Chapter -3

DESIGN AND

METHODOLOGY OF THE STUDY
STATEMENT OF THE PROBLEM

Indian cement industry has grown remarkably in the last two decades. It ranks second after China among the global best countries in terms of technology, quality, efficiency and productivity parameters. The cement industry’s progress since its inception in 1914 has been a kind of roller coaster ride. It has seen days of severe shortages and scarcity, rigid and total controls, partial decontrols, imports and now total decontrol. India achieved self-sufficiency in cement only in the 1980s viz., period of partial decontrol. The 1990s saw the industry grow in leaps and bounds. The industry has been going through a period of realignment or consolidation since the early 1990s but still has a long way to go in this regard. The late 1990s also saw the entry of a couple of multinationals through the acquisition route.

It has an annual turnover of around Rs.30,000 crore, and is the second biggest contributor to the exchequer. The Central Government gets almost Rs.4,000 crore from excise duty, and the various state
Governments another Rs.4,000 crore from sales tax, yet another Rs.2,000 crore comes from royalties, octroi and cesses. The industry provides direct employment to 1.5 lakh persons and indirect employment to 1.2 million.

The industry has made tremendous strides in technological up-gradation and assimilation of the latest technology. Apart from this, the industry has other ways of ensuring environment protection and energy conservation. Today, cement has become a branded product. There is brand consciousness, in recent times. Cement is sold directly to consumers over retail counters in standard sized bags. Companies are continually widening their marketing network. This has facilitated greater penetration into rural markets. Many companies have adopted supply chain management and distribution logistics to reduce costs by increasing sales in shorter leads, through intermediate stock points, better route planning and cheaper linkages.

Although the fundamentals of most cement companies are sound, the industry has had to work with certain cost constraints affecting its profitability, mainly by way of indirect taxes. Cement continues to be one of the most taxed commodities in India, suffering various levies such as excise, sales tax, royalties and cesses. A large share of manufacturing and distribution costs is dependent on government administered inputs such as power, diesel, rail freight and coal. All of these statutory imposts together add up to about Rs.950 per tone, representing 30 to 35 per cent of the end price paid by the consumer. Freight and transportation costs form another major chunk of the cement price. Handling charges in some
states are high. In contrast, selling prices vary from market to market and seasonally.

By and large, the industry is not able to realize selling prices to assure adequate return on capital employed. Prices of cement are governed by market forces of supply and demand. All this has an impact on profitability and makes the industry vulnerable to any further increases in taxes and costs or downward trends in selling prices.

The Indian cement industry, one and half decades ago was set free. During this period, the industry has demonstrated positive benefits of decontrol by registering five fold growths in production. The industry undertook massive expansion programmes for technological up gradation, capacity building, energy conservation, environmental friendly practices, supply chain management, distribution logistics and research and development in recent times. To carry out all these, it has invested funds on large scale. In view of ever increasing statutory imposts and input costs coupled with unremunerative prices of its end product made it difficult for the industry to earn plausible rates of return on capital employed. The result is that the investments in the cement industry are becoming unattractive. In long-run, continuation of this situation may adversely affect the financial condition of the cement enterprises. It is, in this context, the present study proposes to undertake a detailed evaluation of financial performance of select cement enterprises in Andhra Pradesh.

PURPOSE OF THE STUDY

The primary purpose of the present study is to obtain a deep insight into the financial position - financial strengths and weaknesses- of the
select cement enterprises in Andhra Pradesh. A modest attempt has been made to measure and evaluate the financial performance of individual units vis-a-vis the performance through inter-firm and intra-firm analysis with the adoption of the time series data. The final conclusions drawn and inferences arrived at would provide effective guidelines to the world of management, government, owners, prospective investors, creditors, employees and consumers, to enable them to take timely decisions related to their own spheres of interest in the industry.

ISSUES TO BE ADDRESSED

The study tries to address the following issues concerning financial performance of the select cement enterprises:

- Whether the enterprises use appropriate mix of debt and equity in their capital structure?
- Whether the debt-equity mix enables the units to maximize returns to the shareholders?
- Whether the expansion activity led to increased sales/profits?
- Whether the working capital is managed effectively?
- Whether the approaches to finance working capital conform to the requirement of the units?
- Whether there has been diversification of working capital to finance fixed assets expansion?
- Whether there exists any correlation between debtors velocity and creditors payment in the units?
- Whether the inventory levels are maintained at viable levels?
- Whether the liquidity and solvency are at acceptable levels?
Whether the pace of increase in operating expenses less than that of the output and sales?

Whether the return on capital employed in the units reasonable and surging forward?

Whether correlation exists between earnings made and dividend paid?

Whether self-financing is adequate to finance expansion activities?

OBJECTIVES OF THE STUDY

The study specifically aims at realising the following objectives:

i) to evaluate the changing trends in financial structure in select cement manufacturing enterprises;

ii) to examine the structure, utilization and financing pattern of fixed assets in these units;

iii) to analyse the structure and condition of working capital in the sample units; and

iv) to probe into the changing profitability scenario of select units.

