section deals with interest as a proportion on total expenses. The second Section looks into the coverage ratios. In Section 3 EBIT-EPS analysis is made. Fourth Section is made up of statistical analysis and the last Section enumerates the vital findings of the survey and an analysis of the Reports of the Comptroller and Auditor General of India (C & AG).

Section I

5.1 Percentage of Interest on Total Expenses

The magnitude of interest burden can be assessed when it is related to the total expenses incurred by a firm. It measures the influence of total interest costs on expenses. Expenses for the purpose of the present study have been taken as all items of expenditure incurred and debited to the profit and loss account. Heavy borrowings always increase the interest burden. The higher the proportion of interest costs, the more would be its effect on the net profits and net losses of companies.

5.1.1 State Sector

Table 5.1 shows the percentages of interest on total expenses of various manufacturing undertakings in the State sector. The estimated data appears to be varying between the companies. Four out of twelve undertakings had been incurring interest expenses at more than 10 per cent on an average, over the period under study. The variation among the firms have been within the range of 0.44 (TCL) to 20.51 per cent (KMM). The sectoral values varied in between 2.62 and 7.95. KMM, KCCL, KSDC and TELK top the list of companies in this respect. In the case of KMM the increase in interest costs have been phenomenal over the period. It was Rs.12 lakhs in 1980-81, which had grown to Rs.1475 lakhs in 1989-90. The highest proportion of interest recorded have been in the year 1985-86 (30.04 per cent). Out of the total expenses of Rs.3445 lakhs the company had to incur Rs.1035^{lakhs}/_{as} interest and finance charges. Only in 1980-81, 1983-84 and 1984-85 the percentages came to less than 20 per cent. Interest which was Rs.23 lakhs in 1984-85 rose to Rs.203 lakhs in 1985-86 showing about 9 times increase. In relation to the total expenses, the rise was from 9.60 per cent to 30.04 per cent during the respective periods. KCCL is another example. In 1980-81 the percentage of interest on expenses had been as high as 35.93. In percentage terms the later years have recorded decreased values and in 1989-90

Table 5.1

Percentage of Interest on Total Expenses (State Sector)

YEARS	TRACO	KAEL	TELK	TCC	KSO	KSDP	KPM	KSDC	TTP	KCDL	SCL	TCL	SECT.MEAN
1980-81	3.85	9.47	9.58	9.30	3.93	5.80	16.66	5.90	3.73	35.93	4.15	0.20	5.53
1981-82	5.14	8.01	14.48	7.52	5.84	4.08	21.69	7.62	4.46	24.63	4.02	0.18	5.78
1982-83	3.53	9.42	15.11	4.57	6.07	0.01	20.83	12.50	2.85	25.99	3.88	0.01	2.62
1983-84	2.38	9.75	14.78	5.03	7.64	0.01	14.11	13.36	4.36	24.86	5.39	0.45	3.70
1984-85	3.57	9.17	13.16	6.27	7.56	15.90	9.60	10.94	2.47	19.47	2.75	0.38	5.89
1985-86	2.90	7.44	15.95	4.66	10.40	13.62	30.04	16.23	2.39	16.29	1.30	0.60	6.22
1986-87	2.37	8.19	19.43	4.70	12.22	10.95	27.52	24.46	1.98	17.05	2.31	1.25	7.07
1987-88	5.28	8.69	14.93	4.63	15.63	13.85	26.59	24.82	1.64	15.76	1.77	3.09	7.95
1988-89	3.65	5.77	14.37	2.46	17.63	18.31	23.68	31.86	0.37	10.49	1.80	2.07	6.09
1989-90	5.32	4.24	15.62	1.41	16.52	18.23	24.80	35.37	0.40	8.78	3.87	0.98	5.90
6 Mean	3.65	7.79	14.54	4.52	9.26	2.76	20.51	15.71	1.89	18.42	2.85	0.44	5.44
STD	1.06	1.69	2.32	2.15	4.66	6.73	6.09	9.70	1.38	7.69	1.26	0.93	3.02

Source: Computed from the Annual Reports of the companies

the rate has been as low as 8.78 per cent. It is to be noted that the decline in the percentage rates were not due to the reductions in the quantum of interest expenses but due to the increase in expenses over the period. Interest has increased from Rs.97 lakhs in 1980-81 to Rs.124 lakhs in 1989-90. Expenses also increased more than proportionately over the period. Hence the decline in rates. KSDC, another state sector undertaking, had only Rs.17 lakhs as interest and finance charges against a total expense of Rs.288 lakhs in 1980-81. The interest costs had increased to Rs.104 lakhs in 1989-90. But the total expenses which was Rs.288 lakhs in 1980-81 grew only to Rs.294 lakhs by 1989-90, recording an interest content of 35.37 per cent on total expenses. Yet another company is TELK whose interest costs had risen from Rs.209 lakhs in 1980-81 to Rs.675 lakhs in 1989-90 which is reflected in the percentage values estimated. The percentages ranged between 9.58 and 19.43 of expenses.

However, in the case of certain enterprises the interest charges as a percentage on expenses have been very low. For example, TCL had incurred an average interest of 0.44 per cent on total expense over the period of ten years from 1980-81. Another concern is TTP whose rates of interest on expenses varied in between 0.37 to 4.46 per cent over the period. The rate of interest in SCL also were low which ranged from 1.30 per cent to 5.39 per cent.

5.1.2 Private Sector

The estimated data of the private sector undertakings reveals that the impact of interest costs on total expenses appears to be less in comparison with the state sector enterprises. Out of fourteen enterprises analysed, the average rates of interest on total expenses have been less than ten per cent in the case of twelve enterprises. Only two concerns (Alind and Premier Cables) recorded rates over and above 10 per cent. The range of variations among the firms were not as wide as that in the State sector. The variations have been within the range of 4.39 per cent (Toshiba Anand Batteries) and 10.92 per cent (Premier Cables) on an average for the 10 years period. The sectoral values ranged between 5.67 per cent and 7.31 per cent (table 5.2).

Among the private sector undertakings, the highest rate of interest recorded have been in respect of Premier Cables in 1982-83 (26.84 per cent). The later years, however, showed a decreasing trend. As a result, it reached a level of 8.91 per cent in 1989-90. This does not mean that the amount of interest charges declined considerably. Financial statements reveal that interest and finance charges which were Rs.69 lakhs in 1980-81 had been showing continuous increase till 1988-89 when it was Rs.638 lakhs. Due to a more than proportionate increase in the total expenses the rate of interest came down. In 1980-81 the total expenses

Table 5.2

Percentage of Interest on Total Expenses (Private Sector)

YEARS	APOLLO	TECIL	ALIND	WIP	GTN	EXCEL	OEN	TOSHIBA	PREMIER	BPL	K E L	K S L	LAXMI SRI	BHAG. SECT.	MEAN
1980-81	12.98	4.67	5.15	7.34	3.07	4.64	8.52	2.93	4.33	7.89	8.37	6.80	4.86	4.57	5.67
1981-82	9.56	5.24	6.29	6.75	7.76	9.44	8.02	2.93	7.54	7.20	4.89	10.88	4.82	5.94	6.61
1982-83	4.19	5.22	8.35	5.82	6.36	7.40	10.29	4.37	26.84	10.18	4.12	4.63	5.56	4.58	6.60
1983-84	4.25	3.88	13.34	4.71	6.20	5.66	10.75	3.99	21.30	8.30	4.89	7.64	5.03	4.98	6.53
1984-85	3.95	4.50	9.60	3.05	6.07	2.62	9.31	3.08	20.40	8.28	6.55	5.20	6.26	9.95	6.04
1985-86	4.46	5.79	9.40	3.38	6.60	4.25	9.38	3.49	11.97	8.53	7.38	6.36	7.12	6.67	6.34
1986-87	3.98	5.98	11.16	3.97	6.97	4.72	9.02	3.90	8.32	7.95	9.14	5.53	7.57	5.81	6.37
1987-88	4.68	4.05	18.12	4.38	5.50	5.19	8.64	4.24	8.41	7.80	16.19	4.93	7.76	6.06	6.73
1988-89	4.64	5.36	19.47	6.16	5.00	4.21	8.26	8.69	8.50	7.64	16.31	5.22	7.94	6.30	7.31
1989-90	3.73	6.64	12.74	7.17	6.29	3.88	8.60	11.42	8.91	5.73	17.75	4.29	7.70	5.01	7.09
6 Mean	5.13	5.07	10.50	5.05	5.83	4.91	9.04	4.39	10.92	7.88	8.38	5.92	6.34	5.83	6.51
STD	2.93	0.83	4.45	1.50	1.20	1.84	0.83	2.69	7.07	1.06	4.95	1.86	1.23	1.49	3.26

Source: Computed from the Annual Reports of the companies

were to the tune of Rs.1594 lakhs. In 1988-89, it crossed a mark of Rs.7503 lakhs, the highest of all the years (appendix I). The next highest rates were recorded by Alind. The company incurred Rs.778 lakhs by way of finance charges in 1988-89 as against a total expenses of Rs.3996 lakhs. In 1980-81 the respective figures were Rs.190 lakhs and Rs.3690 lakhs. It is clear that the interest charges increased considerably over the years.

Apollo Tyres showed a rate as high as 12.98 per cent only in 1980-81 when the company made a loss of Rs.474 lakhs. Since 1981-82 the company could earn profits even though the amounts of interest had been rising touching a level of Rs.971 lakhs towards the end of the period of analysis. When it is related to the total expenses of Rs.26038 lakhs for the year 1989-90 one could see that the influence of the cost element was insignificant as is evident from a rate of 3.73 per cent.

The interest rates of KELW were increasing consistently from 1982-83 onwards. It had reached as high as 17.75 per cent in 1989-90. The increase was from Rs.57 lakhs in 1980-81 against total expenses of Rs.681 lakhs to Rs.208 lakhs in 1989-90 against the total expenses of Rs.1172 lakhs. However, the company could maintain an average rate of 8.38 per cent over the period, which is less than most of the State sector undertakings under review.

5.1.3 Central Sector

When coming to the Central sector, it could be observed that among the four enterprises, the percentage values of CSL alone are significantly higher than that of the others (table 5.3). All the years except 1989-90 showed rates more than 20 per cent, the highest being in 1986-87 (27.88 per cent). Within a period of ten years the amount of interest which was Rs.603 lakhs in 1980-81 went up to Rs.1848 lakhs in 1989-90 making the interest component a significant factor for the ever increasing losses which grew from Rs.195 lakhs to Rs.2777 lakhs during the respective time interval.

The percentages of finance charges have been lesser in the case of other companies which is reflected in the mean values of 1.78 for CRL, 2.03 for FACT and 3.79 for HLL. But the range of variations in mean values among the firms is the highest in the Central sector (1.78 per cent and 22.84 per cent) which is due to the relatively high rates of CSL.

The percentage values of CRL ranged between 0.62 to 3.88 over the period as against FACT (0.30 to 6.99) and HLL (1.15 to 8.76). As against all other units, the rates of CSL varied between 16.15 and 27.88, the highest in the Central sector. The relatively higher rates of CSL, infact, influenced the sectoral values which ranged between 6.02 and 2.57. Otherwise, the Central sector would have been counted as the sector with the lowest interest costs in relation to the expenses.

Table 5.3

Percentage of Interest on Total Expenses
(Central Sector)

YEARS	C R L	C S L	F A C T	H L L	SECT. MEAN
1980-81	2.30	22.38	6.99	3.66	6.02
1981-82	1.90	23.61	6.93	3.17	5.61
1982-83	0.62	21.91	6.92	2.37	3.86
1983-84	0.87	25.92	5.07	2.67	4.18
1984-85	3.64	21.51	2.53	3.52	5.14
1985-86	3.88	27.23	1.72	1.15	3.80
1986-87	3.06	27.88	1.46	4.26	4.80
1987-88	2.68	21.17	0.92	8.76	4.62
1988-89	1.22	23.03	0.30	7.98	2.85
1989-90	0.95	16.15	0.41	6.88	2.57
G Mean	1.78	22.84	2.03	3.79	4.20
STD	1.13	3.23	2.69	2.42	2.30

Source: Computed from the Annual Reports of the companies

Section II

5.2 Interest Coverage

Coverage of interest on income is generally taken as a measure to assess the financial leverage of companies. The more interest coverage a firm has on its earnings the more capable would it be to employ debt capital. In other words, the more the difference between interest charges and operating earnings the more capacity the firm has to effect financial leverage. There are differences of opinion with regard to a standard rate of coverage. Certain experts suggest a rate of four or more times for manufacturing companies¹ (Julian R. Frank and Harry H. Scholefield 1977, p.212). Some others suggest a lesser ratio of even two times.

However, a coverage of at least two times could be taken as a desirable measure. A ratio of less than two indicates that interest costs overrides the net profit. If the coverage is less than one and also positive, it implies that the business is run at loss and in the absence of interest the firm could have earned profit. (Here the interest cost becomes the dominant factor for loss). When the value is reduced to zero, the firm is said to have attained breakeven. A negative interest coverage ratio explains a situation of net loss even in the absence of fixed charges.

A very high coverage ratio, however, cannot be considered as a result of a better management of finance. The firm cannot be said to have effected financial leverage favourably from the point of view of owners.

5.2.1 State Sector

In the State sector, only three enterprises, viz., Traco, TCC and SCL have relatively comfortable positions with regard to interest coverage in many of the years. They could maintain the rates of 2.06, 3.74 and 2.24 respectively on an average. TTP and TCL with average interest coverage ratios of 24.86 and 58.52 respectively cannot be said to have occupied an ideal position. These rates are due to considerably low levels of financing charges. After 1986-87 TTP had not been employing long term loans in its capital structure. As a result, there had been remarkable declines in the amounts of interest charges. 1988-89 showed the highest interest coverage ratio of about 120 times (table 5.4). This is the year in which the company had earned the highest net profit (Rs.1185 lakhs) and incurred the lowest amount of interest charges (Rs.10 lakhs) under the period of study. Similarly, TCL had not been employing any long term borrowings during the first three years of analysis. The figures of profits also were relatively at higher levels ranging from Rs.143 lakhs to Rs.226 lakhs. The range of finance charges during the period have been Rs.68000 to Rs.2.34 lakhs (appendix I). These had influenced the coverage ratios

Table 5.4

Interest Coverage Ratios (State Sector)

YEARS	TRACO	KAEI	TELK	TCC	KSO	KSDP	KPM	KSDC	TTP	KDCL	SCL	TCL	SECT. MEAN
1980-81	3.19	1.46	1.13	2.17	1.36	4.13	2.92	1.06	3.42	0.63	1.63	144.00	13.93
1981-82	3.69	2.51	0.57	3.71	1.19	5.20	2.00	1.04	1.01	1.12	0.87	227.00	20.83
1982-83	6.20	2.17	-0.61	4.83	0.22	0.52	0.50	-1.59	1.14	1.15	1.10	134.00	12.47
1983-84	4.50	1.17	-1.24	4.32	-1.57	0.22	-0.65	-2.03	0.14	1.11	0.49	41.00	3.93
1984-85	1.17	1.48	-0.81	1.90	-0.38	-1.16	-5.87	-1.69	5.94	1.69	3.07	25.00	2.53
1985-86	-0.09	1.07	-0.56	3.24	-1.36	-0.19	-0.71	-1.71	4.27	2.32	13.13	10.40	2.49
1986-87	-1.38	1.01	-0.85	-0.33	-1.28	-0.03	-0.66	-1.18	15.18	1.44	3.22	-1.40	1.15
1987-88	-2.31	0.72	-0.28	3.04	-1.28	0.02	-0.19	-0.94	23.00	1.16	1.03	-0.46	1.96
1988-89	3.47	1.55	0.37	5.27	-0.63	-0.04	0.93	-0.79	119.50	1.66	-1.95	0.75	10.84
1989-90	2.20	1.37	0.87	9.26	-0.55	0.45	-0.04	-0.64	75.00	1.69	-0.20	4.92	7.86
MEAN	2.06	1.45	-0.14	3.74	-0.43	0.91	-0.18	-0.85	24.86	1.40	2.24	58.52	7.80
STD	2.56	0.51	0.77	2.40	0.99	1.94	2.22	1.04	38.15	0.44	3.90	76.43	10.95

Source: Computed from the Annual Reports of the companies

significantly. Accordingly, the period 1981-82 exhibited the highest coverage ratio of 227 times. Interest was only Rs.1 lakh against a net profit of Rs.226 lakhs. These abnormal rates even lacks comparison due to their high magnitudes.

Out of the remaining seven, most of the concerns were with low ratios the main reasons being very low (or negative) profit margins and excessive interest burden. For example, TELK, KSO, KMM and KSDC showed negative values on an average (-0.14, -0.43, -0.18 and -0.85 respectively). From 1981-82 onwards, TELK had been incurring continuous losses ranging from Rs.91 lakhs to Rs.897 lakhs. In 1981-82, 1988-89 and 1989-90, interest costs far exceeded the figures of losses. During the period under study the costs varied in between Rs.209 lakhs to Rs.675 lakhs. In fact, finance charges have become the major factor for incurring losses in most of the years. KSO also proved a similar state of affairs. The company's activities resulted in losses ranging from Rs.51 lakhs to Rs.274 lakhs within the period. Interest varied between Rs.33 lakhs and Rs.152 lakhs. KSDC, in 1980-81 and 1981-82, had to incur Rs.17 lakhs and Rs.26 lakhs respectively as interest for creating a net profit of Rs.1 lakh each. Towards the end of 1989-90 the cost element had grown to Rs.104 lakhs and net loss to Rs.171 lakhs. In other words, interest alone was responsible for 60 per cent of the loss.

KMM was a profit earning concern during 1980-81 and 1981-82. Since then it recorded huge loss. A net loss of Rs.10 lakhs in 1982-83 have grown to Rs.1534 lakhs in 1989-90. The growth of interest costs was from Rs.20 lakhs to Rs.1475 lakhs. In other words, 96 per cent of loss in 1989-90 was caused by interest alone. The experience of KSDP also was not of much difference. Its interest costs which were Rs.16 lakhs in 1980-81 reached as high as Rs.226 lakhs in 1989-90 when the figure of loss was Rs.124 lakhs.

5.2.2 Private Sector

When compared to the State sector enterprises, the private sector draws a better picture. Here, only four enterprises viz., Alind, Premier Cables, KELW and Laxmi recorded the interest coverage ratios less than one, on an average. Six concerns have shown the average values between two and one while the remaining four recorded two or more time's coverage. As against the State sector, the private sector did not exhibit an average negative value though there were occasions of negative rates in certain years. (table 5.5). Further, very wide fluctuations also are not indicated. The sectoral averages too establish the fact though all the rates were less than two. However, it is relevant to note that in most of the years the private sector as a whole incurred interest costs more than the figures of net profits which is evidenced by the average

Table 5.5

Interest Coverage Ratios (Private Sector)

YEARS	APOLLO	TECIL	ALIND	WIP	GTN	EXCEL	OEN	TOSHIBA	PREMIER	BPL	K E L	K S L	LAXMI SRI	BHABH.	SECT.	MEAN
1980-81	-0.13	2.75	2.11	1.74	2.36	2.06	4.05	2.37	1.64	1.67	0.51	0.09	2.04	2.00	1.80	1.80
1981-82	1.05	2.28	1.80	1.96	-0.64	-0.06	4.42	2.31	1.26	1.66	1.53	-0.36	1.22	2.46	1.49	1.49
1982-83	1.02	1.08	0.33	2.00	0.62	-0.26	2.77	1.46	-1.05	0.72	-0.36	1.15	0.76	2.85	0.94	0.94
1983-84	1.22	2.84	-0.62	2.67	0.61	1.04	2.33	1.61	-1.34	1.74	1.69	0.49	0.97	1.29	1.18	1.18
1984-85	1.47	1.30	-0.63	4.04	1.91	6.44	2.14	1.58	-1.21	2.01	1.44	1.44	0.96	1.00	1.71	1.71
1985-86	3.33	1.08	0.52	4.09	1.90	2.48	2.20	1.49	0.21	2.12	1.23	0.60	0.29	0.88	1.60	1.60
1986-87	3.73	1.27	-0.30	3.90	1.10	1.76	4.15	1.40	1.19	1.48	-0.54	1.43	-0.17	1.94	1.60	1.60
1987-88	3.67	1.15	-0.58	3.20	2.25	1.04	4.56	-0.05	1.07	1.36	-0.92	0.68	-0.30	1.70	1.34	1.34
1988-89	3.09	0.61	-1.01	1.56	1.46	2.39	4.98	-0.46	0.95	1.24	-1.51	1.23	-0.44	1.46	1.11	1.11
1989-90	3.55	0.33	1.73	1.74	2.30	2.35	3.83	-1.25	0.28	1.26	-1.11	3.45	-0.87	4.40	1.57	1.57
Mean	2.20	1.47	0.33	2.69	1.39	1.92	3.54	1.05	0.30	1.53	0.20	1.02	0.45	2.00	1.43	1.43
STD	1.34	0.82	1.10	0.98	0.92	1.77	1.02	1.15	1.06	0.39	1.16	0.98	0.85	0.99	0.27	0.27

Source: Computed from the Annual Reports of the companies

rates less than two. Only in 1982-83 the coverage rate had fallen down to less than one (0.94).

However, it is not desirable to think that, private sector is free from abnormal cases. For example, Alind had been incurring finance charges of high magnitudes over the period. Interest and finance charges which amounted to Rs.190 lakhs in 1980-81 have reached as high as Rs.778 lakhs in 1988-89. After 1981-82 the company had been incurring huge amounts of losses which reached a level of Rs.1560 lakhs in 1988-89. But the company could make a profit of Rs.503 lakhs in 1989-90 when the coverage ratio turned to be positive.

Another example to quote is Premier. The company could make profits only in 1980-81, 1981-82 and 1986-87 ranging from Rs.32 lakhs to Rs.70 lakhs. All the remaining years the company made losses varying between Rs.33 lakhs and Rs.495 lakhs. Interest costs which was Rs.69 lakhs in 1980-81 increased to Rs.638 lakhs in 1988-89. KELW and Laxmi are also in similar lines (appendix II).

5.2.3 Central Sector

The Central sector undertakings except CSL exhibit a relatively better picture. The coverage ratios of CRL, FACT and HLL averaged to 2.76, 3.92 and 3.63 respectively.

Even though profit making concerns, these undertakings, at least in certain periods have recorded abnormal situations. For example, the coverage ratio of CRL was 0.84 times in 1984-85 when the company incurred a net loss of Rs.102 lakhs. Total finance charges were to the tune of Rs.642 lakhs.

FACT's ^{rate}/_{came} down to less than one on two occasions, in 1981-82 and 1982-83. In 1980-81 and 1983-84 the coverage ratios were in between two and one. All the remaining years witnessed sufficiently larger coverages. Only once the coverage of HLL was a negative figure (1980-81). However, when all the enterprises are taken together, the Central sector exhibited a relatively better picture which is evident from the sectoral mean values (table 5.6). Among the four Central sector undertakings, CSL alone appears to be in a quite unsatisfactory position. Throughout the whole period under study, the Company had been incurring huge losses. A net loss of Rs.195 lakhs in 1980-81 has reached Rs.2777 lakhs in 1989-90 while the finance charges which were Rs.603 lakhs in 1980-81 had come to Rs.1848 lakhs in 1989-90. The data as a whole establishes the fact that interest had been a dominant item of expense which has increased the figures of losses (appendix III). Considering the whole period, it is important to note that, on an average, 87 per cent of the loss had been due to finance charges alone.

Table 5.6

Interest Coverage Ratios (Central Sector)

YEARS	CRL	CSL	FACT	HLL	SECT. MEAN
1980-81	1.59	0.68	1.17	-2.21	0.31
1981-82	2.06	0.99	0.33	3.62	1.75
1982-83	4.12	-0.06	0.02	5.88	2.49
1983-84	2.80	-0.10	1.01	5.56	2.32
1984-85	0.84	-0.08	3.83	1.15	1.44
1985-86	1.02	0.33	3.34	11.44	4.03
1986-87	1.28	0.22	11.24	2.13	3.72
1987-88	1.83	-1.00	6.06	2.40	2.32
1988-89	4.54	-0.67	8.61	2.83	3.83
1989-90	7.50	-0.50	3.56	3.50	3.52
Mean	2.76	-0.02	3.92	3.63	2.57
STD	1.98	0.57	3.53	3.38	1.15

Source: Computed from the Annual Reports of the companies

Section III

5.3 EBIT-EPS Analysis

EBIT-EPS analysis is a device which can be made useful while taking a capital structure decision. How sensitive is the EPS to changes in levels of EBIT under various financing alternatives can be understood by the analysis

After selection of a project and estimating the earnings, the next step is to arrange funds needed. Funds may be collected either from issue of shares or from borrowings, or from both. Under such circumstances, if the firm wants to maximise the wealth of share holders, the relation between EBIT and EPS is of vital importance. Accordingly, the financing pattern which gives maximum EPS has to be given priority.

When there are different levels of EBIT estimates, the volumes of EPS to changes in levels of EBIT under different financing plans have to be ascertained before taking a financing decision. The financing plan may take various forms, viz., an all equity plan, an all debt plan or a plan with a mix of debt and equity. Under favourable circumstances, the financing plan which gives maximum EPS with minimum risk is selected.

When a particular level of EBIT is given, priority is to be given for the financing plan which guarantees the highest EPS based on the principle of financial leverage. Financial leverage is favourable so long as the cost of debt is less than the return on equity (ROE). In this case, increased use of debt in the capital structure will accelerate the EPS, and it turns upside down when the cost of borrowings grows more than ROE.

The suitability of an all equity plan or a debt-equity plan can be decided by determining the breakeven EBIT level. The breakeven EBIT or the indifference point between two financing alternatives is the level of EBIT for which the EPS is same under both the financing plans.

To find out the indifference point between two different plans, the EPS formulae of the plans are set equal. Thus, the indifference point on an all equity plan Vs a debt-equity plan is found out mathematically by solving the following equation.

$$\frac{\text{EBIT} (1-T)}{N_1} = \frac{(\text{EBIT}-I) (1-T)}{N_2}$$

where EBIT = EBIT indifference point
 N_1 = Number of equity shares in the all equity plan
 N_2 = Number of equity shares as per the debt-equity plan
 T = Income tax rate
 I = Interest expenses before tax under the debt-equity plan

The indifference level of EBIT so obtained is compared with the estimated (or actual) EBIT. If the estimated (or actual) EBIT is below the indifference point, equity financing is preferable to debt financing. In other words, if the estimated EBIT (or actual) is more than the breakeven EBIT, debt financing is preferable.

In this section, an attempt is made to ascertain whether the capital structure of the manufacturing enterprises of Kerala are justifiable with reference to the indifference EBIT levels.

Methodology

The average EBIT levels of all the manufacturing enterprises under study were calculated for a period of 5 years beginning from 1985-86. EBIT for the purpose is arrived at by adding the interest on long term loans to the net profit. Interest on long term loans was arrived at by deducting interest on short term borrowings such as bank borrowings for working capital, bank overdraft etc., from the total interest debited to profit and loss account of the units under study. Interest rate on short term borrowings was taken as 16.5 per cent per annum, since it was the average rate of interest charged on working capital funds borrowed by medium and large scale industries in India for the period from 1985 to 1989 according to the International Financial

Statistics, June 1990. It also is in parity with the Advance Rate of the State Bank of India, considered to be a shadow rate.

For the purpose of computing the EPS, all the shares of the companies under review had been considered as having a nominal value of Rs.10 per share.

Breakeven EBIT levels were calculated for two situations 'A' and 'B'. Breakeven levels under situation A were calculated on the basis of interest charged to profit and loss account of companies after separating interest on short term borrowings. Breakeven EBIT levels for situation B were computed considering 19 per cent interest as a uniform rate for all the companies. (The rate of interest levied by leading financial institutions like IFCI, IDBI, ICICI etc., ranges from 17% to 20% per annum, on long term loans exceeding Rs.10 lakhs). Corporate tax rate was taken as 55 per cent on an average. For the purpose of this analysis, debt includes all long term borrowings and equity includes paid up share capital, both equity and preference.

5.3.1 State Sector

Table 5.7 shows the breakeven EBIT levels of the State sector enterprises under situations A and B and their actual amounts of EBIT. From the table it appears that only three enterprises viz., TCC, TTP and KCCL have actual EBIT above the breakeven EBIT levels.

Table 5.7

EBIT-EPS Analysis (State Sector)

(Rs. in Lakhs)

Companies	Indifference Levels		EBIT	EBT	EAT	EPS (Rs)
	A	B				
TRACD	4.74	317.02	4.35	1.20	0.54	0.01
KAEL	71.98	225.12	64.78	17.20	7.74	0.19
TELK	405.13	664.74	-220.39	-536.40	-536.40	-6.97
TCC	144.45	194.32	229.68	177.80	80.01	1.21
KSO	57.16	174.92	-204.57	-249.80	-249.80	-13.15
KSDP	197.44	280.08	-27.29	-164.40	-164.40	-3.91
KMM	1626.56	2447.40	-145.04	-1406.10	-1406.10	-4.87
KSDC	53.39	137.28	-71.47	-113.00	-113.00	-7.06
TTP	60.00	69.01	855.00	825.00	371.25	20.63
KDCL	102.37	131.25	139.31	69.60	31.32	1.42
SCL	26.16	71.53	40.55	29.40	13.23	0.60
TCL	20.18	17.19	15.37	6.40	2.88	0.58

Source: Computed from the Annual Reports of the companies

(A) Indifference Level at Zero Debt vs Existing Capital Mix at Current Rates

(B) Indifference Level at Zero Debt vs Existing Capital Mix at 19 Percent

TCC, for example, had an average EBIT of Rs.229.68 lakhs against its indifference EBIT of Rs.144.45 lakhs under situation A and Rs.194.32 lakhs under situation B. The estimated EPS based on actual EBIT was Re.1.21. The company's average debt ratio was 0.56 which indicated a low financial leverage. The company was in a position to further increase the financial leverage owing to a satisfactory position of its EBIT which would magnify the present EPS which the company failed to do.

In the case of TTP, the indifference points occurred at Rs.60 lakhs and Rs.69.01 lakhs under situations A and B respectively while the actual EBIT recorded Rs.855 lakhs which resulted in an EPS of Rs.20.63. The debt ratio was 1.04. Average interest on long term loans came to Rs.30 lakhs. It is worth noting that during the last three years under study, the company had not been employing any amount of long term borrowings in its capital structure.

The EBIT and breakeven levels of KCCL did not exhibit wide differences. While the actual EBIT was Rs.139.31 lakhs the breakeven levels of EBIT occurred at Rs.102.37 lakhs and Rs.131.25 lakhs respectively for situations A and B. The company had an average long term capital of Rs.692.60 lakhs constituted by Rs.221 lakhs as paid up capital and Rs.471.60 lakhs as loans. Even at the higher rate of interest, the EBIT levels provided a comfortable margin.

SCL exhibited a different picture. The indifference point under situation A occurred at Rs.26.16 lakhs while the actual EBIT was Rs.40.55 lakhs having a comfortable margin which generated an EPS of Re.0.60. At 19 per cent interest the EBIT should be at Rs.71.53 lakhs in order to breakeven. In such a situation, if there is no further increase in the actual EBIT, the EPS will come down. However, in the existing condition, the financial leverage appeared to be justifiable.

The capital structure of all other concerns appear to be not justifiable with the indifference levels as evidenced by the estimated data. KMM, for example, had the breakeven levels of EBIT at Rs.1626.56 lakhs and Rs.2447.40 lakhs under situation A and B respectively against a negative EBIT of Rs.145.04 lakhs. It is to be noted that out of an average total long term capital of Rs.12878.40 lakhs, 76 per cent was constituted by long term loans. In this case, financial leverage was not at all advisable since the earnings position was distressing. It is clear that the financial decision made was not based on the EBIT-EPS relationship as evidenced by the EPS of Rs.4.87 (negative). The average net loss (EAT) of the company was Rs.1406.10 lakhs, the major influencing factor being interest on longterm borrowings which had been Rs.1261.16 lakhs.

The case of KSO was very similar to the above. It had a distressing EPS of Rs.13.15 (negative) on an average. The company's actual EBIT was negative to the extent of Rs.204.57 lakhs. The required EBIT to breakeven was Rs.57.16 lakhs under situation A. When 19 per cent interest was considered and applied to the existing loan the indifference level had risen to Rs.174.92 lakhs leaving a wider gap in relation to the existing EBIT. Eventhough the earnings position was weak, the company employed larger proportion of borrowings in its capital structure. The long term capital amounted to Rs.914.40 lakhs constituted by borrowings of Rs.728.40 lakhs and equity capital of Rs.186 lakhs at an average. In fact the company should not have employed borrowings in the capital structure in which case the loss would have been considerably reduced.

The EBIT of TELK also was negative amounting to Rs.220.39 lakhs. The breakeven values under situations A and B were respectively Rs.405.13 lakhs and Rs.664.74 lakhs. The capital structure of the company was constituted by long term loans of Rs.2729 lakhs and equity capital of Rs.768.40 lakhs. The loss before interest was only Rs.1.80 lakhs. But the net loss after interest came to Rs.536.40 lakhs. It is clear that the important reason for loss as well as the negative EPS was the interest burden.

KSDC and KSDP were other concerns which recorded negative values of EBIT which has resulted in negative EPS values of Rs.7.06 and Rs.3.91 respectively. In these cases also there were high influences of interest on borrowings.

Traco, KAEL and TCL were companies to be included in a group in which the actual EBIT levels were not negative but below the indifference levels. The breakeven EBIT of Traco was Rs.4.74 lakhs as against the EBIT of Rs.4.35 lakhs. On applying the interest rate of 19 per cent the breakeven EBIT had considerably increased to Rs.317.02 lakhs. The reason was that the interest charged to the profit and loss account was Rs.18.40 lakhs for long term and short term loans. In the case of KAEL also, the company did not reach the breakeven level of Rs.71.98 lakhs under situation A owing to a lesser amount of EBIT. The actual EBIT of TCL also was lower than the indifference point.

From the above analysis, it is found that nine out of twelve enterprises did not have the EBIT levels at least equal to the breakeven EBIT. From an EBIT-EPS tangle, the financing decisions taken were not justifiable. Even without having sufficient operating profits, the companies employed loan capital beyond their capacity to borrow. In many cases, the interest became a significant reason for increased losses.

5.3.2 Private Sector

Table 5.8 exhibits the EBIT, Breakeven EBIT, EPS etc., of the private sector undertakings brought under study. Eight out of fourteen enterprises had the EBIT levels above the indifference points under stages A and B. The EPS of these companies ranged between Re.1.22 and Rs.10.40 and among these GTN tops the list. It had Rs.134.84 lakhs as EBIT against the indifference levels of Rs.45.09 lakhs under stage A and Rs.128.87 lakhs under stage B. In other words, the EBIT of the company was about three times the indifference point. It appeared that the company with a highly levered capital structure had been enjoying the benefit of trading on equity due to a favourable EBIT position. Similarly, OEN with an EPS of Rs.8.24 had an average EBIT of Rs.168.18 lakhs against an indifference EBIT of Rs.33.39 lakhs. Even at a higher rate of interest the breakeven point EBIT had been less than actual EBIT. If the EBIT was not subject to wide fluctuations, the company could have increased the financial leverage which may result in a still higher level of EPS.

With an average EPS of Rs.5.86 Apollo occupied the third position. It had earned an average EBIT of Rs.2035.34 lakhs against the indifference EBIT levels of Rs.475.44 lakhs and Rs.1396.00 lakhs under A and B situations respectively. In this case also the earnings position warrants further financial leverage to increase the EPS from the present level.

Table 5.8

EBIT-EPS Analysis (Private Sector)

(Rs. in Lakhs)

Companies	Indifference Levels						
	A	B	EBIT	EBT	EAT	EPS (Rs)	
AFOLLO	475.44	1396.00	2035.34	1441.40	738.63	5.86	
TECIL	100.08	167.20	59.62	-14.60	-14.60	-0.63	
ALIND	381.37	475.00	-327.57	-646.40	-646.40	-15.77	
WIP	77.26	111.17	209.48	164.20	73.89	3.08	
GTN	45.09	128.87	134.84	92.40	41.58	10.40	
EXCEL	49.33	58.51	60.62	27.20	12.24	1.22	
OEN	33.39	44.10	168.18	146.40	65.88	8.24	
TOSHIBA	58.08	54.19	-125.35	-159.40	-159.40	-13.28	
PREMIER	343.46	453.48	109.03	-210.00	-210.00	-12.35	
BPL	105.20	51.02	118.72	33.00	14.85	2.97	
KELW	108.96	282.48	-149.08	-250.00	-250.00	-22.73	
KSL	36.14	20.86	60.89	36.80	16.56	4.14	
LAXMI	91.00	61.13	-216.67	-282.60	-282.60	-31.40	
SRI BHAG.	35.50	57.24	64.79	37.00	16.65	3.33	

Source: Computed from the Annual Reports of the companies
 (A) Indifference Level at Zero Debt vs Existing Capital Mix at Current Rates
 (B) Indifference Level at Zero Debt vs Existing Capital Mix at 19 Percent

KSL, with an average paid up capital of Rs.44 lakhs and long term borrowings of Rs.73.20 lakhs had earned an EBIT of Rs.60.89 lakhs against the indifference levels of Rs.36.14 lakhs and Rs.20.86 lakhs under A and B situations respectively. It is clear that the profitability allows further gearing of capital which would have resulted in increased EPS.

WIP recorded an EBIT of Rs.209.48 lakhs against the indifference level of Rs.77.26 lakhs under stage A and Rs.111.17 lakhs under stage B. After deducting interest and taxes, the divisible profits amounted to Rs.73.89 lakhs on an average.

The other companies with actual EBIT above the indifference levels were Sri Bhagavathi, BPL and Excel.

There were four undertakings whose EBIT levels turned to be negative. Alind recorded the highest negative value of Rs.327.57 lakhs against the indifference EBIT of Rs.331.37 under situation A. Laxmi recorded the highest negative value of EPS, Rs.31.40, resulted from a negative EBIT of Rs.216.67 lakhs against the indifference EBIT levels of Rs.91 lakhs and Rs.61.13 lakhs respectively under situation A and B. KELW and Toshiba had to come across similar situations. Premier had an EBIT of Rs.109.03 lakhs on an average. But it had turned into a net loss of Rs.210 lakhs

due to the influence of interest on longterm loans amounting to Rs.319.03 lakhs. Similar was the case with TECIL. It had an EBIT of Rs.59.62 lakhs and the interest on longterm loans amounted to Rs.74.22 lakhs. It has resulted a net loss of Rs.14.60 lakhs.

The analysis disclosed the fact that the capital structure of majority of the private sector enterprises were justifiable with the indifference levels of EBIT.

5.3.3 Central Sector

In the Central sector, CSL, the only loss making concern, appeared to have the EBIT as negative. The distance between the actual EBIT and indifference levels was considerably high. The table 5.9 shows that the EBIT of the company was Rs.677.20 lakhs (negative), while the indifference points under situations A and B respectively were Rs.1908.70 lakhs and Rs.3913.82 lakhs.

CRL had the highest value of EBIT amounting to Rs.5001.97 lakhs while the breakeven EBIT levels were Rs.2202.89 lakhs and Rs.4025.98 lakhs under A and B situations respectively. Its financial leverage can further be increased, if the EBIT position does not fluctuate widely, which will lead to an increase in EPS.

Table 5.9

EBIT-EPS Analysis (Central Sector)

(Rs. in Lakhs)

Indifference Levels

Companies	A	B	EBIT	EBT	EAT	EPS (Rs)
CIL	2202.89	4025.98	5001.97	3124.60	1406.07	4.35
CSL	1908.70	3913.82	-677.20	-1954.00	-1954.00	-2.87
FACT	315.47	6573.80	1704.30	1645.40	740.43	0.27
HLL	202.46	968.09	300.56	202.00	90.90	0.78

Source: Computed from the Annual Reports of the companies
 (A) Indifference Level at Zero Debt vs Existing Capital Mix at Current Rates
 (B) Indifference Level at Zero Debt vs Existing Capital Mix at 19 Percent

In the case of FACT and HLL, the actual EBIT levels exceed the indifference level at stage A. When the rate of interest is increased to 19 per cent, the indifference EBIT levels far exceeded the current EBIT levels in both the cases.

HLL has an evenly levered capital structure with an average equity capital of Rs.1165 lakhs and loan of Rs.1116.20 lakhs. When there are hikes in the rate of interest on long term loans, additional debt financing does not seem to be advisable as evidenced by the indifference level at 19 per cent interest.

Section IV

5.4 Statistical Analysis

Financial leverage, accelerated EBIT and an operationally feasible interest level always aim at the wealth maximisation of every business enterprise. This section is intended to evaluate the effect of Debt-Equity mix, EBIT and interest charges, on EPS by using inferential statistics.

5.4.1 Simple Regression

Here, EPS is taken as the dependent variable (Y) while EBIT, Debt-Equity mix and interest fraction are taken as independent variables.

5.4.1.1 State Sector

Three estimating equations (linear regression equations) of EPS based on -

- (i) debt-equity alone
- (ii) EBIT alone and
- (iii) interest charges alone

for the 12 companies in the state sector are obtained. For each case the standard error of estimate, the correlation coefficient and coefficient of determination are found out. Tests of significance are performed for testing the significance of the regression coefficient and of the correlation coefficient.

5.4.1.1.1 EPS based on Debt-Equity (D/E)

$$y = 9.135 - 4.604 x_1$$

where $y = \text{EPS}$

$x_1 = \text{Debt-Equity}$

The standard error of estimate = 6.103

The correlation coefficient between
EPS and D/E = -0.699

The coefficient of determination = 0.489

For testing the significance of the coefficient of x_1 Student's t with 10 d.f. is found to be - 3.0947 which is significant at 5% level (table value 2.228)

For testing the significance of the correlation coefficient F with (1,10) d.f. is found to be 9.57 which is significant (table value 4.96).

Therefore EPS depends on D/E and 48.90% of the variation in EPS is explained by the variation in D/E (table 5.10).

5.4.1.1.2 EPS based on EBIT

$$y = -4.095 + .0295 x_2$$

where $y = \text{EPS}$

$x_2 = \text{EBIT}$

The standard error of estimate = 2.886

The correlation coefficient between
EPS and EBIT = 0.941

The coefficient of determination = 0.886

For testing the significance of the coefficient of x_2 Student's t with 10 d.f. is found to be 8.809 which is highly significant (Table value at 5% level 2.228).

For testing the significance of the correlation coefficient F with (1,10) d.f. is found to be 77.55 which is highly significant. (Table value at 5% level 4.96).

Therefore EPS depends on EBIT and 88.60% of the variation in EPS is explained by the variation in EBIT. (Table 5.10).

5.4.1.1.3 EPS based on interest

$$y = 0.425 - 0.006t$$

where y = EPS

t = interest

The standard error of estimate = 8.185

The correlation coefficient between EPS and Interest (INT) = -0.285

The coefficient of determination = 0.081

For testing the significance of the coefficient of t , Student's t with 10 d.f. is found to be - .9397 which is not significant (Table value at 5% level 2.228).

For testing the significance of the correction coefficient F with (1,10) d.f. is found to be 0.88 and the corresponding inverse F with (10,1) d.f. is 1.136 which is not significant (Table value 2.42).

Therefore EPS does not depend on interest and it is found that only 8% of the variation in EPS is explained by interest (Table 5.10).

5.4.1.2 Private Sector

Analysis is done on the same lines as above for the fourteen private sector concerns.

5.4.1.2.1 EPS based on D/E

$$y = -2.615 - .279 x_1$$

where $y = \text{EPS}$

$$x_1 = \text{D/E}$$

The standard error of estimate = 13.177

The correlation coefficient = -0.106

The coefficient of determination = 0.011

Student's t with 12 d.f. for testing the significance of the coefficient of $x_1 = -0.368$ which is not significant (Table value at 5% level is 2.179).

F with d.f. (1,12) for testing the correlation coefficient is less than one and the corresponding inverse F with (12,1) d.f. is 7.384 which is not significant (Table value 2.44) (Table 5.10).

5.4.1.2.2 EPS based on EBIT

$$y = -6.007 + .008 x_2$$

where $y = \text{EPS}$

$$x_2 = \text{EBIT}$$

The standard error of estimate = 12.344

The correlation coefficient = 0.364

The coefficient of determination = 0.132

t with 12 d.f. for the regression coefficient = 1.353

which is not significant (Table value 2.179).

F with (1,12) d.f. for testing the correlation coefficient = 1.830, ^{is} not significant (Table value 4.75).

Therefore EPS does not depend on EBIT. (Table 5.10).

5.4.1.2.3 EPS based on interest

$$y = -1.300 - .013t$$

where $y = \text{EPS}$

$$t = \text{INT}$$

The standard error of estimate = 12.899

The correlation coefficient = -0.229

The coefficient of determination = 0.052

t with 12 d.f. for the regression coefficient = -0.815

is not significant (Table value 2.179).

F with (1,12) d.f. for testing the correlation coefficient is less than 1 and the corresponding inverse F with (12,1) d.f. is 1.505 which is not significant (Table value is 2.44) (Table 5.10)

5.4.1.3 Central Sector

Here also calculations are done in the same lines as in the case of public sector concerns and private sector concerns. But the results are not conclusive as the sample size is small. There are only four units.

5.4.1.3.1 EPS based on D/E

$$y = -0.736 + .796 x_1$$

where $y = \text{EPS}$

$$x_1 = \text{D/E}$$

The standard error of estimate = 1.806

The correlation coefficient = 0.789

The coefficient of determination = 0.623

Student's t with 2.d.f. for testing the regression coefficient is 1.817 which is not significant (Table value 4.303).

F with d.f. (1,2) for testing the correlation coefficient is 3.300 which is not significant (Table value 18.5).

So EPS does not depend on D/E.

5.4.1.3.2 EPS based on EBIT

$$y = -1.223 + .001 x_2$$

where $y = \text{EPS}$

$$x_2 = \text{EBIT}$$

The standard error of estimate = 1.471
The correlation coefficient = 0.914
The coefficient of determination = 0.835

Student's t with 2 d.f. for testing the regression coefficient = 3.182 which is not significant (Table value = 4.303).

F with d.f. (1,2) for the correlation coefficient is 10.13 which is not significant (Table value 18.5)(Table 5.10)

So EPS does not depend on EBIT.

5.4.1.3.3 EPS based on interest

$$y = -0.159 + .00123 t$$

where y = EPS

t = interest

The standard error of estimate = 2.603
The correlation coefficient = 0.465
The coefficient of determination = 0.216

Student's t with 2 d.f. for the regression coefficient = 0.742 which is not significant (Table value=4.303).