SCOPE AND LIMITATIONS OF THE STUDY

The study confines to the financial appraisal of select cement enterprises in Andhra Pradesh in private sector. It excludes the other functional areas- production, marketing and personnel. The select enterprises have followed different accounting years. In order to facilitate uniformity in data, years have been readjusted and data has been recasted for 12-months period ending on 31st March of every year. Furthermore, various items included in the Annual Accounts of the select
units have been readjusted or recomputed either in the interest of the uniformity or conformity with standard practices. Nevertheless, these limitations in no way act as deterrents in drawing effective and meaningful inferences from the study.

SAMPLE DESIGN

The selection of undertakings is confined to cement manufacturing enterprises established as public limited companies in private sector and have been carrying on their manufacturing operations in Andhra Pradesh State only. For selection of sample units the following criteria are adopted:

- Registered office and manufacturing unit or units shall be located in Andhra Pradesh only.
- The enterprises shall have been established and commenced operations prior to 1990-1991.
- The enterprises shall produce cement only or their main business shall be production of cement.
- Both the large and mini cement enterprises are considered.
- Enterprises with production capacity of below 1,00,000 tons per year are not taken into consideration for the sample because of their small size.

As on 31st March, 2004, though 21 large cement enterprises and 10 mini cement enterprises were operating in the State of Andhra Pradesh. Among these 6 large and 8 mini cement enterprises satisfied the above criteria. Of these, responses were received from four large and four mini cement companies. The sample, therefore, consisted of 8 cement enterprises representing 4 large and 4 mini cement enterprises.
The preliminary details of select units are embodied in Table 3.1. An examination of the year of incorporation reveals that among the large cement units, Andhra Cements is the oldest and Penna Cements - the youngest. In the mini-cement category, two sample units - Deccan and Kakatiya were established in 1979 and the other two- Sagar and Suvarna in 1983. Within the large category, Andhra Cements has the highest installed capacity with 3 plants. Priyadarshini and Penna have two plants each where as Panyam has only one plant. In mini-category, Sagar has 3 plants while rest of the sample units owned one plant each.

The age-wise distribution of select cement units is shown in Table 3.2.

<table>
<thead>
<tr>
<th>Age (Years)</th>
<th>No. of Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 to 20</td>
<td>01</td>
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<tr>
<td>21 to 30</td>
<td>05</td>
</tr>
<tr>
<td>31 to 40</td>
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<tr>
<td>41 to 50</td>
<td>01</td>
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<tr>
<td>51 and above</td>
<td>01</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>08</strong></td>
</tr>
</tbody>
</table>

Source: Annual Reports of select units.

Five sample units belong to the age group of '21 to 30' years. The other three units fall under the age group of '10 to 20'; '41 to 50'; '51 and above' years each. Thus, it is evident that majority of the sample units are under the age group of '21 to 30' years.
<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name of the Select Enterprise</th>
<th>Category</th>
<th>Year of incorporation</th>
<th>Age (In years)</th>
<th>Installed capacity (in tons)</th>
<th>No. of Plants</th>
<th>Location of the Plant</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1996-97</td>
<td>2003-04</td>
<td></td>
</tr>
</tbody>
</table>
| 1.     | Andhra                        | Large    | 1936                 | 68            | 12,40,000 | 14,24,000 | 3 | 1. Durgapuram, Deche palli, Guntur  
2. Kanakadurga Cement Works, Vijayawada  
3. Durganagar, Portupalem Village, Vishakapatnam |
| 2.     | Panyam                        | Large    | 1956                 | 48            | 5,31,000  | 5,31,000  | 1 | 1. Cement Nagar, Bugganipalli, Kurnool |
| 3.     | Penna                         | Large    | 1991                 | 13            | 3,00,000  | 10,00,000 | 2 | 1. Talaricheruvu, Tadipatri, Anantapur  
2. Ganeshpahad, Damarcheta, Nalgonda |
| 4.     | Priyadarshini                 | Large    | 1974                 | 30            | 6,00,000  | 14,00,000 | 2 | 1. Ramapuram, Nalgonda  
2. Sreekaram, Peapalli, Kumool |
| 5.     | Deccan                        | Mini     | 1979                 | 25            | 1,98,000  | 297000   | 1 | 1. Bhavanipuram, Mahankaliguda, Nalgonda  
2. Srinivasanagar, Mellacheruvu, Nalgonda |
| 6.     | Kakatiya                      | Mini     | 1979                 | 25            | 1,98,000  | 2,97,000  | 1 | 1. Mathampalli, Huzuranch, Nalgonda  
2. Bayyavaram, Anakapalli, Vishakapatnam  
3. Karasavalsa, Salur, Vijayawada |
| 7.     | Sagar                         | Mini     | 1983                 | 21            | 3,96,000  | 5,28,000  | 3 | 2. Mellacheruvu, Kodal, Nalgonda |
| 8.     | Suvarna                       | Mini     | 1983                 | 21            | 99,000    | 2,97,000  | 1 | 1. Mellacheruvu, Kodal, Nalgonda |

Source: Compiled from Annual Reports of select units.
The regional distribution of select cement units is detailed in Table 3.3.