F with d.f. (1,2) for the correlation coefficient is less than 1 and the corresponding inverse F with (2,1) d.f. is 1.815 which is not significant (Table value = 2.00). (Table 5.10).

Table 5.10

Regression of EPS on (i) Debt-Equity (ii) EBIT (iii) Interest

Coefficient and Test Statistics

(1985-86 to 1989-90)

Variables	Sectors	Regression coefficients	Standard error of y estimate	Correlation coefficient	Coefficient of determination	t value for regression coefficients	F value for correlation coefficients
EPS based on Debt-Equity	State	- 4.604	6.103	- 0.699	0.489	- 3.0947	9.570
	Private	- 0.279	13.177	- 0.106	0.011	- 0.3680	7.384 (inverse F)
	Central	0.796	1.806	0.789	0.623	1.8170	3.300
EPS based on EBIT	State	0.0295	2.886	0.941	0.886	8.8090	77.550
	Private	0.008	12.344	0.364	0.132	1.3530	1.830
	Central	0.001	1.471	0.914	0.835	3.1820	10.130
EPS based on interest	State	- 0.006	8.185	- 0.285	0.081	- 0.9397	1.136 (inverse F)
	Private	- 0.013	12.899	- 0.229	0.052	- 0.815	1.505 (inverse F)
	Central	0.00123	2.603	0.465	0.216	0.742	1.815 (inverse F)

Source: Computed from Annual Reports

5.4.2 Multiple regression

For multiple regression analysis EPS is considered as the dependent variable (y), whereas Debt-Equity ratio (x_1) and EBIT (x_2) are taken as independent variables.

5.4.2.1 State Sector

Since only D/E and EBIT have some effect on EPS, a multiple regression equation for estimating EPS based on D/E and EBIT is found out.

$$y = - 0.158 - 1.588 x_1 + 0.025 x_2$$

where y = EPS

x_1 = D/E

x_2 = EBIT

The standard error of estimate = 2.464

The multiple correlation coefficient R = .962

The coefficient of determination, R^2 = .925

Student's t with 9 d.f. for testing the significance of the coefficient of x_1 = -2.172 which is significant at a slightly higher level than .05 (Table value 2.262 at 5% level). And that for x_2 = 7.236 which is highly significant. For testing the significance of R , the multiple correlation coefficient, F with d.f. (2,9) = 55.56 which is ^{also} highly significant (Table value at 5% level 4.26).

Therefore if EPS is estimated based on D/E and EBIT, 92.5% of the variation in EPS is explained by D/E and EBIT. (Table 5.11).

5.4.2.2 Private Sector

None of the 3 independent variables have significant effect on EPS. But still a multiple regression equation based on D/E and EBIT is found out as in the case of the public sector.

$$y = - 4.558 - .279 x_1 + .0077 x_2$$

where $y = \text{EPS}$

$$x_1 = \text{D/E}$$

$$x_2 = \text{EBIT}$$

The standard error of estimate = 12.810

The multiple correlation coefficient, $R = .379$

The coefficient of determination, $R^2 = .143$

Student's t with 11 d.f. for testing the regression coefficient of x_1 is $-.378$ and that for x_2 is 1.303 . Both are not significant as the table value is 2.202 . F with d.f. (2,11) for testing R is less than 1 and the corresponding inverse F with (11,2) d.f. is 1.086 which is not significant (Table value is 19.4).

So D/E and EBIT have no significant effect on EPS. (Table 5.11)

5.4.2.3 Central Sector

$$y = - 1.145 - .080 x_1 + .00114 x_2$$

where y = EPS

$$x_1 = D/E$$

$$x_2 = EBIT$$

The standard error of estimate = 2.069

The multiple correlation coefficient, $R = .915$

The coefficient of determination, $R^2 = .837$

Student's t with 1 d.f. for testing the regression coefficient of x_1 is $- .106$ and that for x_2 is 1.586 . Both are not significant as the table value is 12.706 .

F with d.f. (2,1) for testing R is 2.567 which is not significant (Table value = 200).

So EPS does not have any significant dependence on D/E and EBIT. (Table 5.11).

Table 5.11

Regression of EPS on Debt-equity (x_1) and EBIT (x_2).

Coefficients and Test Statistics.

(1985-86 to 1989-90)

Sectors	Regression Coefficients		Standard error of estimate	Correlation coefficient	Coefficient of determination	't' values of Regression coefficients		'F' values of correlation coefficients
	x_1	x_2				x_1	x_2	
State	-1.588	.025	2.464	0.962	0.925	-2.172	7.236	55.560
Private	-0.279	.0077	12.810	0.379	0.143	-0.378	1.303	1.086 (inverse F)
Central	-0.080	.00114	2.069	0.915	0.837	-0.106	1.586	2.567

Source: Computed from Annual Reports

Section V

5.5.1. SURVEY REPORT

From the above analysis, it is observed that the financial leverage effected by the state sector enterprises taken together was not favourable from the owners' point of view.

5.5.1.1. Most of the concerns were found to have debt intensive capital structure. Proportion of retained earnings were low in many of the companies. The magnitude of miscellaneous expenditure and losses were high which resulted in poor net worth positions. In many cases the net worth of companies had become negative.

Cwing to operating losses, firms found it difficult to meet the interest obligations. These interest burden increased the losses further, except in a few cases.

Further, the EBIT generated by most of the enterprises were very low or negative. From the EBIT-EPS analysis, it could be concluded that the actual EBIT levels were far below the indifference levels in most of the state sector enterprises. For firms with high leverages the results were distressing. EBIT below the indifference point is an indication of decreases in EPS and this could be taken as a conclusive evidence of undesirable leverage policies.

It was hypothesised that there was more significant and positive correlation between EPS and Debt-Equity ratio

than between EPS and EBIT. The regression and correlation results of the state sector showed that increase in Debt-Equity ratios decreased EPS. In other words, EPS was negatively correlated with Debt-Equity ratio. It was also found that increase in EBIT had the effect of increasing the EPS.

Increase in Debt-Equity ratio can be justified only when there is an increase in EPS even though not substantial. Here, in the state sector, these variables have been observed as acting in opposite directions. It is, however, an unusual phenomenon. Thus it was found necessary to make an enquiry for evaluating the circumstances under which the financing decisions were taken.

For the purpose, necessary information was gathered through interviews with financial personnel of the state and private sector enterprises. Only those concerns which had an average Debt-Equity ratio of above 1:1 were chosen as the intention was to make an assessment of the factors considered for taking financing decisions.

5.5.1.2. It was understood that the considerations for taking investment and financing decisions were different in the state and private sector enterprises. The decisions in the state sector were guided mainly by the Government directives. Profit motive was given lesser importance. The financial

personnel were not allowed to take independent decisions. The decisions were finalised by the Government on the basis of considerations better known only to the party in power. Such an external influence was not reported by any of the private sector enterprises. In this case, the decision making was independent.

5.5.1.3. The state sector enterprises do not seem to have given much importance for the capital budgeting techniques. Very often the project selections were not taken after a proper project evaluation. But it was reported that they were employing various capital budgeting techniques ranging from the traditional 'average rate of return' method to the discounted cash flow techniques.

In the private sector, all enterprises were found using various capital budgeting techniques based on the time value of money.

5.5.1.4. Five enterprises of the state sector were indifferent with regard to the type of capital structure they preferred. According to them, so long as the Government is the owner of state sector enterprises, a bifurcation of total capital into equity and debt did not have much significance. However, two companies preferred debt intensive capital structure.

Three of the private sector enterprises favoured a debt intensive capital structure. Reasons quoted were,

retention of control, tax deductibility of interest and lower cost of borrowings. The other three were in favour of an equity intensive capital structure. They considered it as a more or less conservative approach. They opined that the determining factor was the variability of operating income and not Debt-Equity ratio.

5.5.1.5 Regarding the acceptance of a norm for the mixing of debt and equity, the opinion was that the state sector enterprises had to follow the Government guidelines in this regard. It also had to abide by the norms requirements of certain financial institutions like IFCI, ICICI, IDBI etc., for availing financial accommodation from them. However, no rigidities in this regard were reported.

For private sector enterprises also the norms requirements of the financial institutions were applicable. A 2:1 ratio of debt and equity as suggested under the Capital Issues (Control) Act was favoured by three units. They considered it also as a matter of policy.

5.5.1.6. Cost of capital and risk factors were taken differently in the state sector and private sector enterprises.

It appeared that these factors were not given proper consideration by most of the state sector enterprises in taking financing decisions. In this case also it was opined that these factors need not be considered in the

state sector since the ownership of the companies was with the Government. Mix of debt and equity was not done based on the estimates of cost and risk factors. Certain managers considered interest payable on borrowings as cost of capital. Many were not clear about the explicit and implicit cost of capital and also the cost of equity.

In contrast to this, the private sector was more concerned about the cost and risk factors both for the purpose of taking investment and financing decisions. One company, whose shares are actively traded in the stock market, considered risk factor also for computing the cost of capital (expected return). Another company which was always subjected to wide variations in sales tried to increase the equity capital instead of going for low cost debt. This policy was followed mainly with a view to avoiding financial risk.

5.5.17 No state sector enterprise reported that the EBIT-EPS analysis was relevant in the state sector. According to them the market value of shares and consideration of EPS were not a matter of concern as their shares are not traded in the market.

The private sector enterprises were more concerned with certain factors as return on investment, EPS, dividend

etc., They also work out the interest paying ability by relating return on investment and interest component.

5.5.1.8. Both state and private sector enterprises reported cases of time lag and cost over-runs in connection with their projects and schemes. The time lag as reported by the private sector were not as frequent as reported by the state sector. Out of six enterprises, four companies in the private sector reported time lags between three months and nineteen months. In these cases, the maximum cost escalation reported was about 27 per cent of the original estimated project costs.

In the state sector, on the other hand, completion of projects without time lag and cost-over-runs were very rare. A number of instances of undue delays in project completion and the resultant cost over runs were reported.

5.5.1.9. Both state and private sector enterprises reported cases of penal interest due to belated payment of interest on loans. But the magnitude and frequency of its occurrence were found high in the state sector when compared to the private sector.

5.5.1.10. Similarly, both the sectors reported cases of re-scheduling of loan arrangements and funding of interest owing to their inabilities to repay loans and pay interest. In this case also the magnitude was high in the state sector.

5.5.1.11 There are also cases of conversion of loans into equity both in the private and state sector enterprises. Three out of six concerns in the private sector reported such conversion. It was reported that these conversions were in compliance with the conditions stipulated by certain financing agencies and not due to any pressure from the part of companies.

In the state sector the instances of conversion of debt into equity were more. Among the seven enterprises under review, six reported debt conversion on various occasions. In certain cases the loan conversions were very frequent. For instance, one company converted a loan of Rs.1027 lakhs into equity in 1981. The same company converted Rs.120 lakhs into equity in 1983. In the same year there was also another conversion. Information from the secondary sources also established the fact.¹ It was understood that such loan conversions were not pre-planned or in compliance with the conditions of the financing institutions or the Government. Firms found it difficult to carry on with the burden of high debt. Most of the state sector enterprises which resorted to such conversion did so for the purpose of maintaining the balance between Debt and Equity when additional loans were to be obtained from financing institutions.

5.5.2 Analysis based on C&AG Reports

The influence of the above factors on the capital structure of the state sector enterprises in Kerala has been established through an analysis of the Reports of the Comptroller and Auditor General of India (C & AG) on state sector enterprises. Enterprises not included in the universe of the study also are taken for the analysis.

5.5.2.1 Inadequacies and Imperfections in Project Reports

A project report is a blue print of an investment decision. It is on the basis of this report a project is implemented. Therefore, any inadequacies in the project reports may result in not only cost over runs and time lags but in certain cases, complete abandonment of projects, after partial implementation.

It is doubtful whether this aspect has been given serious considerations by the public sector enterprises in Kerala. A number of lapses have been pointed out by the Comptroller and Auditor General of India (C & AG) in this respect. For example, Kerala State Film Development Corporation (KSFDC) in connection with its theatre project did not have a genuine project report indicating the economic viability of the scheme.² Another example is the United Electrical Industries Ltd. With regard to its Plastic Film Capacitor project, it was pointed out that no project report was prepared for the purpose.³

Yet another example is TCC. For its expansion project, it was reported that there was no valid project report.⁴ There are also instances of project reports prepared by outside agencies without adequate knowledge of the scheme.⁵

All these imply that most of the projects undertaken by the state sector were the result of guess work and false judgment.

5.5.2.2. Abandonment and dropping of projects

Abandonment and dropping of projects during and after implementation of projects were also reported. This was indicative of lack of foresight and irrational thinking. In the state sector enterprises, a number of instances were pointed out by the C & AG. One example is Kerala State Textile Corporation which dropped its Mill project which had been in progress and which had spent Rs.52.65 lakhs on it.⁶ Kerala Agro Industries Corporation had abandoned various projects and schemes which rendered huge expenditure infructuous. Another example is KSFDC which had dropped its project of constructing theatres in Alleppey, Trichur and Taliparamba. The investment of about Rs.7.00 lakhs already made remained blocked and dead.⁷

5.5.2.3. Time lag and cost over-runs

Cost of projects fixed at the time of preparing project reports is often subjected to so many revisions. This

is caused by time lags and cost over runs. Cwing to these cost escalations, most of the projects undertaken lead to heavy financial burden. These situations hamper the financial patterns of the enterprises. Firms resort to borrowings for financing these cost over runs.

For instance, Keltron Controls Division of KSEDC, scheduled to be completed by 1981, was commissioned only in 1982. Time lag and other similar reasons had driven its estimated project cost from Rs.447.65 lakhs to Rs.1087 lakhs. It is to be noted that Rs.722 lakhs of the project cost was financed by borrowings.⁸ KSDP is another example. The estimated cost of its Vitamin A project was Rs.450 lakhs. The project was scheduled to be completed in 1979. It was completed only in 1983. This has resulted in a cost over run of Rs.477 lakhs.⁹ Yet another example is KSFDK. The theatre project of the company was originally estimated at Rs.228 lakhs in 1978. It was revised to Rs.420 lakhs in 1980 and again to Rs.448.49 lakhs in 1982. Surprisingly, again in the same year, the cost was revised to Rs.637.54 lakhs.¹⁰ Other notable examples are Traco Cable Company¹¹ and Kerala State Electricity Board.¹²

5.5.2.4 Time of expansion

The success of a concern not only depends on how various activities are undertaken but also the time when they are started. In the state sector, there are instances

of starting new projects even when the financial positions of the companies are miserable. For example, KSO. It was in 1979 the company started implementation of its expansion scheme when it had an accumulated loss of Rs.123 lakhs. Then the paid up capital was Rs.150 lakhs. The project was mainly financed by borrowings. However, it could not succeed with this project. It is distressing to see that the company had an accumulated loss of Rs.1030 lakhs in 1987¹³ (555 per cent of its paid up capital). Another example is Kerala Agro Industries Corporation. At the time of starting its Pesticides project, Pesticides formulation units all over India were utilising only 50 to 60 per cent of their capacities. Subsequently, the scheme had to be abandoned realising its unviability.¹⁴ Trivandrum Spinning Mill had started its modernisation programme when it had an accumulated loss of twice its paid up capital.

5.5.2.5. Idle assets

Another major defect notified was the existence of idle assets and idling of investments in the state sector enterprises. Keltron Rectifiers Ltd., purchased a machinery worth Rs.42.70 lakhs in 1979-80 in connection with its thyristors project. It was reported that the machinery remained idle till 1985 since the company did not start production of thyristors.¹⁵ In the case of Kerala Tourism

Development Corporation, it was pointed out by C & AG, "A number of boats were remaining idle due to repairs, want of crew etc."¹⁶ With regard to Kerala State Coir Corporation it was noted that the injudicious action of the company in constructing a large building resulted in an idle investment of Rs.11.54 lakhs.¹⁷ Other examples are Kerala State Textiles Corporation,¹⁸ KSDC¹⁹ etc.

5.5.2.6. Interest burden and penal interest

Cost escalations, idle investments, infructuous expenditure etc., necessitated additional funds which in most cases were mobilised through borrowals, an easier source when compared to equity for state enterprises. Heavy borrowals resulted in heavy interest burden. Borrowings beyond the capacity to borrow often delayed interest payments and occasionally defaulted interest. Belated payments and defaults resulted in penal interest burden. The Kerala Financial Code contains provisions for charging penal interest on defaults. A number of instances were reported about delayed payments, non-payment of principal and interest etc.

The following table shows a few examples of companies charged with penal interest. Table 5.12)

Table 5.12

Penal interest payments by state enterprises

Name of company	Year	Penal interest (Rs. Lakhs)
Kerala State Film Development Corporation	1982	2.70
Travancore Titanium Products Limited	1985	53.82
Kerala State Detergents and Chemicals Ltd.	1987	3.72
Malabar Cements Ltd.	1987	24.21
Kerala State Textile Corporation	1987	45.51
Kerala Soaps and Oils Ltd.	1987	12.58

Source: Reports of the Comptroller and Auditor General of India, various issues.

This is a clear indication of excessive borrowings. KSFDC made even a request to the Government to grant moratorium on repayment of loans and payment of interest accumulated upto 1986-87. Most such companies had to resort to rescheduling of loan arrangements and funding of interest.

5.5.2.7. Rescheduling of loan arrangements and funding of interest

The ever growing financial crises resulted in revision of loan agreements with regard to most of the state sector enterprises. It was reported that certain companies were not able to adhere even to the revised schedules. Malabar Cements Ltd., Kerala State Wood Industries Ltd., etc., are a few examples.

The following table shows the examples of certain companies which resorted to revising loan arrangements.

Table 5.13

Details of companies which rescheduled loans

Name of companies	Financing agencies	Year	Amount involved (Rs.Lakhs)
Malabar Cements Ltd.	Financial institutions and Banks	1987	502.42
Kerala State Wood Industries Ltd.	IDBI	1985	370.00
Keltron Rectifiers Ltd.	KFC	1986	25.00
-do-	Banks	1985	54.53

Source: Reports of the Comptroller and Audit General of India, various issues.

Rescheduling loans involves funding of interest also, many a time. In effect, these exercises also had the effect of distorting the financing patterns of companies. Companies were driven into a vicious circle from which it was rather impossible to escape. The following table shows a few examples of companies whose accumulated interest were funded.

Table 5.14

Details of companies whose interest obligations were funded

Name of company	Year	Amount involved (Rs. Lakhs)
Malabar Cements Ltd.	1982	420.00
-do-	1987	413.04
Kerala State Drugs and Pharmaceuticals Ltd.	1984	545.00
Kerala Minerals and Metals	1984	622.17

Source: Reports of the Comptroller and Auditor General of India, various issues.

5.5.2.8. Funds diversion

Firms, in their financial difficulties, were sometimes forced to divert longterm capital for short term purposes and vice versa. By doing so, the objectives for

which the funds were to be utilised got vitiated. These exercises also were not rare in the state sector.

While guaranteeing the repayment of cash credit facility of Rs.165 lakhs, to Kerala State Wood Industries Ltd., the Government had stipulated that this working capital loan should not be utilised for capital expenditure. In contravention to this stipulation, the company had utilised Rs.16.90 lakhs from cash credit for meeting the project cost. It had also utilised Rs.23.02 lakhs out of this cash credit for paying off interest on a previous loan.²⁰ Travancore Titanium Products Ltd., is another example. For meeting the expenditure on its DCDA project, the company diverted its working capital obtained as cash credit at 19.5 per cent from SBT.²¹ Yet another example is KSO. It was pointed out that the company had utilised short term funds for the acquisition of fixed assets for its expansion scheme. This led to curtailment of production which further accelerated the rate of loss.²² Diversion of long term funds for short term purposes also were not uncommon. An example is Chalakudy Refractories Ltd. It was reported that the company was forced to divert Rs.54.47 lakhs for working capital purposes from an aggregate amount of Rs.131.49 lakhs received for the implementation of its modernisation and expansion scheme.²³ Another example is Traco Cable Company. It was during the implementation of its telephone cable project, the

company diverted Rs.7.74 lakhs for payment of interest and Rs.7.50 lakhs for repaying a previous loan. Actually, these amounts were diverted from the funds earmarked for the project implementation.²⁴

5.5.2.9. Conversion of loan into Equity

At last the firms reach a stage where conversion of debt into equity becomes inevitable. However, it is not the end in itself. In fact, this process further aggravates the financial problems.

These debt conversions are not rare in the state sector. Table 5.15 evidences the point.

From the foregoing discussions it is clear that in the state sector, the capital structure decisions are construed as irrelevant. This irrelevance is not the one as established by Modigliani and Miller. Here, in the state sector, the irrelevance lies in lack of concern with regard to a capital structure decision. Financing decisions are not taken seriously. In fact, the decisions, in the state sector enterprises, are not taken in advance as is done in any competitive business concern. Here, the capital structure is allowed to evolve.

Table 5.15

Debt conversion in the state sector

Name of company		Year	Amounts of loan conversion (Rs.lakhs)
Malabar Cements Ltd.	I	1981	12.64
-do-	II	1987	55.00
Chalakydy Refractories Ltd.	I	1977	11.40
-do-	II	1983	18.22
Kerala Minerals and Metals Ltd.	I	1981	1027.00
-do-	II	1983	120.00
-do-	III	1983	40.00
Kerala State Handloom Development Corporation		1989	120.89
Kerala Premo Pipe factory		1990	96.42

Source: Reports of the Comptroller and Auditor General of India, various issues.

The fact remains that any 'business' undertaking for survival if not growth should be profit oriented. A business establishment is not a philanthropic institution, whether it be in the private sector or in the public sector. Business is onething and social consideration is another.

5.6 Sectorwise comparison of leverage

5.6.1 Percentage of interest on total expenses

The above analysis revealed that the influence of interest costs was relatively high in most of the state sector enterprises. The state sector topped the list of interest rates as well as the rates of fluctuation. It is interesting to note that the influence of interest costs were high in most of the loss making enterprises. In the private sector, Alind, Premier Cables and KELW, the loss making companies, had the highest percentage of interest costs. This does not mean that the companies with lower ratios were necessarily profit makers. For example, Toshiba Anand Batteries showed the lowest average value of 4.39 per cent and it was a loss making company. In the central sector, CSL alone recorded relatively higher rates of interest. In all other cases the influence of interest cost was low. They are also profit making undertakings.

When the sectoral values of state sector and private sector were compared, it was observed that in most of the years the average rates had been lower in the state sector. It had reflected in the geometric mean values also which was 5.44 in the state sector as against a higher rate of 6.51 in the private sector. It is mainly due to the very

low interest rates of TCL, TTP and Traco. Very wide fluctuations were seen in the state sector (Fig.5.1).

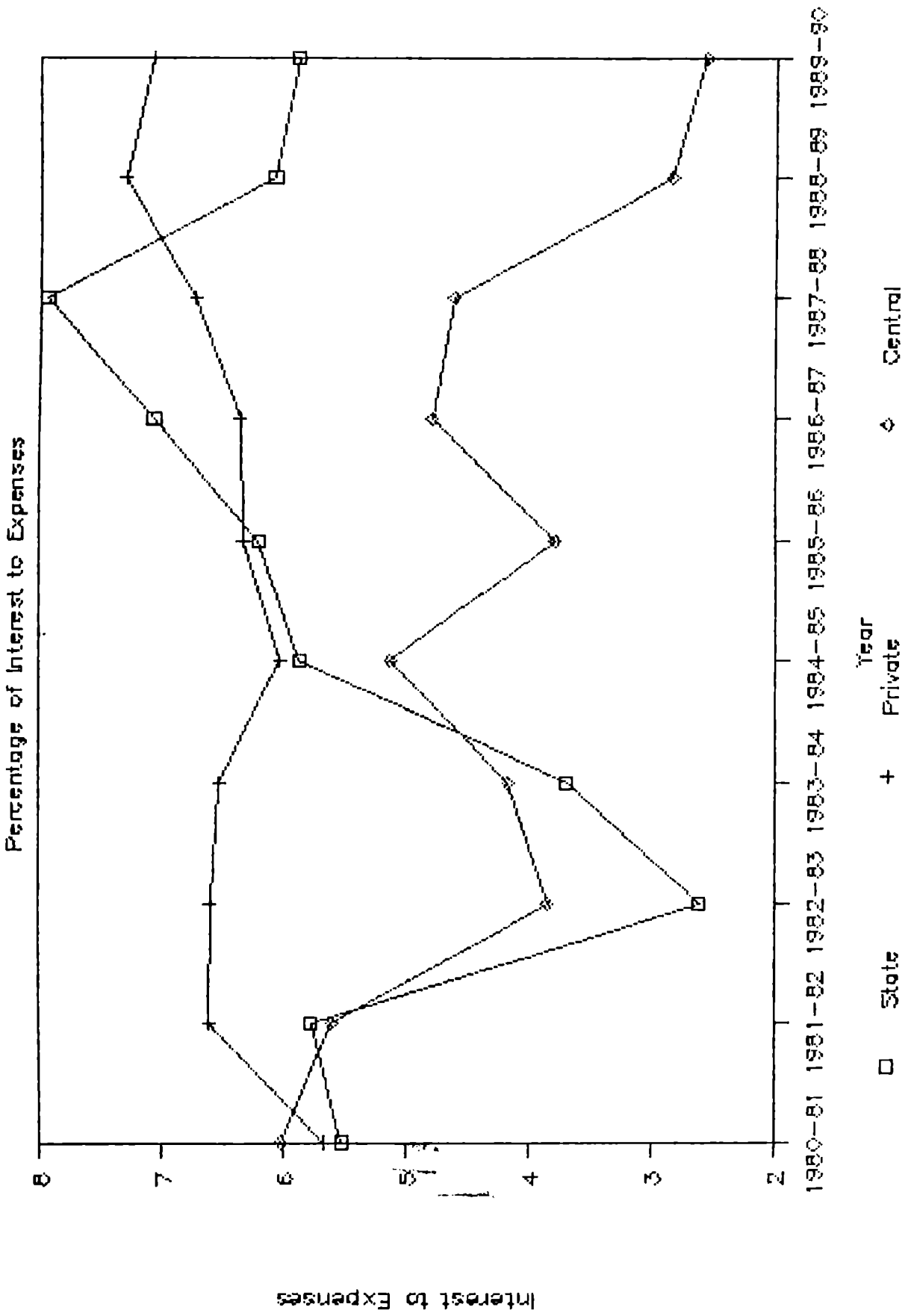
5.6.2 Interest coverage

The analysis disclosed that the financial leverage effected in the state sector undertakings as a whole was not the result of a well thought out financial plan. Even with huge losses, most of the enterprises did not refrain from further borrowings, resulting in increased interest burden. Interest costs turned out to be a dominant factor in increasing losses. Four out of twelve enterprises had negative interest coverage ratios and one had a rate of less than one. Only three undertakings had shown the ratios which were neither too low nor too high. Very high rates as disclosed by TCL and TTP were found rather unrealistic. These rates imply that they have not taken into consideration the significance of capital gearing. Wide fluctuations were also found between and within the firms.

As against this, the private sector as a whole appeared to maintain a relatively better position with minimum cases of extreme situations.

The central sector drew a still better picture. Among the four enterprises, CSL alone appeared to be in a precarious condition.

Fig. 5.1



5.6.3 EBIT-EPS Analysis

The analysis revealed that the capital structure of majority of the state sector enterprises were not justifiable with their indifference levels of EBIT. Out of twelve enterprises only three concerns recorded actual EBIT above the indifference levels. Five companies recorded actual EBIT as negative. In the case of a revision in the interest rates the other four enterprises also would be in difficulty! It is evident that most of the companies employed borrowed capital even without having sufficient operating income. In fact, the borrowings were beyond their capacity to do so. In the private sector there were eight concerns having their actual EBIT levels above the indifference levels. Only four enterprises recorded negative values of EBIT. When the rate of interest was raised to 19% two enterprises would be in a difficult situation, since their actual EBIT levels were below the indifference points. In the central sector CSL alone recorded the actual EBIT as negative. In the present condition the position of FACT and HLL were found to be safe. At higher rates of interest these two enterprises would express their EBIT levels below the indifference levels. Under situations A and B, CRL would not be finding it difficult to increase the EPS by employing more debt.

It is clear that if the EBIT levels are not subject to wide fluctuations three enterprises in the state sector, eight in the private sector and one in the central sector can increase their financial leverage to increase their EPS.

5.6.4 Statistical Analysis

In the state sector it was found that there was perfect negative correlation between Debt-Equity ratio and EPS. The correlation between EBIT and EPS was highly significant. The influence of interest on EPS was found insignificant.

In the private sector the correlation between Debt-Equity ratio and EPS was found insignificant. The influence of EBIT on EPS also was insignificant. In the central sector also the EPS was not found to be influenced by Debt-Equity ratio, EBIT and interest.

Multiple regression analysis projected the combined influence of Debt-Equity ratio and EBIT on EPS. It was found that 92.5 per cent of the variation in EPS was explained by Debt-Equity ratio and EBIT. In the private and central sectors, Debt-Equity ratio and EBIT did not have a significant effect on EPS. In other words, EPS did not have any significant dependence on Debt-Equity ratio and EBIT.

It is evident that high capital gearing is not advisable to the state sector unless there is proper support of operating income (EBIT).

5.6.5 Survey report

The interview with the financial personnel in the industrial enterprises revealed that a deserving attention was not given for investment and financing decisions in most of the state sector enterprises. It appeared that these decisions were not always based on sound financial management principles. Capital budgeting techniques were not employed extensively for the purpose of ranking of projects. These irrational attitudes resulted in time lag and cost escalations. These cost over runs were financed mainly by borrowals. Companies borrowed funds without considering the importance of cost and risk factors. Defaults in interest payments, rescheduling of loan arrangements, conversion of loan into equity etc., were reported. All these are the results of faulty investment and financing decisions.

The private sector enterprises were ^{found} more cautious in taking their investment and financing decisions. They take into account cost and risk factors. Even though defaults in payment of interest and rescheduling of loan arrangements were reported, the intensity was found to be low. Time lag and cost over runs were rare. In certain

circumstances, loan conversions also were reported. But such conversions of loan into equity were not the same as seen in the state sector. In the private sector most of the loan conversions were the result of previous agreements. But in the state sector, the loan conversions were the results of repeated requests by the companies on the government and financial institutions.

5.6.6 Analysis of Reports of C & AG

Analysis of the information given in the reports of C & AG also established the fact that most of the state sector enterprises had not taken the investment and financing decisions with a rational approach. Most of the projects undertaken in the state enterprises have resulted in huge losses which further increased the financial burden. Defective investment and financing decisions forced the companies to borrow. This heavy dependence on borrowals created more and more financial burden. A number of instances of cost over runs, abandonment of projects, existence of idle assets etc., were reported. All these affected the productive efficiency of capital investment. Companies resorted to rescheduling of loans owing to the inability to meet the financial commitments. At last the companies were forced to convert their loans into equity as mentioned earlier.

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Chapter VI

ANALYSIS OF PROFITABILITY, LIQUIDITY AND SOLVENCY

The present chapter makes a descriptive analysis of the profitability, liquidity and solvency aspects of the State Sector in comparison with the Private and Central Sector undertakings in Kerala. Its significance lies in the fact that under normal circumstances profitability, liquidity and solvency are inter-related. So long as a firm is running at a profit, the liquidity and solvency position could be made safe. Profitability, therefore, is a precondition for liquidity and solvency.

For the purpose of study the chapter is divided into 3 sections. The first section deals with the evaluation of profitability. The second section is meant to make an analysis of the liquidity aspects of companies. The last section makes an attempt to highlight the solvency position of firms.

Section I

6.1 The analysis of profitability is made from two angles. One is the return on total assets and the other one is return on equity.

6.1.1 Return on Total Assets

Return on total assets is the relation between total operating profit and total assets.

6.1.1.1 State Sector

We begin the analysis by noting the differences in the profitability within the State sector enterprises as seen in the ratio of return on total assets. The companywise estimates of the profitability ratios over the period of ten years beginning from 1980-81 revealed significant variations in returns in almost all enterprises. For long period of time six concerns showed continuous losses as disclosed by the negative values in table 6.1. For example, TELK recorded losses even before interest and taxes for six continuous years. Its operating losses which was Rs.170 lakhs in 1982-83 had risen to Rs.413 lakhs in 1986-87. By the year 1989-90 the company had total assets amounting to Rs.8646 lakhs. In fact, the productive investment was only to the extent of 47% of total assets. As a result the company was not in a position to meet its cost of borrowings out of the operating earnings in most of the years. The negative values establish that even without the interest costs the company had been incurring huge losses. The operating losses could have been reduced considerably had there not been high interest burden ranging from Rs.209 lakhs in 1980-81 to Rs.675 lakhs in 1989-90.

Table 6.1

Return on Total Assets (State Sector)

YEARS	TRACO	KAEL	TELK	TCC	KSO	KSDP	KMH	KSDC	TTP	KOOL	SCL	TCL	SECT. MEAN
1980-81	11.18	8.78	10.28	8.89	6.43	13.98	1.21	4.80	10.12	6.14	8.24	39.24	10.78
1981-82	12.66	14.66	5.44	14.36	7.42	9.25	0.67	4.90	5.11	8.94	4.20	41.05	10.72
1982-83	13.57	14.01	-4.89	12.69	1.43	3.32	0.14	-8.36	3.00	9.58	5.03	28.93	6.54
1983-84	6.00	6.77	-9.51	12.87	-11.22	1.38	-0.16	-8.70	0.49	9.95	2.70	20.63	2.60
1984-85	2.65	8.95	-6.25	11.35	-2.49	-8.46	-10.51	-6.39	17.09	15.39	16.14	9.82	3.94
1985-86	-0.17	7.00	-4.76	15.81	-9.61	-1.47	-5.81	-6.38	11.70	18.74	37.65	6.85	5.80
1986-87	-1.09	8.23	-7.22	-1.51	-10.41	-0.27	-5.81	-4.35	28.38	13.57	15.27	-2.08	2.75
1987-88	-2.16	5.29	-2.07	14.78	-8.76	0.14	-1.77	-3.17	33.99	12.60	4.44	-2.06	4.27
1988-89	2.19	9.01	2.60	16.28	-4.80	-0.31	9.27	-6.38	29.82	16.44	-10.78	1.74	5.42
1989-90	2.49	5.13	6.75	16.77	-3.68	4.33	-0.38	-5.23	16.40	13.41	-1.70	10.65	5.41
MEAN	4.73	8.78	-0.96	12.23	-3.57	2.19	-1.32	-3.93	15.61	12.48	8.12	15.48	5.82
STD	5.53	3.08	6.41	5.12	6.46	5.82	5.02	4.66	11.17	3.64	12.28	15.36	7.05

Source: Computed from the Annual Reports of the companies

Anotner instance is KSO which had recorded negative rates of return from 1983-84 onwards ranging from 2.49 per cent to 11.22 per cent. The investment in total assets had been rising from Rs.700 lakhs in 1980-81 to Rs.2173 lakhs in 1989-90. Towards the end of the period of analysis the company had only Rs.389 lakhs as tangible assets represented by 17.9 per cent of total investments. Putting differently, KSO had lost 82 per cent of its total assets. It is to be noted that in 1980-81 the percentage of tangible assets to total assets was 84.

Still another example is KMM which had total assets of Rs.15504 lakhs in 1989-90 including Rs.7662 lakhs as intangible and unproductive assets. During the first three years under review, the company could earn operating earnings ranging from 0.14 per cent to 1.21 per cent of assets which are quite insignificant. In all other years except 1988-89 recorded negative values whose range was in between 0.16 to 11.22 per cent. These negative rates indicate that the concern had not been in a position to meet its finance charges over the period. In the case of KSDC, eight out of ten years recorded negative values ranging from 3.17 to 8.70 per cent. In other words, the operating losses ranged between Rs.30 lakhs to Rs.74 lakhs within the period of ten years. The growth of total assets was from Rs.375 lakhs

in 1980-81 to Rs.1281 lakhs in 1989-90. It is worth noting that along with the increase in total resources there was more than proportionate increase in intangible assets which had grown to as high as 66 per cent of total assets in 1989-90. In other words, the company's productive assets was only to the extent of 34 per cent of total, in 1989-90.

Among twelve enterprises in the State sector only four recorded average rates of returns of more than 10 per cent. All others either recorded very low or negative rates. Certain enterprises with relatively higher rates, especially in the earlier periods, began to come down with significantly low rates. For example, the rate of return of 39.24 per cent of TCL in 1980-81 came down to a negative rate of 2.08 per cent in 1986-87. Other examples are Traco Cables and KEL. TTP and KCCL are the only enterprises which had recorded relatively higher rates of return on an average over the period.

1980-81 and 1981-82 are the only years when the State sector undertakings as a whole recorded positive rates of return. Accordingly the sectoral mean values exhibited were respectively 10.78 and 10.72. Thereafter the average values continued to be low, ranging from 2.60 to 6.54.

The above analysis discloses that the resource - utilisation efficiency in the State sector has been low as evidenced by the returns on total assets.

6.1.1.2 Private Sector

Table 6.2 explains the rates of returns attained by the private sector manufacturing concerns of Kerala. The estimated values show that most of the private sector enterprises occupied better positions than many of the State sector concerns.

Six out of fourteen enterprises recorded more than 10 per cent return on an average. OEN and BPL top the list with 20.99 and 17.50 percentages respectively. OEN attained a level as high as 27.79 percentage in 1988-89.

It appears from the individual ratios that majority of the private sector concerns (9 out of 14) recorded higher rates of return in the latter half of the decade under study. It is nothing but an indication of growth of profitabilities in the companies. It is worth noting that a reverse phenomenon was observed in all the public sector undertakings except TTP and KCCL.

Certain companies in the private sector were fast improving. For example, Apollo which was a loss making concern in 1980-81 continuously made profits over the period and

Table 6.2

Return on Total Assets (Private Sector)

YEARS	APOLLO	TECIL	ALIND	WIP	GTN	EXCEL	OEN	TOSHIBA	PREMIER	BPL	K E L	K S L	LAYMI	GRI BHAG.	SECT.	MEAN
1980-81	-1.09	14.85	15.38	13.59	11.28	12.41	22.65	14.24	11.39	19.80	4.37	0.95	18.39	10.06		12.02
1981-82	7.44	14.89	14.31	15.32	-4.14	-0.34	25.44	13.72	9.32	20.08	8.03	-2.27	16.30	14.48		10.90
1982-83	3.91	7.14	3.06	14.15	4.58	-1.62	19.44	11.80	-9.85	8.64	-1.39	7.18	8.88	14.80		6.48
1983-84	4.39	12.53	-6.04	16.61	4.99	8.07	16.45	10.71	-12.33	21.74	7.38	3.52	10.34	7.23		7.54
1984-85	6.45	8.30	-6.16	17.84	16.54	24.01	13.37	9.85	-9.60	21.93	5.97	9.64	11.46	6.21		9.70
1985-86	17.49	6.84	5.15	22.15	15.10	15.99	14.53	10.05	1.96	24.48	4.37	4.59	2.67	7.20		10.90
1986-87	20.66	7.80	-2.93	17.11	10.26	10.95	24.84	10.14	11.10	14.40	-1.89	10.24	-0.98	13.99		10.41
1987-88	21.07	5.22	-5.84	16.07	17.90	8.07	26.51	-0.33	12.23	15.24	-6.34	5.02	-2.41	14.23		9.05
1988-89	11.40	2.94	-9.74	8.48	7.21	15.60	27.79	-4.72	13.21	15.83	-9.54	10.43	-3.74	13.80		7.07
1989-90	11.46	2.21	14.43	13.00	11.86	13.60	18.90	-14.16	2.73	12.80	-6.88	26.92	-5.40	24.36		8.99
Mean	10.32	8.27	2.16	15.43	9.56	10.67	20.99	6.13	3.02	17.50	0.41	7.62	5.55	12.64		9.30
STD	7.11	4.28	9.22	3.39	6.30	7.27	4.91	8.90	9.62	4.65	6.13	7.53	8.19	5.08		1.73

Source: Computed from the Annual Reports of the companies

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attained a high return of Rs.3447 in 1989-90. In the case of OEN the operating earnings was Rs.77 lakhs in 1980-81 which increased to Rs.226 lakhs by the end of 1989-90. The range of return on total assets was in between 13.37 per cent and 27.79 per cent. Sri Bhagavathy Textiles is another example. The rate of return was 10.06 per cent in 1980-81. In 1989-90 the company could attain a return of 24.36 per cent on total resources. In other words, the increase in operating surplus was from Rs.18 lakhs in 1980-81 to Rs.190 lakhs in 1989-90. Still another example is KSL whose rate of return was as low as 0.95 per cent on total assets in 1980-81. By the end of 1989-90 the earnings increased to Rs.252 lakhs against its total resources of Rs.936 lakhs, recording a rate of return of 26.92 per cent.

Certain enterprises appeared to be earning more or less consistently for a long period. WIP belongs to such group. The data reveal that the rates of return attained were not low except in 1988-89 when it was 8.48 per cent. For the remaining years the company was earning at the rates ranging from 13 per cent and 22.15 per cent. The low rate of return in 1988-89 was due to many reasons such as a sharp increase in total assets from Rs.1774 lakhs in 1987-88 to Rs.2641 lakhs in 1988-89 and due to increase in total expenses from Rs.2030 lakhs to Rs.2336 lakhs in the respective years. However the subsequent year recorded a higher return of 13 per cent.

BPL is another concern with relatively reasonable rates of return throughout the period except in 1982-83 when it was 8.64 per cent. In all the remaining periods the rates of return ranged from 12.80 per cent to 24.48 per cent. Alind was the only company which was consistently running at loss for a long period of six years from 1983-84. Laxmi Starch was running at loss continuously for four years from 1986-87.

The sectoral mean values exhibited the rates of return ranging from 6.48 per cent to 12.02 per cent while it was from 2.60 per cent to 10.78 per cent in the State sector. The range of variations were rather less in the private sector when compared to the State sector.

The highest value in the private sector was recorded by Premier Cables (9.92) and in the State sector it was claimed by TTP (15.61). In this case the range of fluctuations was from 0.49 to 33.99.

6.1.1.3 Central Sector

The analysis of return on total resources in Central sector undertakings revealed that CSL was the only company with an unsatisfactory state of affairs in this regard (table 6.3). Though all the others are profit earning companies the rates of return recorded by them were not as high as those shown by many of the State sector concerns. There were also undue fluctuations. For example in 1980-81 the rate

Table 6.3

Return on Total Assets (Central Sector)

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YEARS	CRL	CSL	FACT	HLL	SECT. MEAN
1980-81	9.46	2.55	4.48	-9.01	1.87
1981-82	15.15	4.52	1.33	18.49	9.87
1982-83	11.26	-0.26	0.08	19.75	7.71
1983-84	7.09	-0.48	3.86	20.41	7.72
1984-85	1.95	-0.41	9.44	3.58	3.64
1985-86	7.07	1.79	5.69	5.49	5.01
1986-87	10.17	1.00	12.87	2.80	6.71
1987-88	13.20	-4.38	4.16	11.40	6.09
1988-89	16.99	-3.77	2.01	12.16	6.85
1989-90	16.23	-2.68	0.88	14.02	7.11
Mean	10.86	-0.21	4.48	9.91	6.26
STD	4.48	2.68	3.81	8.79	2.15

Source: Computed from the Annual Reports of the companies

of return of CRL was 9.46 per cent of total assets. It has increased to 15.15 per cent in the next year. After earning at the rates of 11.26 per cent in 1982-83 the rate came down. The rate of return for 1984-85 was as low as 1.95 per cent. The subsequent years witnessed increased rates of return from 7.07 per cent in 1985-86 to 16.23 per cent in 1989-90. The rates worked out for FACT had been much lower than those of CRL and HLL. It was in 1986-87 the company had showed a rate of 12.87 per cent. All other values are less than 10 per cent. In the case of HLL most of the percentage values were more than 10 per cent. However, in absolute terms, CRL and FACT earned the highest amounts of returns. The earnings before interest and taxes of CRL was Rs.2052 lakhs in 1980-81 against the total assets value of Rs.21692 lakhs. In 1989-90 the earnings rose to Rs.8995 lakhs against a total assets investment of Rs.55428 lakhs. For FACT, the rise in the operating income was from Rs.1084 lakhs in 1980-81 to Rs.4687 lakhs in 1986-87. Subsequent years recorded considerable decline in profits which reached a level of Rs.499 lakhs in 1989-90. During the period of 10 years, the rise in total assets was from Rs.24170 lakhs in 1980-81 to Rs.56696 lakhs in 1989-90. In the case of HLL, in most of the years, the company had earned more than 10 per cent returns. The company could earn a return of as high as 20.41 per cent in 1983-84.

The returns of HLL also varied considerably over the period. A negative rate of 9.01 per cent in 1980-81 turned into profit which went upto 18.49 per cent in the next year. This increase continued till 1983-84. The following year witnessed a significant fall to 3.58 per cent. From 1987-88 onwards the percentage returns increased from 11.40 to 14.02 in 1989-90. FACT recorded relatively lesser rates of earnings almost throughout the period of analysis. Only in 1986-87 the returns crossed a 10 per cent mark. All the three subsequent years showed considerable decreases in the rates of returns which reached as low as nearly one per cent.

6.1.2 Net profit as a percentage on paid up capital

This section deals with the evaluation of profitability of the manufacturing enterprises from the shareholders point of view. For the purpose of the analysis, profit has been taken before deducting taxes. Such a course has been adopted considering the fact that tax is relevant only in the case of profit making concerns. For getting a comparable state of affairs among profit making and loss making concerns, therefore, tax has been ignored.