<table>
<thead>
<tr>
<th>Region</th>
<th>No. of Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coastal</td>
<td>01</td>
</tr>
<tr>
<td>Rayalaseema</td>
<td>02</td>
</tr>
<tr>
<td>Telangana</td>
<td>05</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>08</strong></td>
</tr>
</tbody>
</table>

Source: Annual Reports of select units.

Of the three regions of Andhra Pradesh, Telangana tops with 5 sample units, followed by Rayalaseema with 2 units and coastal with one unit. The cement industry is concentrated heavily in Nalgonda cluster falling under Telangana region and Yerraguntla cluster in Rayalaseema region. Hence, these two clusters are sizeably represented in the sample.

REFERENCE PERIOD

The present study requires a moderately lengthy period so as to arrive at meaningful and purposeful inferences. Hence, an eight-year period commencing from the year 1997 and ending with 2004 has been adopted.

DATA BASE

The data for the study have been primarily obtained from the Annual Reports and Accounts of the selected cement units. The information so gathered has been supplemented with the facts obtained through correspondence with individual cement units. Besides, secondary

Table 3.3
REGION-WISE DISTRIBUTION OF SAMPLE CEMENT UNITS IN ANDHRA PRADESH
data, published literature on the subject have been mustered from the following sources:

- Cement Statistics and Basic Data published by Cement Manufacturers' Association, Mumbai.
- Reserve Bank of India Bulletins (Monthly), Mumbai.
- Periodicals and Journals on finance and industry.
- Directory of Large and Medium Industries in Andhra Pradesh, Hyderabad.

TOOLS OF ANALYSIS

The data drawn from various sources have been analysed with the help of various financial tools and techniques such as ratio analysis, trend analysis, common size analysis and comparative financial statement analysis. Statistical tests of significance have been applied in appropriate contexts. Graphs and diagrams are presented to illustrate facts and figures.

OPERATIONAL DEFINITIONS OF CONCEPTS

In order to make the study clear and meaningful, it is necessary to define and limit the meanings and scope of certain concepts used in different senses from time to time in the literature on financial management. Some of the concepts like, financial structure, capital structure, fixed assets, working capital, current assets, current liabilities, liquidity and profitability have been defined here under.
Financial Structure

The term financial structure refers to the left hand side of the balance sheet as represented by total liabilities i.e., long-term and short-term funds.

Capital Structure

The term capital structure refers to that part of the financial structure, which represents long-term sources of funds such as equity share capital, reserves and surplus, preference share capital and long-term borrowed funds.

Fixed Assets

Fixed assets represent non-liquid and long-term profitability elements used in the operations of a business undertaking, which are not intended for sale.

Working Capital

There are two concepts of working capital - the gross concept and net concept. While the former refers to the total of current assets, the latter represents the excess of current assets over current liabilities. For the purpose of the present study, net working capital concept has been adopted.

Current Assets

Current assets are inclusive of inventory, sundry debtors, marketable securities, cash and bank balances and other current assets, which will be normally turned into cash within a short period of time, for instance a year, without undergoing diminution in value and without disrupting the organization.
Current Liabilities

Current liabilities include loans and advances, sundry creditors, provisions and other current liabilities that are normally payable within a short period of time, say a year, from out of the current assets or from out of the income of the business.

Liquidity

Liquidity is used in a limited sense in the study to mean short-term debt repaying capacity of the enterprises. In other words, it is taken as the ability of the firm to meet the claims of suppliers of short-term capital used for building-up of current assets.

Profitability

Profitability refers to the ability of the company in making the profits in relation to capital employed, sales and the shareholders’ funds and the pattern of dividend payments.

CHAPTERISATION

The thesis is organized into eight chapters.

Chapter – 1 contains an overview of Indian Cement Industry.

Chapter – 2 deals with the concept and techniques of financial appraisal.

Chapter – 3 presents the design and methodology of the study.

Chapter – 4 scans the financial and capital structure in select cement enterprises in Andhra Pradesh.

Chapter – 5 analyses the investment in fixed assets.

Chapter – 6 evaluates the structure and condition of working capital.

Chapter – 7 probes into the profitability performance.

Chapter – 8 summarises the main conclusions and suggestions.
REFERENCES


6. Mini Cement Enterprises: Cement plants having an installed capacity of 3 lakh tons are considered as mini cement plants according to the guidelines issued by the Government of India in June 1999. An enterprise having such cement plant/plants is classified as mini cement enterprise.

7. Large Cement Enterprises: Cement plants having an installed capacity of more than 3 lakh tons are categorized as large cement plants. An enterprise having such plant/plants is classified as large cement enterprise.