6.1.2.1 State Sector

Table 6.4 shows the percentages of net profit or loss on paid up capital of the State sector manufacturing enterprises in Kerala. The estimated value shows that there was not a single concern which had made profit consistently throughout the entire period of analysis. During 1980-81 there was only one loss making concern (KCCL) in the State sector. The percentage of net loss on its paid up capital of Rs.161 lakhs was 22.36 per cent. Number of loss making concerns increased to six in 1989-90. In other words, 50 per cent of the State sector manufacturing enterprises were loss makers. Certain enterprises were continuous loss makers. For example beginning from 1981-82, TELK was continuously incurring losses. The percentage of losses varied between 8.60 and 176.23. In 1986-87 the company had incurred a loss of Rs.897 lakhs against a paid up capital of

Table 6.4

Percentage of Net Profit to Paid up Capital (State Sector)

YEARS	TRACO	KARL	TELK	TCC	KSO	KSDP	KPH	KSDC	TTP	KDL	SCL	TCL	SECT. MEAN
1980-81	26.92	15.57	7.02	19.70	8.00	23.81	1.16	1.12	69.87	-22.36	12.05	286.00	37.41
1981-82	33.08	55.74	-34.09	41.06	6.67	24.23	0.84	0.81	0.59	6.21	-2.68	452.00	48.70
1982-83	35.37	34.59	-112.53	34.24	-33.77	-10.24	-0.44	-65.19	3.39	8.70	2.23	386.00	23.53
1983-84	10.66	5.03	-174.19	30.15	-102.15	-18.10	-1.41	-65.19	-27.68	6.21	-12.95	320.00	-2.47
1984-85	0.74	16.35	-128.09	15.45	-60.75	-60.71	-50.62	-57.78	139.55	34.78	51.79	144.00	3.73
1985-86	-3.50	3.14	-137.72	34.24	-124.19	-38.81	-64.04	-54.19	88.70	71.43	167.86	94.00	3.08
1986-87	-4.39	0.50	-176.23	-18.48	-145.70	-37.62	-70.88	-47.74	320.34	28.57	50.45	-48.00	-12.43
1987-88	-11.09	-10.04	-74.48	27.58	-147.31	-41.67	-56.95	-43.87	509.60	7.66	0.45	-70.00	7.49
1988-89	7.46	12.58	-38.99	38.79	-132.80	-48.10	-3.32	-108.39	669.49	31.42	-76.34	-6.00	28.82
1989-90	4.97	5.15	-8.60	52.58	-121.51	-29.52	-49.60	-110.32	459.89	32.57	-76.44	94.00	21.10
Mean	10.02	13.86	-87.79	27.53	-85.35	-23.67	-29.53	-55.07	223.37	20.52	11.64	165.20	15.89
STD	15.54	17.92	63.81	18.33	57.69	27.41	29.48	35.45	235.81	23.83	66.37	176.13	18.20

Source: Computed from the Annual Reports of the companies

Rs.509 lakhs (Appendix I). KSO, KSDP, KMM and KSDC were other companies incurred losses continuously from 1982-83. In the case of KSO, the net loss varied between Rs.51 lakhs and Rs.274 lakhs. Similarly, the loss of KSDP varied between Rs.43 lakhs and Rs.255 lakhs during the period from 1982-83 to 1989-90. During the period its paid up capital had been Rs.420 lakhs. KMM's loss figures ranged between Rs.10 lakhs and Rs.1989 lakhs. The paid up capital was Rs.1979 lakhs in 1980-81 which increased to Rs.3093 lakhs in 1989-90.

It is to be noted that in most of the years the net loss of TELK and KSO exceeded the paid up capital.

The profitability of TCL came down considerably during the second half of the decade beginning from 1980-81 showing losses during three continuous years. TTP and TCL recorded the highest rates of net profit over the period.

Considering the average profitability for the whole period of the years, five out of twelve enterprises showed negative values. Only two enterprises recorded average profit more than 100 per cent (TTP and TCL). In fact these two companies influenced the sectoral mean values. Otherwise the mean values would have been considerably low.

6.1.2.2 Private Sector

In the private sector, there were two companies which had not incurred losses in any of the period under study (OEN and WIP). Concerns which had incurred continuous losses for a long period were Alind and Laxmi Starch. Alind incurred continuous losses for seven years while Laxmi Starch incurred losses for eight continuous years as evidenced by Table 6.5. Apollo incurred losses only in 1980-81. Similar is the case with BPL which had incurred net loss only in 1982-83 and Sri Bhagavathi which incurred loss in 1985-86.

When the average loss situations are evaluated four enterprises recorded rates over hundred per cent (Alind, Premier, KELW and Laxmi). It is clear that in the private sector these four enterprises were responsible for a major share of loss incurred in the private sector. Three enterprises recorded rates more than hundred per cent.

6.1.2.3 Central Sector

In the Central sector CSL is the only company which incurred continuous losses throughout the period under study. The percentage of losses ranged between 0.18 and 37.89. CRL incurred loss only in 1984-85. Similarly HLL recorded net loss only in 1980-81. FACT recorded lowest rates of profit in the Central Sector in most of the years under review. However, CRL is the only company which had recorded the highest rates of profits in most of the years. (Table 6.6)

Table 6.5

Percentage of Net Profit to Paid up Capital (Private Sector)

YEARS	APOLLO	TECIL	ALIND	WIP	GTN	EXCEL	DEN	TOSHIBA	PREMIER	BPL	K E L	K S L	LAXMI	SRI BHAG.	SECT.	MEAN
1980-81	-60.38	58.82	59.32	46.85	237.50	25.71	79.45	73.24	47.83	80.00	-25.45	-172.00	109.72	36.00	42.62	42.62
1981-82	2.68	54.01	62.71	59.44	-431.25	-25.35	121.92	71.08	26.45	95.00	15.45	-144.12	38.89	48.72	-0.31	-0.31
1982-83	0.64	2.58	-66.10	58.74	-131.25	-40.85	84.93	37.14	-296.69	-40.00	-34.55	14.71	-33.70	46.15	-28.45	-28.45
1983-84	6.96	45.06	-181.92	83.92	-187.50	1.06	78.08	51.43	-393.39	85.00	20.00	-55.88	-4.35	7.69	-31.70	-31.70
1984-85	16.06	11.16	-222.32	120.98	468.75	92.55	65.75	51.43	-289.47	180.00	19.09	45.45	-6.52	0.50	39.53	39.53
1985-86	109.53	3.43	-74.01	104.55	222.22	42.55	83.56	37.76	-143.86	238.00	10.91	-40.91	-173.91	-7.69	29.44	29.44
1986-87	170.82	14.59	-244.92	104.04	33.33	22.34	206.85	30.40	40.94	104.00	-88.18	59.09	-182.61	63.46	23.87	23.87
1987-88	188.96	6.01	-295.48	98.99	422.22	2.13	253.42	-84.80	11.11	96.00	-256.36	-50.00	-264.13	57.69	13.27	13.27
1988-89	176.94	-14.16	-440.68	27.21	119.44	64.89	300.00	-196.80	-19.30	88.00	-404.55	43.18	-344.57	51.92	-39.18	-39.18
1989-90	89.48	-41.20	76.91	45.83	291.67	42.86	153.21	-352.80	-207.02	94.00	-398.18	406.82	-372.83	280.77	7.82	7.82
Mean	70.17	14.03	-132.65	75.06	104.51	22.79	142.72	-28.19	-122.34	102.00	-114.18	10.63	-123.40	58.52	5.69	5.69
STD	84.22	29.55	164.70	29.86	270.81	38.35	79.12	134.86	156.72	67.72	163.80	151.55	159.23	77.82	28.42	28.42

Source: Computed from the Annual Reports of the companies

Table 6.6

Percentage of Net Profit to Paid up Capital

(Central Sector)

YEARS	CRL	CSL	FACT	HLL	SECT. MEAN
1980-81	108.29	-3.60	1.28	34.62	17.84
1981-82	221.14	-9.18	5.68	42.31	16.40
1982-83	193.14	-15.35	8.56	60.99	157.31
1983-84	125.43	-17.14	0.08	63.08	42.86
1984-85	-14.57	-18.74	12.42	0.99	-4.98
1985-86	5.43	-12.83	5.98	11.65	2.56
1986-87	101.29	-14.73	16.63	4.25	26.86
1987-88	225.00	-37.20	5.26	17.98	52.76
1988-89	70.53	-37.89	2.83	21.64	14.28
1989-90	113.13	-37.35	1.05	29.04	26.47
MEAN	114.88	-19.50	3.13	21.63	15.81
STD	77.84	12.99	7.16	27.71	22.10

Section II

6.2 Analysis of liquidity in this context is made by using working capital ratios such as current ratio and quick ratio. Current ratio is intended to compare the total current assets and short term liabilities. Current assets include inventories, accounts receivable, cash and bank balances and all other assets which are expected to be converted into cash within a period of one year. Short term liabilities include sundry creditors, bank borrowings for working capital and all other liabilities which are to be discharged within a period of one year. For the purpose of the study all short term liabilities are taken to mean current liabilities. Quick ratio, a more rigorous test of liquidity relates the quick assets to current liabilities. Quick assets here refer to current assets excluding inventory.

6.2.1 Current ratio

It is an accepted principle that the investment in current assets should be just adequate. In other words, the investment in short term assets should not be too high or too low. Too high an investment would render a portion of it as idle which is against the profitability point of view. Inadequacy in current assets might invite insolvency at least occasionally. Both these extremities are, therefore, not advisable.

What the quantities of current assets to be maintained in a business cannot be answered easily. It may depend on various factors such as nature and size of business units, manufacturing cycle, business fluctuations, production policy of the firm, availability of credit, dividend policy etc. However a conventional policy is to maintain the current assets twice the level of short term liabilities.

The analysis is intended to make an evaluation of the working capital ratios of the companies from this bench mark.

6.2.1.1 State Sector

In the state sector as a whole, the firms do not appear to follow a consistent policy with regard to maintaining working capital. Two extreme situations are seen. Certain enterprises possess relatively higher proportions of current assets against current liabilities in most of the years. Certain other concerns hold current assets, significantly less than their current liabilities. Traco Cable is an example of companies holding high proportions of short term assets in most of the years. A working capital ratio of 2.68 in 1980-81 rose to 5.46 in 1983-84. In most of the years the proportion were significantly higher than a conventionally considered satisfactory ratio of 2:1. KEL and TCC are other companies holding higher proportions of short term assets as evidenced by their current ratios (Table 6.7). Certain other

Table 6.7

Current Ratio (State Sector)

YEARS	TRACO	KAEI	TELK	TCC	KSO	KSDP	KMI	KSIC	TTP	KOCL	SOL	TOL	SECT. MEAN
1980-81	2.68	2.36	2.23	2.39	3.14	2.12	0.41	5.40	2.04	1.13	3.37	1.50	1.43
1981-82	2.63	2.86	1.91	2.90	3.20	1.80	0.47	2.41	2.03	1.35	2.49	1.46	1.37
1982-83	3.49	3.18	1.64	3.55	1.40	3.59	0.34	3.54	2.11	2.62	1.80	1.41	1.43
1983-84	5.46	2.89	1.36	4.19	1.07	2.88	0.76	1.38	1.88	2.28	2.15	1.36	1.41
1984-85	2.26	2.50	1.48	2.30	0.97	1.34	0.76	0.53	2.16	1.89	1.42	1.32	1.20
1985-86	3.45	1.92	0.84	2.15	0.74	1.33	0.71	0.33	2.23	1.55	1.59	1.47	1.14
1986-87	3.42	1.81	0.62	1.99	0.42	1.54	0.68	0.25	3.10	1.24	1.53	1.32	1.08
1987-88	1.80	2.02	0.64	2.68	0.32	1.48	1.13	0.19	1.69	1.34	1.61	1.47	1.05
1988-89	1.73	2.50	0.74	2.12	0.25	1.48	2.17	0.26	1.82	1.58	1.12	1.54	1.08
1989-90	2.09	2.03	0.84	1.42	0.29	2.10	2.48	0.53	1.67	1.55	0.77	1.78	1.12
6. Mean	1.65	1.54	1.05	1.57	0.89	1.36	0.90	0.88	1.43	1.26	1.29	1.21	1.11
STD	1.06	0.44	0.54	0.76	1.06	0.71	0.70	1.68	0.39	0.45	0.70	0.13	0.15

Source: Computed from the Annual Reports of the companies

enterprises exhibit wide fluctuations in this regard. For example, KSDC had a current ratio of 5.40 in 1980-81 which had declined to as low as 0.19 in 1987-88 recording the highest rate of deviation of 1.68. The company had Rs.259 lakhs as total current liabilities of Rs.48 lakhs while the respective figures for 1989-90 were Rs.89 lakhs and Rs.138 lakhs. The other concerns which recorded high rates of deviations of 1.06 each were KSO and Traco Cables.

A current ratio of less than one is an indication of theoretical insolvency of companies. In this case the working capital would be negative. This situation is not rare in the State sector. For example, in most of the years under study, the current ratios of KMM were less than one ranging between 0.76 and 0.34. Another example is TELK whose working capital figures were negative from the year 1985-86. KSO had Rs.374 lakhs in the form of current assets in 1980-81 against the short term liabilities of Rs.119 lakhs resulting in a net working capital of Rs.255 lakhs. In 1989-90 the respective figures were Rs.258 lakhs and Rs.885 lakhs indicating a negative working capital of Rs.627 lakhs. The case of KSDC also is very similar. A net working capital Rs.211 lakhs in 1980-81 was reduced to Rs.49 lakhs (negative) in 1989-90. In 1980-81 there was only one company with negative working capital. Towards the end of the period under study the number has increased to four.

TCL and TTP are the only companies which had remained with the lowest rates of fluctuations as evident by the rates of standard deviations of 0.13 and 0.39 respectively. The mean values of the State sector for the ten years of study ranged between 2.06 and 1.11.

6.2.1.2 Private Sector

When the analysis is extended to the private sector, one could see from table 6.8 that this sector as a whole adopted an aggressive policy with regard to financing of current assets. Most of the estimated ratios appear to be less than 2. Among the 14 enterprises, Excel and WIP alone recorded 12.30 in 1980-81, the highest of all. In this year, against a total current assets of Rs.123 lakhs, there was only Rs.10 lakhs as short term liabilities. However, from 1983-84 onwards the trend was in favour of lesser proportions of current assets. Accordingly, the ratio came down to 1.49 in 1989-90. In the case of WIP in 1983-84 alone the ratio came above 3 times. The ratios of all the remaining years remained around 2.

It is worth noting that 8 out of the 14 enterprises recorded values less than one at least in certain years. WIP, Excel, OEN and BPL are the exceptions. KSL tops the list with negative working capital in 9 out of 10 years ranging from 0.99 to 0.76. It is followed by KEL and Alind with

Table 6.8

Current Ratio (Private Sector)

YEARS	APOLLO	TECIL	ALIND	WIP	GTN	EXCEL	GEN	TOSHIBA	PREMIER	BPL	K E L	K S L	LAXMI	SRI BHAG.	SECT. MEAN
1980-81	0.33	1.08	1.15	1.93	1.28	12.30	1.25	1.18	1.36	1.19	0.81	0.78	1.16	1.13	1.26
1981-82	0.69	0.98	1.09	2.33	0.91	3.96	1.36	1.18	1.09	1.09	1.06	0.77	1.21	1.07	1.20
1982-83	0.82	1.12	1.07	2.41	0.97	1.83	1.40	1.26	0.66	1.05	0.81	0.83	1.40	0.84	1.11
1983-84	0.85	1.14	0.86	3.14	0.89	6.37	1.59	1.13	0.42	1.04	0.80	0.76	1.17	0.97	1.16
1984-85	0.76	1.58	0.73	2.21	1.09	5.43	1.64	1.23	0.66	1.13	0.87	0.96	1.11	1.24	1.24
1985-86	1.12	1.83	0.73	2.41	1.00	3.80	1.32	1.12	0.81	1.15	0.72	0.92	0.85	1.18	1.20
1986-87	1.46	1.27	0.78	1.91	1.23	2.09	1.03	1.05	1.25	1.13	0.59	0.94	0.77	1.15	1.13
1987-88	1.27	1.09	0.55	1.88	1.48	1.61	1.09	0.78	1.13	1.12	1.01	0.89	0.68	1.24	1.08
1988-89	1.99	1.31	0.41	1.56	1.56	1.50	1.13	0.55	1.06	1.11	0.67	0.99	0.61	1.32	1.03
1989-90	1.51	1.29	0.95	1.84	1.59	1.49	1.06	0.31	0.93	1.12	0.47	1.19	0.53	1.26	1.00
6. Mean	0.97	1.25	0.80	2.13	1.17	3.12	1.27	0.91	0.89	1.11	0.76	0.89	0.90	1.13	1.14
STD	0.46	0.25	0.23	0.42	0.26	3.21	0.20	0.31	0.28	0.04	0.17	0.12	0.28	0.14	0.08

Source: Computed from the Annual Reports of the companies

ratios less than one in eight years and seven years respectively. In the case of KEL a current ratio of 1.06 in 1981-82 came down to as low as 0.47 in 1989-90.

OEN and BPL are the two companies which did not record any cases of current liabilities being more than the current assets. The range of variations was the lowest in the case of BPL (0.04). The current ratios varied between 1.19 and 1.04. OEN also maintained current assets within a cover between 2 and 1 over the period of analysis. It is evident from the current ratios which ranged between 1.64 and 1.03.

When the private sector as a whole is considered it could be noted that the current ratios varied between 1.26 and 1.00 over the period of ten years.

6.2.1.3 Central Sector

The estimated ratios of the Central sector concerns do not appear to explain any extreme cases as demonstrated by the state and private sector concerns. The highest ratio recorded was 3.77 in 1989-90 by HLL. No company expressed a ratio implying a negative net working capital position other than CRL in 1982-83.

Considering the individual cases, CRL recorded ratios less than 2 in most of the years. Throughout the period under study, the current ratios of CSL had been less than 1.5 ranging from 1.47 to 1.14 showing the lowest ratio of

deviation of .10. The rates recorded by FACT and HLL were more than 2 in most of the years. The value of standard deviation was the highest in this case as a result of variation of the ratio in between 3.77 and 1.10 (table 6.9). In an interfirm comparison CSL alone appears to have adopted a conservative approach towards the working capital policy as evidenced by the lowest working capital ratios throughout the entire period. The mean value also has been the lowest.

6.2.2 Quick Ratio

Conventionally a 1:1 proportion of quick ratio is considered to be satisfactory. Hence the evaluation of the liquidity positions of various concerns are done based on this criterion.

6.2.2.1 State Sector

The following table shows the ratios of quick assets to current liabilities of the State sector enterprises. A 1:1 ratio or its approximations are rarely seen. The liquid assets of certain concerns appear to be far higher than the said limit. For example, Traco Cables had the ratios ranging from 4.45 to 1.31 explaining the situation of holding very high proportions of liquid assets in certain years. In 1983-84 when the proportion was 4.45:1 the company had been holding Rs.503 lakhs as liquid assets against its short term liabilities of Rs.113 lakhs. It is worth noting that most

Table 6.9

Current Ratio (Central Sector)

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YEAR	CRL	CSL	FACT	HLL	SECT. MEAN
1980-81	1.00	1.33	2.47	2.05	1.61
1981-82	1.00	1.35	1.96	2.03	1.52
1982-83	0.99	1.14	1.99	1.78	1.41
1983-84	2.32	1.15	1.83	1.51	1.65
1984-85	2.23	1.21	2.09	1.10	1.58
1985-86	3.12	1.42	2.56	2.22	2.24
1986-87	1.98	1.36	2.74	1.82	1.91
1987-88	1.52	1.36	2.48	2.43	1.88
1988-89	1.65	1.47	2.08	2.26	1.84
1989-90	1.34	1.33	1.29	3.77	1.72
G. Mean	1.59	1.31	2.11	2.00	1.72
STD	0.66	0.10	0.41	0.67	0.23

Source: Computed from the Annual Reports of the companies

liquid assets such as cash, bank balance etc., alone amounted to Rs.392 lakhs. In most of the years the proportions of liquid assets to current liabilities continued to be high (appendix I). The range of variations in this case was the highest in the State sector. In the case of KEL the dominant factor was the accounts receivables. In 1980-81 the company had Rs.157 lakhs as amounts due from sundry debtors which represented 77 per cent of total quick assets. In most of the years the situations were very similar. TCC is another example.

In most of the other cases the liquidity positions of the companies appeared to be very low as evidenced by the estimated ratios. For example, in the case of TELK the quick ratios for the first two years were more than 1:1. The subsequent years showed considerable decline upto 1987-88. In other words, an acid test ratio of 1.49 in 1980-81 came down to as low as 0.47 in 1989-90. The amount of quick assets in 1980-81 was Rs.1395 lakhs against a current liabilities of Rs.935 lakhs. In 1989-90 the respective figures were Rs.2147 lakhs and Rs.4541 lakhs. It is clear that over the years the liquidity position of the company was at its decline. Another example is KSO. A quick ratio of 1.38 in 1980-81 came down to 0.16 in 1989-90. The rates of KMM ranged between 0.70 and 0.09 recording most of the values less than 0.50 which establish the company's poor liquidity position. In 1980-81 the company had Rs.153 lakhs as quick

assets against its short term liabilities of Rs.439 lakhs. Towards the end of the period of analysis, the company had Rs.206 lakhs only as liquid assets against its short term liabilities of Rs.1076 lakhs. Similarly KSDC had liquid assets more than current liabilities only during the first three years of analysis as is evident from the estimated ratios ranging from 2.48 to 0.12. Similarly, a more than standard liquidity, position of SCL came down drastically after 1983-84 showing the rates ranging from 0.67 to 0.25. It is worth noting that all these except SCL were losing concerns whose poor liquidity situations add to the risk of insolvency. (Table 6.10).

Most of the loss making concerns are poor in their liquidity positions as against the earning concerns in whose cases the liquidity positions were more than the standard rate. Among the losing concerns KSDP alone recorded an average rate of more than 'one'. However, a consistent approach towards the maintenance of quick assets were not observed by the state undertakings as a whole as evidenced by the rates of standard deviations of individual undertakings.

6.2.2.2 Private Sector

In the private sector, among fourteen enterprises, WIP and Excel alone appear to have relatively higher proportions of quick assets compared to their current liabilities in most of the years as evidenced by the estimated ratios recorded in

Table 6.10

Quick Ratio (State Sector)

YEAR	TRACO	KAEI	TELK	TCC	KSD	KSDP	KPH	KSDC	TTP	KDCL	SCL	TCL	SECT. MEAN
1980-81	1.65	1.21	1.49	1.15	1.38	1.11	0.35	2.48	1.08	0.47	2.73	1.17	1.18
1981-82	1.58	1.48	1.39	1.36	1.96	0.87	0.39	1.11	1.11	0.68	1.74	1.17	1.14
1982-83	2.47	2.03	0.94	1.39	0.76	2.74	0.25	2.11	1.01	1.09	1.25	1.13	1.22
1983-84	4.45	1.75	0.80	2.04	0.54	2.12	0.26	0.73	1.05	1.03	1.69	1.10	1.15
1984-85	1.48	1.55	0.78	1.33	0.50	0.65	0.09	0.25	1.32	0.98	0.48	0.99	0.69
1985-86	2.33	1.00	0.44	1.13	0.34	0.80	0.15	0.16	1.17	0.61	0.26	1.07	0.58
1986-87	2.91	1.13	0.38	0.92	0.28	0.98	0.11	0.15	2.13	0.51	0.34	0.77	0.58
1987-88	1.43	1.06	0.33	1.40	0.17	1.10	0.16	0.12	1.29	0.56	0.67	0.72	0.56
1988-89	1.58	1.66	0.42	1.26	0.14	1.09	0.70	0.20	1.42	0.82	0.40	0.67	0.68
1989-90	1.31	1.34	0.47	0.83	0.16	1.48	0.19	0.37	1.30	0.81	0.25	0.84	0.61
6. Mean	1.96	1.39	0.65	1.25	0.43	1.18	0.22	0.43	1.26	0.73	0.70	0.94	0.80
STD	0.93	0.32	0.40	0.32	0.57	0.62	0.17	0.82	0.31	0.21	0.80	0.19	0.28

Source: Computed from the Annual Reports of the companies

table 6.11 In 1980-81 the proportion of liquid assets of Excel was as high as 8.70. In the first half of the decade the ratios recorded were the highest of all undertakings. However, the rates came down considerably in the second half of the decade. In the case of WIP also the liquidity position was at higher levels during the first five years.

The rates of ten out of fourteen companies were less than one throughout the entire period of analysis. Most of the enterprises, maintained consistency with regard to holding of low liquid assets as is evident from the rates of standard deviations. Excel alone recorded very high rate of fluctuation as 2.28. In all the other cases the rates ranged between 0.40 and 0.07.

With regard to the mean values, Excel and WIP were the only enterprises which showed rates more than 1:1 ratio. All other enterprises recorded average ratios ranging from 0.77 to 0.27. KEL and GTN recorded the lowest values of 0.27 and 0.32 respectively.

As observed in the previous analysis, with regard to the liquidity position also the private sector has followed an aggressive policy. The sectoral mean values too establish the fact. The sectoral mean values averaged to 0.56 as against 0.80 in the state sector.

Table 6.11

Quick Ratio (Private Sector)

YEARS	AFOLLO	TECIL	ALIND	WIP	GTN	EXCEL	DEM	TOSHIBA	PREMIER	BPL	K E L	K S L	LAXMI	SRI BHAG.	SECT.	MEAN
1980-81	0.09	0.55	0.53	0.84	0.42	8.70	0.54	0.63	0.55	0.55	0.29	1.45	0.53	0.55	0.57	0.57
1981-82	0.46	0.61	0.63	1.03	0.20	2.63	0.56	0.75	0.48	0.54	0.40	1.35	0.72	0.41	0.58	0.58
1982-83	0.33	0.59	0.46	1.17	0.26	1.34	0.55	0.81	0.24	0.44	0.34	1.37	0.56	0.26	0.50	0.50
1983-84	0.28	0.72	0.54	1.81	0.20	4.33	0.85	0.64	0.18	0.53	0.38	1.43	0.71	0.40	0.57	0.57
1984-85	0.40	1.07	0.47	1.30	0.29	4.45	0.85	0.82	0.26	0.48	0.44	1.44	0.64	0.43	0.63	0.63
1985-86	0.75	1.11	0.41	1.30	0.35	2.75	0.71	0.72	0.40	0.54	0.21	1.38	0.50	0.46	0.60	0.60
1986-87	1.02	0.74	0.50	1.02	0.33	1.55	0.54	0.66	0.65	0.54	0.15	1.45	0.44	0.27	0.54	0.54
1987-88	0.83	0.72	0.34	0.95	0.30	1.21	0.58	0.45	0.56	0.58	0.32	1.48	0.41	0.42	0.54	0.54
1988-89	1.45	0.93	0.23	0.67	0.48	1.00	0.62	0.33	0.51	0.62	0.23	1.49	0.39	0.53	0.53	0.53
1989-90	1.04	0.71	0.52	0.81	0.60	1.09	0.62	0.18	0.51	0.70	0.15	0.72	0.33	0.41	0.53	0.53
G. Mean	0.52	0.77	0.45	1.05	0.32	2.25	0.63	0.55	0.40	0.55	0.27	1.45	0.54	0.40	0.56	0.56
STD	0.40	0.18	0.11	0.31	0.12	2.28	0.12	0.20	0.15	0.07	0.10	1.10	0.15	0.09	0.04	0.04

Source: Computed from the Annual Reports of the companies

6.2.2.3 Central Sector

In the Central sector the proportion of quick assets have been the lowest in CSL which ranged between 0.67 and 0.18 throughout the period under study. The rates of other companies exhibited mixed trends. For example, a quick ratio of 0.72 in 1980-81 rose to as high as 2.66 in 1989-90 in the case of HLL. In the case of CRL a rate of 0.60 in 1980-81 had grown to 1.40 in 1985-86 which again nosedived to 0.46 in 1986-87. In the case of FACT, the first five years recorded values less than one against the second five years. (Table

When all the three sectors are taken together, the liquidity position has been the greatest in the State sector which showed a mean value of 0.80 as against 0.56 in the Private sector and 0.67 in the Central sector. The rate of deviation recorded was also the highest in the State sector which was 0.28 as against 0.04 in the Private sector and 0.22 in the Central sector. The analysis discloses the fact that the Private sector adopted a more aggressive policy with regard to financing of current assets especially the quick assets.

Table 6.12

Quick Ratio (Central Sector)

YEAR	DRL	CSL	FACT	HLL	SECT.MEAN
1980-81	0.60	0.37	0.77	0.72	0.59
1981-82	0.61	0.41	0.30	0.90	0.51
1982-83	0.08	0.18	0.37	0.77	0.26
1983-84	1.16	0.29	0.58	0.83	0.63
1984-85	1.02	0.28	0.88	0.59	0.62
1985-86	1.40	0.39	1.05	1.70	0.99
1986-87	0.46	0.50	1.24	1.40	0.79
1987-88	0.51	0.52	1.29	2.11	0.92
1988-89	0.62	0.67	1.04	1.44	0.89
1989-90	0.92	0.59	0.50	2.66	0.92
G. Mean	0.61	0.39	0.72	1.17	0.67
STD	0.37	0.14	0.34	0.65	0.22

Source: Computed from the Annual Reports of the companies

Section III

6.3 Solvency

6.3.1 Percentage of borrowings to tangible assets

Assets are financed from two types of funds broadly classified as owners equity and creditors equity. So long as the owners' funds are more in relation to borrowings, the solvency position is said to be sound. The proportion of equity gets lessened mainly due to two reasons viz., erosion of capital base caused by accumulation of loss and expenses, and employing more and more borrowings.

The present analysis makes an attempt to evaluate the solvency position of the manufacturing enterprises in the three sectors. For the purpose, the total outside liabilities are related to the total tangible assets which would help us to make an assessment of the companys' solvency situations.

6.3.1.1 State Sector

In the State sector, in most of the manufacturing companies, the position of tangible assets in relation to outside liabilities appear to be low. The estimated ratios show that the proportion of borrowings far exceeded the values of assets in many cases endangering the solvency positions. For example, the percentage of outside liabilities was 94 in the case of KSO in 1980-81. Continuous

increases in borrowings as well as in accumulated losses, the percentage rose to a high level of 507.97 in 1989-90. (table 6.13). In 1980-81 the company had total assets of the value of Rs.700 lakhs including Rs.113 lakhs as fictitious assets. Total outside liabilities amounted to Rs.550 lakhs which represented about 94 per cent of the tangible assets. It is to be noted that the proportion of tangible assets were continuously coming down over the period owing to loss accumulation at high magnitudes. During 1989-90, out of the total assets of Rs.2173 lakhs, fictitious assets alone amounted to Rs.1784 lakhs. Owners equity of the company eroded completely making the net worth figure Rs.1589 lakhs (negative) in 1989-90. The value of tangible assets was Rs.389 lakhs against the total outside liabilities of Rs.1976 lakhs (appendix I)..

Another example is KSDC. The percentage of borrowings was 79.07 in 1980-81. Over the period of ten years the percentage reached 257.31 in 1989-90. In this case also there were phenomenal increases in the values of fictitious and intangible assets from Rs.33 lakhs in 1980-81 to Rs.850 lakhs in 1989-90. The net worth turned to be negative from 1983-84 onwards. The negative net worth was as high as Rs.679 lakhs against its paid up capital of Rs.155 lakhs and the total borrowings of Rs.1109 lakhs in 1989-90.

Table 6.13

Percentage of Borrowings to Tangible Assets (State Sector)

YEARS	TRACO	KAEI	TELK	TCC	KSO	KSDP	KPH	KSDC	TTP	KDCL	SCL	TCL	SECT.MEAN
1980-81	60.98	113.10	97.13	99.53	93.70	43.36	29.88	78.07	67.65	97.49	104.35	61.37	74.01
1981-82	60.52	99.23	87.03	86.30	100.00	57.18	57.91	84.54	70.82	95.76	102.54	63.88	78.66
1982-83	54.17	84.86	103.14	73.68	109.38	57.43	69.66	103.55	69.20	95.82	101.77	60.42	79.58
1983-84	43.43	85.54	127.69	65.01	135.16	72.08	71.71	134.01	71.63	94.49	108.74	64.31	84.72
1984-85	37.62	84.48	81.36	66.05	148.16	91.19	87.17	163.49	67.55	87.44	88.52	58.01	82.52
1985-86	32.70	86.34	175.10	57.54	190.84	104.77	97.23	202.13	62.90	80.78	67.90	55.73	87.97
1986-87	54.37	82.42	236.59	58.47	293.95	112.29	118.03	249.17	43.53	78.51	61.42	48.81	96.05
1987-88	73.02	78.62	223.44	46.13	345.35	125.48	137.17	291.95	50.18	71.15	51.41	42.11	98.09
1988-89	78.76	72.90	198.83	41.37	421.51	140.89	136.48	205.41	49.09	69.83	75.65	41.01	98.52
1989-90	70.83	71.03	184.23	42.41	507.97	153.50	156.91	257.31	51.08	73.70	119.18	37.25	106.25
6.Mean	54.62	85.11	140.84	61.23	196.34	88.72	87.19	160.91	59.46	83.84	85.24	52.35	88.08
STD	14.54	11.73	55.88	17.97	140.85	35.84	38.36	72.16	10.13	10.45	21.62	9.65	10.00

Source: Computed from the Annual Reports of the companies.

In the case of TELK, the proportions of borrowings were very high in most of the years as is clear from the percentage values. Slight reductions in the rates in certain years were due to addition of paid up capital. Paid up capital which was Rs.399 lakhs in 1983-84 increased to Rs.509 lakhs in the next year which reduced the percentage of borrowing from 127.69 in 1983-84 to 81.36 in the subsequent year. In 1987-88 also there was an increase of equity by Rs.349 lakhs. In 1989-90 the paid up capital amounted to Rs.1058 lakhs. It is to be noted that despite such increases in the owners' capital, the figures of negative net worth were growing at high magnitudes. A negative net worth of Rs.93 lakhs in 1982-83 reached a higher level of Rs.3457 lakhs in 1989-90 threatening the solvency position of the company.

Still another example is KSDP whose percentage of borrowings rose from 43.86 in 1980-81 to 153.50 in 1989-90.

The case of KMM also is not different. The rate of borrowings increased from 29.88 per cent (the lowest rate of all enterprises in 1980-81) to 156.91 per cent in 1989-90.

The percentage of SCL was 104.35 in 1980-81 which came down to 88.52 in 1984-85. All the rates were less than hundred till 1988-89. In the subsequent year, again the solvency got endangered showing the highest rate to the 119.18 per cent.

On a close examination of the volume of borrowings in relation to the tangible assets, it is disclosed that six out of twelve undertakings were practically insolvent in 1989-90. Though the government is the sole supplier of both equity and loans, as a creditor, it would lose a substantial amount which had been given as loan owing to the miserable net worth position.

Out of the remaining six enterprises - TCL, Traco, TTP and TCC showed relatively favourable solvency positions on an average. It appears from the percentage values that TCL, TTP and TCC were reducing the proportion of borrowings over the period. The rates of TCL came down from 61.37 per cent in 1980-81 to 37.25 in 1989-90. TCC and TTP also showed similar decreases.

6.3.1.2 Private Sector

Table 6.14 shows that eight out of fourteen enterprises in the private sector were financially solvent throughout the entire period of ten years beginning from 1980-81. KEL alone showed more than 100 per cent rates throughout the period. In this case a major portion of the total assets was constituted by accumulated losses and expenses. In 1980-81 the company had Rs.285 lakhs as intangible assets against a total assets value of Rs.664 lakhs. In 1989-90 the respective figures were Rs.1734 lakhs and Rs.3343 lakhs. In other words, rate of intangible assets rose from about

Table 6.14

Percentage of Borrowings to Tangible Assets: (Private Sector)

YEARS	APOLLO	TECIL	ALIND	WIP	GTN	EXCEL	DEY	TOSHIBA	PREMIER	EPL	< E	LAXMI	SRI SHAG.	SECT. MEAN	
1980-81	127.55	69.61	81.35	73.42	65.13	86.61	75.59	68.99	80.65	78.79	144.59	82.90	79.12	64.25	81.93
1981-82	119.41	67.16	84.00	67.34	77.61	93.06	61.06	72.69	84.82	74.06	133.71	75.24	81.72	65.16	80.48
1982-83	91.03	59.40	91.07	63.44	82.88	111.65	62.32	70.94	106.82	77.37	134.44	72.56	84.95	57.60	80.79
1983-84	91.28	62.88	109.66	56.14	88.50	96.00	67.43	65.28	141.17	79.08	127.45	72.53	87.01	57.43	82.54
1984-85	86.08	61.70	131.53	57.95	80.93	57.49	59.44	67.94	167.32	72.24	112.25	74.33	97.24	58.64	80.25
1985-86	77.37	72.75	134.91	49.23	74.44	55.75	66.15	70.97	173.21	65.61	108.64	74.71	52.73	70.97	76.84
1986-87	65.47	77.98	153.02	54.91	69.99	67.20	77.90	73.25	147.25	67.69	113.93	50.47	61.22	72.63	80.35
1987-88	61.39	82.93	207.93	53.89	71.98	73.57	75.17	83.45	144.31	70.22	127.50	84.03	68.51	74.77	85.14
1988-89	76.65	72.19	259.48	65.88	75.15	67.61	73.02	95.40	141.84	73.15	122.07	91.68	76.35	76.40	91.03
1989-90	56.56	82.59	211.37	61.95	74.89	62.95	72.41	137.65	150.98	72.10	127.79	72.22	98.94	66.88	91.33
G. Mean	82.54	70.48	135.67	60.02	75.88	75.25	68.76	78.59	129.83	72.99	133.11	76.94	76.61	67.18	82.94
STD	22.24	7.96	58.08	6.93	6.37	17.71	6.31	20.77	30.55	4.12	21.39	4.43	12.97	6.23	4.51

Source: Computed from the Annual Reports of the companies

43 per cent in 1980-81 to about 52 per cent in 1989-90. Accordingly, the figures of negative net worth shot up from Rs.169 lakhs in 1980-81 to Rs.1417 lakhs in 1989-90. The liabilities also showed sharp increases from Rs.548 lakhs to Rs.3023 lakhs over the period.

The influence of liabilities were high in Alind as disclosed by the percentage rates. During the first three years under study, the rates were less than hundred per cent ranging from 81.35 per cent and 91.07 per cent. In the subsequent period the rates reached higher level between 109.66 per cent. and 259.48 per cent. The company was being run without owners' capital as evidenced by the values of negative net worth. A negative net worth of Rs.321 lakhs in 1983-84 increased to Rs.4013 lakhs in 1989-90.

Similar is the case with Premier Cables. The percentages of borrowings on its tangible assets ranged between 80.65 and 173.21. The company's external liabilities were Rs.800 lakhs in 1980-81 against its productive assets of Rs.992 lakhs (80.65 per cent). Towards the end of 1989-90 the liabilities increased to Rs.4759 lakhs against the assets value of Rs.3152 lakhs (150.98 per cent). The amount of accumulated losses was to the extent of Rs.1874 lakhs against the paid up capital and reserves amounting to Rs.267 lakhs which resulted in a negative net worth of Rs.1607 lakhs.

All the other concerns were occupying relatively better positions with regard to the financial solvency.

6.3.1.3 Central Sector

Considering the four enterprises, CSL alone exhibited higher rates of borrowings in relation to the productive assets. Based on the percentage rates the company was solvent till 1985-86. Afterwards, the liabilities grew in excess over the tangible assets as evidenced by the rates ranging from 100.70 to 135.14 (table 6.15). In 1980-81 the company's total outside liabilities were to the extent of Rs.10607 lakhs against an assets value of Rs.14128 lakhs (75.08 per cent). Towards the end of 1989-90 the respective figures were Rs.27213 lakhs and Rs.20136 lakhs. The company's capital base was completely eroded owing to loss accumulation the reflection which is understood from a negative net worth of Rs.143 lakhs in 1986-87 which rose to Rs.2077 lakhs in 1989-90.

The percentage rate of CRL was as high as 95.25 in 1980-81. Gradually the proportion of liabilities came down over the years reaching a level of 62.94 per cent in 1989-90. It is worth noting that the company was completely free from intangible assets. Its net worth of Rs.1030 lakhs in 1980-81 increased to Rs.20542 lakhs in 1989-90 the major component of which being accumulated reserves.

In the case of FACT there was significant reduction in the proportion of liabilities over the period of ten years as evidenced by the estimated values. Outside liabilities were

Table 6.15

Percentage of Borrowings to Tangible Assets
 (Central Sector)

YEAR	CRL	CSL	FACT	HLL	SECT. MEAN
1980-81	95.25	75.08	62.88	61.90	72.64
1981-82	94.24	69.02	69.56	59.12	71.92
1982-83	89.25	77.53	72.33	57.17	73.14
1983-84	86.97	83.32	64.35	50.82	69.77
1984-85	90.37	90.89	54.10	41.68	65.60
1985-86	91.50	95.56	38.99	54.58	65.68
1986-87	90.24	100.70	28.44	57.33	62.04
1987-88	86.06	111.46	30.65	51.93	62.51
1988-89	58.70	127.33	32.88	47.80	58.55
1989-90	62.94	135.14	35.17	43.50	60.06
G. Mean	83.53	94.39	46.09	52.19	65.99
STD	12.20	21.13	16.53	6.36	5.13

Source: Computed from the Annual Reports of the
 companies

to the extent of 62.88 per cent of productive assets at the beginning of the period. The company could reduce the rate to 35.17 per cent in 1989-90. Increase of net worth was from Rs.6862 lakhs to 34458 lakhs. Since the FACT mainly depended on equity capital there was not high influence of external liabilities.

In the case of HLL also the solvency position appears to be safe as is evident from the percentage of liabilities ranging from 61.90 in 1980-81 to 43.50 in 1989-90.

6.4 Sectorwise Comparison of Profitability, Liquidity and Solvency

6.4.1 Profitability

On a comparison between the three sectors it is observed that the return on total resources had been the lowest in the State sector. There were also wider fluctuations ranging from 10.78 per cent to 2.60 per cent in the period under study. In the Private sector, the range was within 12.02 per cent and 6.48 per cent. Table 6.16 exhibits the relative positions of all the sectors.

6.4.2 Liquidity

On a critical comparison between the three sectors the following facts were brought to light:

Out of the twelve enterprises in the State sector, four concerns had average working capital ratios exceeding 2:1 while it was only two out of fourteen enterprises in the private sector. Five companies from each sector had the average ratios in between two and one. There were three enterprises in the State sector with a proportion of less than one at an average against seven in the private sector. In the Central sector, two companies had the rates of two or more and another two were within the range of two and one.

Table 6.16

Return on Total Assets
(Various Sectors)

YEARS	State	Private	Central
1980-81	10.78	12.02	1.87
1981-82	10.72	10.90	9.87
1982-83	6.54	6.48	7.71
1983-84	2.60	7.54	7.72
1984-85	3.94	9.70	3.64
1985-86	5.80	10.90	5.01
1986-87	2.73	10.41	6.71
1987-88	4.27	9.05	6.09
1988-89	5.42	7.07	6.85
1989-90	5.41	8.99	7.11
Mean	5.82	9.30	6.26
STD	2.74	1.73	2.15

When the liquidity position is considered the State sector and the Central sector concerns were relatively in satisfactory positions. Most of the private sector concerns were having ratios of less than two rendering the liquidity situation low. From the point of view of creditors larger population of current assets in comparison with current obligation might be considered satisfactory. When the profitability is given more weight, from the owners' point of view, the preference might be given for lower proportion of current assets. But this course is more risky. Such risk perceptions are inferred from the ratios as given for private sector. Most of the profit making concerns had average ratios of more than two and all the loss making concerns had ratios less than two.

6.4.3 Solvency

The influence of borrowings appear to be relatively high in the State public sector. Six out of twelve enterprises showed borrowings at high magnitudes in many of the years under study. The sectoral mean values showed an increasing trend over the period which is an indication of endangering solvency positions. In 1989-90 when the State sector as a whole is considered, the State sector was financially insolvent as evidenced by the sectoral value of 106.25 per cent. However the private sector exhibited a mixed trend.

The sectoral mean values averaged to 82.94 per cent as against 88.08 per cent in the State sector and 65.99 per cent in the Central sector. Ten out of fourteen private sector enterprises and three out of four Central sector enterprises were solvent in the year from the point of view of creditors. As against this, in the State sector, six out of twelve enterprises were insolvent. In fact, the magnitude of insolvency is the greatest in the State public sector. Table 6.17.

Table 6.17

Percentage of Borrowings to Tangible
Assets (Various Sectors)

YEARS	State	Private	Central
1980-81	74.01	81.83	72.64
1981-82	78.66	80.48	71.92
1982-83	79.58	80.78	73.14
1983-84	84.72	82.54	69.77
1984-85	82.52	80.25	65.60
1985-86	87.97	76.84	65.68
1986-87	96.05	80.35	62.04
1987-88	98.09	85.14	62.51
1988-89	98.52	91.03	58.55
1989-90	106.25	91.33	60.06
Mean	88.08	82.94	65.99
STD	10.00	4.51	5.13

Chapter VII

FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

7.0 This chapter summarises the major findings, conclusions and recommendations.

7.1 Patterns of Capital Structure

7.1.1 The sectoral mean value of Debt-Equity ratios was the highest in the private sector. On a closer examination it was revealed that most of the companies had been depending mainly on equity and only two companies had larger ratios which really resulted in higher sectoral values.

In the state sector most of the companies were found to have high debt proportions in their capital structure. Here, the sectoral mean value had been heavily influenced by two companies which had significantly low levels of debt in their capital structure. In the central sector two companies could be categorised as debt intensive and another two companies as equity intensive.

In the state sector most of the loss making companies appeared to have employed higher proportions of debt.

7.1.2 While looking at the ratio of debt to paid up capital in comparison with the Debt-Equity ratios the private sector

showed the highest margin which was an indication of accumulated reserves in the capital structure. This situation strengthened the equity lease. Both state sector and central sector recorded marginal differences.

7.1.3 The analysis of the sources of finance revealed that in all the three sectors, borrowings constituted the largest source of finance. Intensity of borrowings was found to be the highest in the state sector. The reserves component was found to be the highest in the private sector and the lowest in the central sector.

7.1.4 Even in comparison with the paid up capital alone the reserves and surpluses was found to be more in the private sector. It was observed that the next in order was the state sector. With regard to the accumulation of revenue reserves also the private sector stood first. It was again seen that the equity cushion of the private enterprises was stronger than that of the state and central sector enterprises.

7.1.5 Evaluation of the intensity of accumulated losses and expenses showed that the rates of accumulated losses and expenses were the highest in the state sector followed by the private sector. It meant that the proportion of productive assets was the lowest in the state sector. In this respect the central sector was in a better position since the proportion of such losses and expenses was the lowest for them.

A logical conclusion that follows from the above observations is that the state sector enterprises have been unduly over burdened with borrowings. Considering the low borrowing capacity of these enterprises as indicated by the rates of reserves accumulation, such heavy borrowings were rather unjustifiable. The impact of fictitious assets, as well, is found to be very high in the state sector.

7.2 Analysis of Leverage

7.2.1 When the interest was related to the total expenses, it was found that private sector topped the list. On an evaluation of the individual cases the percentages of interest to total expenses were found to be very high in most of the state sector enterprises. The rates of fluctuations were the highest in the state sector. However, the sectoral mean value of the state sector had been less than that of the private sector. It was due to the influence of certain companies which had very low interest burden owing to lesser proportions of borrowings in the capital structure. In the private sector, in most cases, the impact of interest was found to be lower. Influence of interest on total expenses was found to be the lowest in the central sector. Very high proportion of interest was seen only in one case.

In most cases, the influence of interest was found to be relatively high in loss making enterprises in the state

which is also indicative of the fact that such organisations had lower borrowing capacity as well.

7.2.2 On an analysis of interest coverages, it was found that the state sector had the highest interest coverage ratio (sectoral mean value). Taking individual cases, it was found that instances of negative interest coverage ratios was more in the state sector than in the other two sectors. Certain companies happened to show very high coverage ratios owing to negligible interest component in their cost structure. It was due to the influence of such incomparable situations that the sectoral mean value of state sector had been the highest.

Though the interest coverage ratios had not been very high, on an average, all the private sector enterprises recorded positive coverage ratios. It is an indication of a more or less conservative approach.

The central sector, by and large, revealed a better position. Only one company showed the coverage as negative.

7.2.3 The indifference analysis revealed that among the twelve enterprises in the state sector only three companies showed a reasonably good picture as their actual EBIT levels exceeded the indifference points under situations A and B. Five enterprises had negative values of EBIT. In three

other enterprises even though their EBIT values were positive, they were far below the indifference levels.

In the private sector, majority of the concerns had their EBIT above indifference levels under situations A and B.

In the central sector CRL occupied a reasonably good position. The EBIT of CSL had been negative. The other two concerns showed a relatively safe position under situation A. Under situation B, EBIT fell below the indifference level.

7.2.4 Regression and correlation analyses revealed that with respect to state sector enterprises, EPS was dependent on both Debt-Equity ratio and EBIT. EPS to Debt-Equity ratio showed a negative relationship whereas EPS to EBIT showed a positive relationship. An increase in Debt-Equity ratio leads to a decrease in EPS and an increase in EBIT leads to an increase in EPS. So also a decrease in Debt-Equity ratio leads to an increase in EPS and a decrease in EBIT leads to a decrease in EPS.

48.9 per cent of the variation in EPS was explained by the variation in Debt-Equity ratio whereas 88.6 per cent of variation was explained by that in EBIT. Both these factors together explained 92.5 per cent of the variation in EPS.

In private and central sector enterprises the impact of the above multiple factors on EPS found was not significant.

7.2.5 Interviews with the financial personnel revealed that most of the state sector concerns were not giving due considerations for a logical financing decision. The cost and risk factors were ignored many a time. Financing decisions taken were not based on a sound theoretical framework.

In the private sector, on the other hand, cost and risk factors were properly considered before taking investment and financing decisions. Activities of the companies were governed more by profit motive than any other factors.

Borrowings in many of the state sector enterprises were found to be excessive. Based on the present earnings positions, debt intensive capital structure was not at all found to be justifiable. This fact was established through the interest coverage ratios, EBIT-EPS analysis and regression and correlation analysis. The private and central sectors were seen to occupy better positions in this regard.

The capital structure decisions taken in the state sector, in most cases, were not the result of a rational approach. It was the result of evolution rather than a deliberate and decisive course.

7.2.6 Analysis based on the reports of CMAG again established the fact that most of the investment and financing decisions taken by the state sector enterprises were not the results of foresight and scientific thinking. Most of the investment projects resulted in time lag and cost overruns of high magnitude. Companies depended mainly on borrowings which further increased their financial burden. Accumulation of interest burden and inability to repay loans forced the companies to convert their loans into equity.

7.3 Analysis of profitability, liquidity and solvency

7.3.1 Among the three sectors, return on total assets was the highest in the private sector followed by the central sector. The lowest rate was recorded by the state sector. When the profitability on paid up capital was evaluated, the rate recorded by the state sector was the highest followed by the central sector. This rate was due to the influence of very high percentages of net profit on paid up capital in the case of two enterprises. If such an influence had not been there, the sector value would have been the lowest in the case of the state sector.

7.3.2 With regard to the liquidity positions, in most cases, the private sector appeared to rest on a very low position. On a sectoral evaluation based on the working capital ratio

the lowest average value had been revealed by the state sector. When the individual cases are observed most of the state sector enterprises appeared to have higher ratio. The central sector recorded the highest rate. When the liquidity position is evaluated, the state sector recorded the highest rate followed by the central sector. It appeared that the private sector enterprises adopted an aggressive policy with regard to employment of current assets.

7.3.3 The solvency positions of the state sector were getting endangered year after year as is evident from the increasing sectoral values (percentages of borrowings on tangible assets). In most cases, the borrowings as well as fictitious assets were increasing. The state sector as a whole can be said to be insolvent towards the end of the period of analysis (the percentage of borrowings to tangible assets was 106.25). In this way six enterprises were insolvent in the state sector in 1989-90. The percentage of borrowings recorded by the central sector had been the lowest.

RECOMMENDATIONS

The analyses and conclusions arrived at in the study emphasises the imperative need on the part of the state government to devise policies and programmes to improve the general financial performance of the state enterprises. Certain specific recommendations are made in this context as given below:

1. The government should establish a suitable machinery consisting of experts from various fields and in particular, from Finance which should be assigned the responsibility of independently monitoring the functions of the state enterprises, especially with reference to the Finance Management Policy. Strict financial discipline should be insisted on the state enterprises making them directly accountable to this machinery.

2. The state enterprises, before taking investment decisions, should generate different alternatives and they should be properly evaluated and ranked by applying suitable capital budgeting techniques. The present practice amounts to putting the cart before the horse in that investment decisions are taken first and then some capital budgeting technique is applied to explain and justify the investment.

3. Every project should be time bound and every effort should be made to see that it is contained within the original time and cost estimates.

4. It is always advisable for expansion and additions to be financed by the company's own resources wherever possible.

5. In order to make the state enterprises more competent and profit oriented rather than service oriented, private participation in the ownership should be encouraged by resorting to disinvestment in the existing state enterprises and planning original equity participation for new enterprises.

6. The debt component of the capital structure of industries whose operating incomes are subject to wide fluctuations should be converted into equity through a phased programme.

7. Wherever possible companies which are already insolvent should be sold to private sector particularly in cases where there are buyers. This will enable the Government to compensate the existing workers and this process may even generate additional employment opportunities. These recommendations have been made particularly because

the Government is, at the moment, disbursing substantial amounts running into crores every year to nurse such industries which are beyond recovery. Such a step as recommended will atleast save the Government from this futile exercise.

8. The capital structure of companies which shows steady operating incomes should be so restructured as to maintain a proper balance between debt and equity so that the interest burden by itself will not reduce the return on equity substantially.

The above recommendations have been made not only as logical steps that could be taken on the basis of the conclusions of the study, but also based on the philosophy that the practice of subsidising incompetence and inefficiency by the Government should be stopped to ensure economic progress of the state in particular and the country in general.

APPENDIX-I

TRACO CABLE CO.LTD. (TRACO)

YEARS	PUC	CAP	RES	REV	RES	DRR	IAR	OTHERS	DEPF	LOANS	CUL	TA	NW	FICT A	INVENTORY	DRS	CASH & OTH	T EXP	INT	NP/NL
1980-81	130		35	14	2	14	2	111	133	142	456	176	5	145	164	71	416	16	35	
1981-82	130		41	14	2	14	2	118	130	149	466	182	5	157	133	102	311	16	43	
1982-83	147		46	14	2	14	2	125	117	130	457	208	1	133	137	184	283	10	52	
1983-84	197		56		2		2	134	82	113	450	254	1	114	111	392	252	6	21	
1984-85	272		56		2		2	141	39	160	529	330	0	125	74	163	336	12	2	
1985-86	343		43		2		2	151	70	155	578	388	0	134	89	188	379	11	-12	
1986-87	433		25		2		2	159	376	171	1006	460	0	86	117	381	337	8	-19	
1987-88	478				2		2	172	1058	176	1713	457	23	65	58	193	303	16	-53	
1988-89	563		14		6		6	184	1862	263	2698	583	0	39	170	245	466	17	42	
1989-90	966		59		6		6	198	2179	325	3335	1031	0	253	232	193	752	40	48	

KERALA ELECTRICAL & ALLIED ENGINEERING COMPANY LTD. (KAEEL)

YEARS	PUC	CAP	RES	REV	RES	DRR	IAR	OTHERS	DEPF	LOANS	CUL	TA	NW	FICT A	INVENTORY	DRS	CASH & OTH	T EXP	INT	NP/NL
1980-81	122							66	391	170	683	-65	187	196	157	48	433	41	19	
1981-82	122							72	452	196	771	4	118	270	227	63	562	45	68	
1982-83	159							81	392	174	728	98	61	199	296	58	499	47	55	
1983-84	159							95	434	205	798	108	51	235	282	76	472	46	8	
1984-85	159							107	474	261	894	135	24	248	260	144	589	54	26	
1985-86	159		2					126	524	386	1071	144	17	358	267	118	941	70	5	
1986-87	201		4					36	537	424	1166	205	0	290	477	2	1160	95	1	
1987-88	259		15					33	575	436	1286	274	0	417	416	46	1082	94	-26	
1988-89	465		33					25	840	551	1908	518	0	462	533	360	1923	111	61	
1989-90	874		74					248	1440	884	3272	948	0	607	810	376	2902	123	45	

TRANSFORMERS AND ELECTRICALS KERALA LTD. (TELK)

YEARS	PUC	CAP	RES	REV	RES	DRR	IAR	OTHERS	DEPF	LOANS	CUL	TA	NW	FICT A	INVENTORY	DRS	CASH & OTH	T	EXP	INT	NP/NE
1980-81	399			40		30	50		386	1301	935	2306	515	4	687	1307	88	2182	209	28	
1981-82	399				10		50		434	1595	1155	3255	364	95	602	1333	267	2162	313	-136	
1982-83	399						50		479	1790	1233	3473	-93	542	865	961	198	1847	279	-449	
1983-84	399	10					50		547	2230	1358	4047	-778	1237	751	913	177	2097	310	-695	
1984-85	509	10					50		696	1056	3048	4673	-1319	1888	837	844	105	2736	360	-652	
1985-86	509	19					50		847	2401	2290	5268	-2011	2589	905	889	128	2821	450	-701	
1986-87	509	19					50		969	2698	2443	5720	-2969	3547	603	761	160	2491	484	-897	
1987-88	858	19					34		1069	2617	3188	6715	-3206	4117	971	861	206	3350	500	-639	
1988-89	908	10					24		1153	2911	4211	8072	-3548	4490	1312	1470	315	3925	564	-354	
1989-90	1058	10					19		1125	3018	4541	8646	-3456	4543	1689	1596	551	4321	675	-91	

THE TRAVANCORE COCHIN CHEMICALS LTD. (TCC)

YEARS	PUC	CAP	RES	REV	RES	DRR	IAR	OTHERS	DEPF	LOANS	CUL	TA	NW	FICT A	INVENTORY	DRS	CASH & OTH	T	EXP	INT	NP/NE
1980-81	660					134	1		1444	1578	337	2710	9	786	420	274	112	1194	111	130	
1981-82	660					134	32		1565	1422	336	2584	279	547	517	340	118	1329	100	271	
1982-83	660			18		134	38		1713	1146	268	2245	524	326	578	282	91	1292	59	226	
1983-84	660						44	1	1880	1039	269	2012	705	0	577	470	80	1193	60	199	
1984-85	660			68			58		2019	761	490	1894	786	0	476	519	132	1802	113	102	
1985-86	660			219			69		2116	560	630	2068	948	0	643	557	157	2169	101	226	
1986-87	660			93			73		2100	487	676	1989	826	0	724	479	143	1956	92	-122	
1987-88	660			254			73		2072	425	421	1834	987	0	538	447	143	1921	89	182	
1988-89	660			335			143		2159	287	516	1941	1138	0	443	459	191	2435	60	256	
1989-90	660			486			187		2284	78	906	2320	1333	0	540	531	218	2972	42	347	

KERALA SOAPS & OILS LTD. (KSD)

YEARS	PUC	CAP RES	REV RES	DRR	IAR	OTHERS	DEFF	LOANS	CUL	TA	NW	FICT A INVENTORY	DRS	CASH & OTH T EXP	INT	NP/NL		
1980-81	150						57	431	119	700	37	113	210	108	56	840	33	12
1981-82	150				4		78	564	144	862	0	154	179	214	68	925	54	10
1982-83	151				10		100	472	344	977	-70	231	218	213	50	1071	65	-51
1983-84	186				10		136	482	356	1034	-218	414	189	134	58	968	74	-190
1984-85	186				10		172	537	512	1244	-340	536	239	202	54	1084	82	-113
1985-86	186				10		201	600	587	1384	-566	762	234	135	66	942	98	-231
1986-87	186				10		225	654	610	1460	-834	1030	88	101	69	974	119	-271
1987-88	186				10		248	612	949	1757	-1109	1305	140	92	70	768	120	-274
1988-89	186				10		270	685	1098	1979	-1360	1556	119	86	70	862	152	-247
1989-90	186				10		291	1091	885	2173	-1588	1784	113	69	76	884	146	-226

KERALA STATE DRUGS & PHARMACEUTICALS LTD. (KSDP)

YEARS	PUC	CAP RES	REV RES	DRR	IAR	OTHERS	DEFF	LOANS	CUL	TA	NW	FICT A INVENTORY	DRS	CASH & OTH T EXP	INT	NP/NL		
1980-81	210		39	2	3	11	72	124	83	472	265	0	84	53	39	276	16	50
1981-82	260		93	2	4	11	73	360	122	843	370	0	114	60	46	368	15	63
1982-83	420		155	2		30	31	655	153	1415	599	8	131	285	134	424		-43
1983-84	420		108	2		30	21	817	218	1595	401	159	165	408	54	543		-76
1984-85	420		2		110	30	256	698	358	1619	101	461	249	189	42	742	118	-255
1985-86	420				112	30	342	788	419	1769	-55	617	220	285	51	1006	137	-163
1986-87	420				111	30	418	894	422	1877	-144	705	238	313	100	1397	153	-158
1987-88	420				111	30	483	1016	496	2072	-306	867	187	430	117	1285	178	-175
1988-89	420				111	30	540	1164	545	2269	-495	1056	212	476	118	1065	195	-202
1989-90	420				111	30	590	1417	379	2357	-626	1187	236	403	158	1240	226	-124

KERALA MINERALS & METALS LTD. (KMM)

YEARS	PUC	CAP RES	REV RES	DRR	IAR	OTHERS	DEFF	LG-WS	CUL	TA	NM	FICT A INVENTORY	DRS	CASH & OTH T	EIF	INT	NP/AL
1980-81	1979	47			8		24	429	439	2992	2034	0	28	144	-	12	23
1981-82	2151	44			6		30	2576	456	5236	2203	0	40	169	32	12	13
1982-83	2251				12		40	4286	733	7291	2191	72	66	176	82	20	-10
1983-84	2691				11		98	5567	615	9285	2595	107	308	149	162	23	-28
1984-85	2756				12		1384	7184	1384	11346	1262	1506	935	116	2112	203	-178
1985-86	2756				12		1348	8155	1633	12557	278	2490	924	239	2442	1035	-173
1986-87	2806				23		2251	7318	1417	13569	-1045	4474	614	124	4264	1201	-188
1987-88	2892				27		3247	10655	1228	14759	-2202	6121	1195	191	3211	1366	-147
1988-89	2892				50		4242	13058	1011	14651	-3119	6101	1465	706	3141	1434	-76
1989-90	3093				106		5235	11229	1076	15524	-4463	7662	2460	206	3947	1475	-154

KERALA STATE DETERGENTS & CHEMICALS LTD. (KSDC)

YEARS	PUC	CAP RES	REV RES	DRR	IAR	OTHERS	DEFF	LG-WS	CUL	TA	NM	FICT A INVENTORY	DRS	CASH & OTH T	EIF	INT	NP/AL
1980-81	89		3			15	15	219	48	375	74	33	140	60	232	17	
1981-82	124		3			15	23	203	107	551	76	66	139	79	241	26	
1982-83	135					15	31	274	102	646	-17	167	146	100	211	34	-38
1983-84	135					15	41	330	138	678	-134	284	90	28	211	29	-33
1984-85	135					15	52	311	307	767	-239	389	86	9	212	29	-72
1985-86	155					15	61	350	313	831	-333	503	53	5	191	31	-34
1986-87	155					15	68	377	353	920	-449	619	33	16	172	34	-74
1987-88	155					17	76	450	420	1041	-571	743	27	14	141	35	-62
1988-89	155					17	141	672	316	1159	-506	678	20	24	295	24	-132
1989-90	155					17	196	741	168	1281	-678	850	27	25	361	104	-171

TRAVANCORE TITANIUM PRODUCTS LTD. (TTP)

YEARS	PUC	CAP RES	REV RES	DRR	IAR	OTHERS	DEPF	LOANS	C/L	TA	NW	FICT A	INVENTORY	DRS	CASH & OTH	T EXP	INT	FXNL
1980-81	156		137	95		100	932	467	562	1521	488	0	540	78	528	1205		1.9
1981-82	170		129	95		100	990	507	573	1525	494	0	529	94	542	1725		
1982-83	177		126	95		100	1044	594	536	1633	498	0	592	30	510	1508	41	0
1983-84	177		142	43		100	1102	570	594	1625	462	0	489	43	583	1308	51	-49
1984-85	177		210	16	61	100	1236	584	590	1739	564	0	495	113	667	2023	51	217
1985-86	177		308		66	100	1306	531	571	1752	651	0	610	58	608	2009	52	157
1986-87	177		451		180	100	1396	377	554	2139	908	0	539	184	995	2016		367
1987-88	177		845		360	100	1493	0	1392	2774	1482	0	559	205	1594	2503		392
1988-89	177		1272		593		1543	0	1966	4008	2039	3	787	84	2708	2731		1.35
1989-90	177		1520		765		1589	0	2569	5032	2459	3	947	173	3166	2735		3.4

KELTRON COMPONENT COMPLEX LTD. (KCCCL)

YEARS	PUC	CAP RES	REV RES	DRR	IAR	OTHERS	DEPF	LOANS	C/L	TA	NW	FICT A	INVENTORY	DRS	CASH & OTH	T EXP	INT	FXNL
1980-81	161					15	60	497	319	993	20	156	211	121	30	270	51	-26
1981-82	161					25	81	548	310	1051	31	155	208	173	38	341	54	13
1982-83	161	2			10	15	104	738	178	1106	38	150	272	143	51	354	51	1.4
1983-84	161	2			10		134	645	178	995	49	124	222	131	53	358	25	
1984-85	161	2			10		166	530	187	890	103	70	169	139	45	416	31	59
1985-86	161	2	33		10		171	548	322	1078	205	1	303	153	43	534	51	115
1986-87	161	2	65		10		204	469	404	1113	237	1	292	165	42	616	105	49
1987-88	261	2	66		10		256	427	409	1175	339	0	319	181	50	812	133	39
1988-89	261	2	73		41		370	431	444	1253	377	0	341	266	96	1182	154	21
1989-90	261		93		52		487	483	666	1559	261	0	495	382	155	1412	154	25

STEEL COMPLEX LTD. (SCL)

YEARS	PUC	CAP RES	REV RES	DRR	IAR	OTHERS	DEFF	LOANS	CUL	TA	NW	FICT A INVENTORY	DRS	CASH & OTH T EXP	INT	NP/ML	
1980-81	224			26			116	497	103	850	-25	275	66	204	1037	43	
1981-82	224			26			132	549	177	977	-19	269	133	174	1169	47	-5
1982-83	224			26			150	541	263	1054	-14	264	145	178	1238	48	5
1983-84	224			2			199	592	217	1037	-67	293	99	209	1057	57	-29
1984-85	224			26	21		247	335	459	1066	102	169	433	152	2034	56	116
1985-86	224	9	64	26	25		267	215	519	1081	347	0	688	13	2383	31	376
1986-87	224	9	144		38		295	157	502	1074	413	1	597	25	2208	51	113
1987-88	224	9	145		38		323	91	348	855	414	1	325	11	2088	37	1
1988-89	224	9	20		37		351	143	615	1048	243	46	440	12	3231	58	-171
1989-90	225	9	20		37		380	186	1597	1710	76	214	838	23	3691	143	-172

TRAVANCORE CEMENTS LTD. (TCL)

YEARS	PUC	CAP RES	REV RES	DRR	IAR	OTHERS	DEFF	LOANS	CUL	TA	NW	FICT A INVENTORY	DRS	CASH & OTH T EXP	INT	NP/ML	
1980-81	50		41		1	52	132	0	224	367	142	2	73	252	497	1.00	143
1981-82	50		88		3	60	137	0	352	553	199	2	103	390	564	1.00	225
1982-83	50		110			63	168	0	406	674	241	2	113	437	727	2.34	193
1983-84	50		132		37	66	198	50	460	795	283	2	122	484	889	4.00	160
1984-85	50		132		43	96	252	0	442	764	319	2	145	428	786	3.00	72
1985-86	50		162		44	81	294	31	392	759	337	0	156	405	829	5.00	47
1986-87	50		154		74	65	347	65	263	672	343	0	144	186	801	10.00	-24
1987-88	50		132		74	52	398	55	169	533	307	1	127	100	776	24.00	-35
1988-89	50		130		74	52	439	35	177	518	305	1	155	81	581	12.00	-3
1989-90	50		172		74	52	473	15	191	554	347	1	180	107	1224	12.00	47

APPENDIX-II

APOLLO TYRES LTD. (APOLLO)

YEARS	PUC	PSC	CAP RES	REV RES	DRR	INV ALL	OTHERS	DEP FUND	LOAN	CUL	NW	TA	FICT A	INVENTORY	DRS	CASH & OTH	T EXP	INT NP/L	
1980-81	710	75			79			79	2297	1995	-1000	5067	1710	480	43	127	3229	419	-474
1981-82	710	75			353			353	2467	2372	-779	6160	1689	680	1032	278	4571	437	21
1982-83	710	75			802			802	2682	2915	440	6422	270	1421	578	396	5878	246	5
1983-84	744	75			802			802	2868	3459	533	7174	209	1964	463	525	6067	258	57
1984-85	772	75			1268			1268	3039	2575	599	6617	73	921	553	487	7375	291	136
1985-86	775	75		32	2319	33		2319	2768	3119	1611	7609		1172	1654	682	8959	400	931
1986-87	775	75		102	4102	33		4102	3039	3245	3242	9599		1414	1605	1707	13352	531	1452
1987-88	840	75		1167	4455	33		4455	3291	3651	4179	11276		1612	1660	1342	13828	647	1729
1988-89	840	75		1900	4933	340		4933	12546	3568	4773	21014	254	1839	2612	2259	16713	776	1619
1989-90	2767		6947	3000	5743	518		5743	8788	7954	12760	30074	472	3719	4045	4237	26038	971	2476

TRAVANCORE ELECTRO CHEMICAL INDUSTRIES LTD. (TECIL)

YEARS	PUC	PSC	CAP RES	REV RES	DRR	INV ALL	OTHERS	DEP FUND	LOAN	CUL	NW	TA	FICT A	INVENTORY	DRS	CASH & OTH	T EXP	INT NP/L	
1980-81	187		11	91	15	50		178	153	656	354	1165		329	160	220	1349	63	110
1981-82	187		10	118	10	73		224	138	674	398	1209		249	204	206	1507	79	101
1982-83	233		10	120	9	76		294	155	502	448	1106		212	119	229	1398	73	6
1983-84	233		20	147		81		366	129	664	481	1293		286	227	266	1468	57	105
1984-85	233		20	124		83		449	285	548	460	1350		277	276	312	1912	86	25
1985-86	233		20	113		85		512	579	513	358	1594	93	373	187	381	1745	101	8
1986-87	233		20	120		87		598	558	547	351	2039	109	504	234	463	2091	125	34
1987-88	233		20	120		86		672	641	909	241	2087	218	341	225	427	2346	95	14
1988-89	233		20	52		103		730	639	611	408	1733		236	205	363	1567	84	-33
1989-90	233		20			85		783	846	866	312	2123	26	520	213	414	2152	143	-96

ALUMINIUM INDUSTRIES LTD. (ALIND)

YEARS	PUC	PSC	CAP	RES	REV	RES	DRR	INV	ALL	OTHERS	DEP	FUND	LOAN	CUL	MM	TA	FICT A	INVENTORY	DRS	CASH & OTH	T	EXP	INT	₹/NL
1980-81	270	84	15	15	65	118	39	32	35	47	503	205	1910	401	2600	1182	480	529	3650	190	210			
1981-82	270	84	15	15	118	39	32	35	47	503	205	1910	401	2600	1182	480	529	3650	190	210				
1982-83	270	84	15	15	118	39	32	35	47	503	205	1910	401	2600	1182	480	529	3650	190	210				
1983-84	270	84	15	15	118	39	32	35	47	503	205	1910	401	2600	1182	480	529	3650	190	210				
1984-85	270	84	15	15	118	39	32	35	47	503	205	1910	401	2600	1182	480	529	3650	190	210				
1985-86	270	84	15	15	118	39	32	35	47	503	205	1910	401	2600	1182	480	529	3650	190	210				
1986-87	270	84	15	15	118	39	32	35	47	503	205	1910	401	2600	1182	480	529	3650	190	210				
1987-88	270	84	15	15	118	39	32	35	47	503	205	1910	401	2600	1182	480	529	3650	190	210				
1988-89	270	84	15	15	118	39	32	35	47	503	205	1910	401	2600	1182	480	529	3650	190	210				
1989-90	570	84	15	15	118	39	32	35	47	503	205	1910	401	2600	1182	480	529	3650	190	210				

WESTERN INDIA PLYWOODS LTD. (WIP)

YEARS	PUC	PSC	CAP	RES	REV	RES	DRR	INV	ALL	OTHERS	DEP	FUND	LOAN	CUL	MM	TA	FICT A	INVENTORY	DRS	CASH & OTH	T	EXP	INT	₹/NL
1980-81	137	6	15	15	134	104	4	104	140	143	573	530	318	301	1155	346	148	120	1226	90	67			
1981-82	137	6	15	15	104	104	4	104	140	143	715	456	309	364	1136	401	206	113	1319	89	85			
1982-83	137	6	15	15	131	131	4	140	143	143	830	409	344	427	1187	428	250	152	1443	84	84			
1983-84	137	6	15	15	203	203	4	143	159	159	918	375	274	502	1156	364	258	239	1529	72	120			
1984-85	137	6	15	15	224	224		159	165	165	1008	364	443	535	1289	404	341	235	1868	57	173			
1985-86	192	6	15	15	246	246		165	165	165	3	1081	222	387	621	1237	431	264	239	1985	67	207		
1986-87	192	6	15	15	342	342		165	165	165	10	1158	215	674	724	1619	605	359	326	1789	71	206		
1987-88	192	6	15	15	421	421		165	165	165	19	1291	230	726	812	1774	679	380	309	2030	89	196		
1988-89	288	6	15	15	299	299		233	233	233	19	1518	532	1208	854	2641	1077	363	441	2336	144	80		
1989-90	288	6	15	15	306	306		254	254	254	19	1727	516	961	882	2384	990	279	504	2482	178	132		

STN TEXTILES LTD. (GTN)

YEARS	PUC	FSC	CAP	RES	REV	RES	DRR	INV	ALL	OTHERS	DEP	FUND	LOAN	CUL	NAV	TA	FICT A	INVENTORY	DRS	CASH & OTH	T	EXP	INT	NP/L
1980-81	16			96	17	75	143	194	187	204	585	585	161	21	58	912	28	72						
1981-82	16	10		23	12	96	173	206	300	147	652	652	214	27	33	541	42	-55						
1982-83	16	10			3	97	219	395	215	120	742	742	6	10	45	865	55	-11						
1983-84	16	17			2	103	285	421	364	103	922	922	35	20	52	1225	76	-11						
1984-85	16	21		18	2	124	358	384	384	181	949	949	308	25	85	1351	52	75						
1985-86	36			134		85	293	459	374	285	1119	1119	244	15	115	1348	59							
1986-87	36			144		85	531	428	479	290	1296	1296	429	54	105	1737	121							
1987-88	36			206		161	678	495	607	428	1531	1531	718	24	158	2217	122							
1988-89	36			220		187	815	699	719	468	1887	1887	778	35	309	1860	53							
1989-90	60			308		263	986	1111	846	656	2613	2613	833	65	446	2145	135	175						

EXCEL GLASSES LTD. (EXCEL)

YEARS	PUC	FSC	CAP	RES	REV	RES	DRR	INV	ALL	OTHERS	DEP	FUND	LOAN	CUL	NAV	TA	FICT A	INVENTORY	DRS	CASH & OTH	T	EXP	INT	NP/L
1980-81	70						14	184	10	31	282	282	58	44	43	366	17	12						
1981-82	71						14	177	24	14	292	292	76	32	24	180	17	-12						
1982-83	71						14	196	82	-32	371	371	122	40	44	311	23	-22						
1983-84	94					5		213	27	7	347	347	97	55	74	477	27							
1984-85	94					24		187	47	101	429	429	22	46	142	611	16	57						
1985-86	94			14		22		163	65	135	419	419	10	68	105	74	636	27	43					
1986-87	94			16		22		230	150	136	575	575	11	81	167	65	868	42	21					
1987-88	94			17		22		295	234	136	731	731	12	93	229	55	1099	57	2					
1988-89	94			10		71		209	246	190	673	673	123	187	60	1044	44	61						
1989-90	126			115		15		147	288	256	691	691	114	211	103	1030	40	54						

O/E/N INDIA LTD. (OEN)

YEARS	PUC	PSC	CAP RES	REV RES	DRR	INV ALL	OTHERS	DEP FUND	LOAN	CUL	NW	TA	FICT A	INVENTORY	DRS	CASH & OTH	T EXP	INT NP/L	
1980-81	73			32	16	20		148	64	193	141	340		137	32	73	223	19	53
1981-82	73		5	70	3	30		175	93	183	176	452		147	62	40	324	26	39
1982-83	73		18	78	2	34		207	114	197	187	499		167	74	35	340	35	52
1983-84	73		164	85		38		239	178	232	196	608		170	114	84	400	43	57
1984-85	73		164	153		39		274	166	234	265	673		183	131	69	451	42	49
1985-86	73		164	143		44		311	170	340	260	771		210	115	125	544	51	51
1986-87	73		164	58		44	1	341	155	469	176	801		230	91	162	532	48	53
1987-88	73		164	106		42		360	155	518	222	894		260	105	198	501	52	55
1988-89	73		164	153		40	1	379	153	567	267	986		289	118	234	666	55	219
1989-90	109		164	183		36	1	418	125	741	329	1196		327	171	286	686	59	157

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TOSHIBA ANAND BATTERIES LTD. (TOSHIBA)

YEARS	PUC	PSC	CAP RES	REV RES	DRR	INV ALL	OTHERS	DEP FUND	LOAN	CUL	NW	TA	FICT A	INVENTORY	DRS	CASH & OTH	T EXP	INT NP/L	
1980-81	53	18		121	2	4		65	45	391	180	632		212	27	221	1295	38	52
1981-82	70	13	5	109	2	8		72	70	481	194	758		208	142	218	1536	45	57
1982-83	70		18	99		15		89	113	380	202	695		171	187	131	1382	56	55
1983-84	70		164	57		17		112	112	467	308	887		232	120	179	1478	59	56
1984-85	70		164	66		18		131	154	522	318	995		218	184	242	2011	62	56
1985-86	98		164	44		31		138	172	647	335	1154		260	209	258	2222	79	57
1986-87	125		164	18		44		144	190	771	351	1312		301	233	274	2434	95	53
1987-88	125		164					142	209	1026	244	1525	45	337	205	254	2382	101	-105
1988-89	125		164					142	131	1156	5	1633	284	254	164	221	1944	169	-245
1989-90	125		164					250	134	1259	-459	1730	718	171	71	154	1717	196	-441

THE PREMIER CABLE COMPANY LTD. (PREMIER)

YEARS	PJC	PSC	CAP	RES	REV	RES	DRR	INV	ALL	OTHERS	DEP	FUND	LOAN	CUL	NM	TA	FICT A	INVENTORY	DRS	CASH & OTH	T EXP	INT	¥ ML
1980-81	85	7	22	34	10	32	32	34	138	255	545	183	992	439	71	230	1594	69	198	1616	122	122	122
1981-82	114	7	32	15	54	32	32	164	205	662	966	-112	1868	407	36	196	652	175	36	652	175	175	175
1982-83	114	7	32	54	54	32	32	264	323	1557	1008	-1107	2823	289	11	210	953	203	11	953	203	203	203
1983-84	114	7	32	54	54	32	32	389	1947	1060	-1313	3264	1528	441	255	168	1098	224	92	168	1098	224	224
1984-85	129	42	32	32	54	32	32	489	2398	1345	-1243	4000	1458	907	583	165	2589	310	255	165	2589	310	310
1985-86	129	42	32	32	59	32	32	558	2308	1727	129	4291	1495	979	652	320	6000	506	583	320	6000	506	506
1986-87	129	42	32	32	64	32	32	626	2218	2108	-1306	4581	1531	1152	722	352	7503	838	722	352	7503	838	838
1987-88	129	42	32	32	64	32	32	727	2215	2544	-1649	5026	1874	1061	745	563	5512	491	745	563	5512	491	491
1988-89	129	42	32	32	64	32	32	727	2215	2544	-1649	5026	1874	1061	745	563	5512	491	745	563	5512	491	491
1989-90	129	42	32	32	64	32	32	727	2215	2544	-1649	5026	1874	1061	745	563	5512	491	745	563	5512	491	491

BPL SYSTEMS AND PROJECTS LTD. (BPL)

YEARS	PJC	PSC	CAP	RES	REV	RES	DRR	INV	ALL	OTHERS	DEP	FUND	LOAN	CUL	NM	TA	FICT A	INVENTORY	DRS	CASH & OTH	T EXP	INT	¥ ML
1980-81	20			17	7	2	22	30	126	42	202	4	81	38	31	304	24	31	38	31	304	24	24
1981-82	20			28	10	3	32	23	154	61	239	85	50	50	33	403	29	85	50	33	403	29	29
1982-83	20			21	11	3	43	23	165	55	243	101	50	50	23	285	29	101	50	23	285	29	29
1983-84	40			18	16	3	60	30	261	77	368	133	106	32	554	46	31	133	106	32	554	46	46
1984-85	40		54	168	27	3	92	101	370	124	652	242	129	47	857	71	72	242	129	47	857	71	71
1985-86	50		54	211	39	3	64	151	452	314	919	277	204	41	1243	106	113	277	204	41	1243	106	106
1986-87	50		54	217	51	3	97	171	581	357	1111	343	231	60	1358	108	52	343	231	60	1358	108	108
1987-88	50		54	217	63	3	123	230	659	50	1266	350	300	85	1864	145	45	350	300	85	1864	145	145
1988-89	50		54	223	63	3	148	289	738	376	1421	17	356	370	2370	191	14	356	370	90	2370	191	191
1989-90	50		24	259	67	54	186	253	1008	438	1765	16	421	488	219	3123	179	421	488	219	3123	179	179

KERALA ELECTRIC LAMP WORKS LTD. (KEL)

YEARS	PVC	PSC	CAP RES	REV RES	DRR	INV ALL	OTHERS	DEP FUND	LOAN	CUL	MM	TA	FICT A	INVENTORY	EPS	CASH & OTH	T EXP	INT NP/ML
1980-81	80	30			6		156	297	251	-199	664	285	129	12	62	681	57	-28
1981-82	80	30			1		173	291	207	-148	610	229	136	26	57	654	32	17
1982-83	80	30			2		189	287	318	-185	717	267	150	30	89	679	28	-38
1983-84	80	30			12		216	292	316	-163	732	255	155	21	98	655	32	22
1984-85	80	30			19		225	681	345	-142	1155	241	146	40	113	733	49	21
1985-86	80	30			26		233	844	486	-128	1465	334	150	3	93	705	52	12
1986-87	80	30			26		262	1016	644	-232	1795	338	292		91	689	63	-77
1987-88	80	30			26		339	1489	516	-449	2130	555	357		159	908	147	-292
1988-89	80	30			193		418	1724	780	-990	2808	1263	340		169	1085	177	-445
1989-90	80	30			207		494	1816	1205	-1447	3343	1734	392		164	1172	208	-438

KERALA SPINNERS LTD. (KSL)

YEARS	PVC	PSC	CAP RES	REV RES	DRR	INV ALL	OTHERS	DEP FUND	LOAN	CUL	MM	TA	FICT A	INVENTORY	EPS	CASH & OTH	T EXP	INT NP/ML
1980-81	25		23		10	12	82	46	303	70	421	0	100	119	18	691	47	-43
1981-82	34		123		5	13	168	55	343	131	573	44	144	100	21	331	36	-49
1982-83	34		110		3	16	15	84	281	138	543	40	129	85	19	735	34	5
1983-84	34		116		1	16	15	85	245	125	512	57	81	55	40	484	37	-19
1984-85	34	10	119			16	15	204	111	145	674	39	186	124	35	865	45	20
1985-86	34	10	121			16	15	217	110	124	598	62	152	78	69	707	45	-18
1986-87	34	10	121			16	15	232	96	150	850	36	272	198	53	1104	61	26
1987-88	34	10	121			16	15	289	51	128	916	58	277	256	66	1378	66	-22
1988-89	34	10	133			36	15	338	47	154	959	64	340	284	54	1553	81	19
1989-90	34	10	125	37		35	15	350	62	246	936		287	306	135	1701	73	179

LAXMI STARCH LTD. (LAXMI)

YEARS	PUC	PSC	CAP RES	REV RES	DRR	INV ALL	OTHERS	DEP FUND	-LOAN	CUL	NI	TA	FICT A	INVENTORY	DRS	CASH & OTH	T EXP	INT NP/NL	
1980-81	60	12		76	6	20		180	106	561	162	843		295	291	62	1563	76	79
1981-82	60	12		70	6	27		206	192	595	163	963		291	314	114	2676	129	28
1982-83	80	12		40	2	30		236	348	589	152	1103		317	333	174	2319	129	-31
1983-84	80	12		20		49		274	312	773	149	1247		355	352	195	2645	133	-4
1984-85	80	12		15		49		218	308	765	144	1230		358	292	200	2349	147	-6
1985-86	80	12	1104	6		49		1194	221	1005	1088	2476	151	357	343	158	3175	226	-160
1986-87	80	12	999	6		49		1345	279	1025	815	2449	319	342	290	159	1901	144	-168
1987-88	80	12	933	6		45		1441	240	1163	0	2523	475	314	309	169	2336	182	-243
1988-89	80	12	868	6		41		1538	201	1300	365	2596	630	287	328	179	2772	220	-317
1989-90	80	12	763	6		41		1687	232	1736	-82	2961	972	340	362	214	2377	183	-343

SRI BHAGAVATI TEXTILES LTD. (SRI BHAG)

YEARS	PUC	PSC	CAP RES	REV RES	DRR	INV ALL	OTHERS	DEP FUND	LOAN	CUL	NI	TA	FICT A	INVENTORY	DRS	CASH & OTH	T EXP	INT NP/NL	
1980-81	25		4	13	12	10		64	51	64	64	179		37	3	32	197	9	9
1981-82	39		4	20		13		77	57	87	76	221		57	7	29	219	13	19
1982-83	52		4	27		22		98	44	100	105	250		58	4	22	284	13	24
1983-84	52		4	26		23		115	57	86	105	249		49	7	27	281	14	4
1984-85	52		4	23		23	10	139	123	120	112	354		98	7	44	221	22	0.26
1985-86	52		4	23		23	10	152	162	124	112	403		89	11	46	495	33	-4
1986-87	52		4	40		23		209	146	207	119	486		182	3	53	602	35	33
1987-88	52		4	46		24		236	178	238	0	555		196	13	87	789	47	30
1988-89	52		4	52		24		263	208	268	132	623		210	22	121	936	59	27
1989-90	52		4	127		33		312	211	308	216	776		260	21	106	859	43	146

APPENDIX-III

COCHIN REFINERIES LTD. (CRL)

YEARS	PUC	CAP.RES	REV.RES	DRR	INV	ALL	OTHERS	DEP	FUND	LOAN	CUL	TA	NW	FICT A	INVENTORY	DRS	CASH & OTH	T EXP	INT	NP/NL
1980-81	700	1	119	91	44	75	2623	986	19676	21672	1030	7953	11020	739	56305	1294	758			
1981-82	700	1	204	82	81	75	2746	2842	15864	19849	1143	6290	5528	4117	76708	1459	1548			
1982-83	700	1	766	6	155	75	2839	5632	8526	15864	1703	7685		722	70563	434	1352			
1983-84	700	1	1624		185		2941	14370	2385	19266	2510	2761	1113	1660	56064	487	878			
1984-85	700	1	540		1422		3314	20219	4769	27652	2663	5741	449	4432	17627	642	-102			
1985-86	700	1	541		1447		4463	24585	4352	31625	2689	7461	1752	4344	56631	2198	38			
1986-87	700	1	565		1804		7118	21221	7154	31445	3070	10920	1281	1988	81281	2489	709			
1987-88	1000	1	952		3285		9160	19899	12455	37595	5238	12579	499	5863	101200	2712	2250			
1988-89	6848	1	4861		3353		10438	12588	8820	36470	15063	9060	2033	3418	112380	1366	4830			
1989-90	6891	1	9358		4292		11699	11998	22889	55428	20542	9611	16849	4293	126740	1199	7796			

2.

COCHIN SHIPYARD LTD. (CSL)

YEARS	PUC	CAP.RES	REV.RES	DRR	INV	ALL	OTHERS	DEP	FUND	LOAN	CUL	TA	NW	FICT A	INVENTORY	DRS	CASH & OTH	T EXP	INT	NP/NL
1980-81	5411						1027	6228	4379	16017	3522	1889	55	1570	2694	603	-195			
1981-82	6203						1323	6021	4864	17688	4886	1317	214	1762	3316	783	-11			
1982-83	6203						1643	6422	6644	19268	3788	2415	238	970	4112	901	-952			
1983-84	6203						1980	7327	6237	19767	2715	3488	671	1114	3739	969	-1063			
1984-85	6296						2307	8634	6755	21684	1543	4753	432	1481	5072	1091	-1180			
1985-86	6321						2634	10224	5859	22403	749	5572	459	1813	4455	1213	-811			
1986-87	6396						2959	11380	9116	26892	-143	6539	586	3931	4344	1211	-942			
1987-88	6833						3364	13478	8664	28974	-2276	9109	1374	3103	6019	1274	-2542			
1988-89	7121						3793	15462	6079	28661	-4622	11743	849	3251	7026	1618	-2698			
1989-90	7436						4231	18350	8862	34649	-7077	14513	836	4379	11442	1848	-2777			

THE FERTILIZERS & CHEMICALS TRAVANCORE LTD. (FACT)

YEARS	PUC	CAP.RES	REV.RES	DRR	INV ALL	OTHERS	DEP	FUND	LOAN	CUL	TA	NW	FICT A	INVENTORY	DRS	CASH & OTH	T EXP	INT	NP/NL
1950-51	12546					3	7215	7559	4063	24170	6862	5687	6896	1829	1319	13224	924	160	
1951-52	12546					3	8398	7946	5450	25945	5863	6686	9012	1111	542	15242	1056	-712	
1952-53	12827					3	9492	8684	5723	27238	5510	7320	9275	1755	363	16188	1120	-1098	
1953-54	14027					3	10610	5817	5967	25514	6828	7202	7462	2132	1324	19202	973	11	
1954-55	15527					3	11832	5059	7054	27643	10279	5251	8566	3467	2743	26973	682	1928	
1955-56	18777					9	12857	4040	5327	28153	14658	4128	8055	3614	1984	27789	479	1123	
1956-57	25677				500	20	13939	3168	7049	36413	25714	483	10537	6591	2174	28653	417	4270	
1957-58	29677				1600	35	15420	6472	7236	45020	31019	293	8570	6287	3077	33691	309	1562	
1958-59	32277		303		1776	101	16204	9468	7477	51352	34457		7819	5274	2468	40375	120	913	
1959-60	34277		329		2050	101	17050	9211	10727	56696	36757		8414	3299	2118	33796	140	359	

HINDUSTAN LATEX LTD. (HLL)

YEARS	PUC	CAP.RES	REV.RES	DRR	INV ALL	OTHERS	DEP	FUND	LOAN	CUL	TA	NW	FICT A	INVENTORY	DRS	CASH & OTH	T EXP	INT	NP/NL
1950-51	130					5	163	99	109	344	127	8	145	29	49	382	14	-45	
1951-52	130		31			6	203	89	154	411	167		174	82	56	662	21	55	
1952-53	130		66			7	232	58	213	476	201	2	215	72	93	675	16	78	
1953-54	130		98			15	225	28	219	490	239	4	149	78	103	673	18	82	
1954-55	405		98			17	244	19	299	838	445	75	152	122	54	739	26	4	
1955-56	807		122			18	271	663	266	1877	772	175	138	73	379	786	9	94	
1956-57	1248				400	1	417	1355	573	3576	1436	213	236	294	511	1102	47	53	
1957-58	1257				400	1	688	1399	349	3405	1619	39	111	397	341	1849	162	226	
1958-59	1257		143		404	1	956	1028	627	3462	1805		512	389	517	1867	149	272	
1959-60	1257		372		429	1	1196	1136	447	3646	2052	7	498	555	634	2122	146	365	

Appendix IV

SCHEDULE

1. Name of the company/unit
2. Year of establishment
3. If unit, give the name of the Head Office
4. How many units the company has
5. The authority having the power to take investment decisions in your company
6. Fact whether any capital budgeting technique is considered for taking investment decision
7. The authority having the power to take financing decisions in your company :
8. What type of capital structure do you prefer :
Equity Intensive
or
Debt Intensive

State the reasons.

9. Do you follow any norms for Debt-Equity combination? ;
If so, why?
10. Do you take into account cost of capital in taking capital structure decision?
Why?
11. Do you take into account Financial Risk while taking capital structure decision?
Why?
12. Before taking a financing decision what are the important factors considered? Give details.
13. Do you take into account EBIT-EPS relationships in your financing decisions?
Give details
14. Have you come across situations of time lag and cost over-runs in the context of project implementation?
Give details
15. Have you come across situations of abandonment of projects seeing them unviable? Give details.
16. Have you ever incurred penal interest owing to delay and default in paying interest?
Give details.

17. Have you ever come across rescheduling of loan arrangements? Give details.
18. Have you, at any time, funded interest liabilities? Give details.
19. Have you, at any time, converted loans into equity?

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