FINANCIAL GROWTH INDICATOR
OF MERGER
AND ACQUISITION IN INDIAN CORPORATE SECTOR

A Thesis Submitted to

Saurashtra University

For

THE DEGREE OF DOCTOR OF PHILOSOPHY

IN

COMMERCE

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CERTIFICATE

This is to certify that the dissertation entitled***, "Financial growth indicator of merger and acquisition in Indian corporate sector."*** submitted to Saurashtra University, Rajkot By Mr. Shailesh N. Ransariya for the degree of Doctor of Philosophy in commerce under the department of Commerce, Saurashtra University, Rajkot is based on the research work carried out by him under my supervision and guidance. To the best of my knowledge and belief, it has not been submitted to any other university or this university for the any type of degree.

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DECLARATION

I, the undersigned, Shailesh N. Ransariya, lecturer of OMVVIM College for IT and Management, Morbi, hereby declare that research work presented in this dissertation is carried out under the supervision of Dr. D.C. Gohil, Professor and Head, Department of Commerce and Business Administration, Saurashtra University, Rajkot.

I further declare that this research work is my original work. The work contained in this dissertation has not been previously submitted to any other university for any degree.

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ACKNOWLEDGEMENTS

It gives me immense pleasure to express my gratitude towards my research guide Dr. D. C. Gohil, Professor and Head, Department of Commerce and Business Administration, Saurashtra University, Rajkot. Her invaluable guidance and active interest in this research work has continuously motivated me. This thesis which could not has been completed without magnificent supervision extended by Dr. D. C. Gohil.

I am also acknowledging to Dr. Pratrapsinh Chauhan Head of M.B.A. Bhavan, Saurashtra University – Rajkot and Dr. S. J. Parmar, Associate Professor, Department of Commerce and Business Administration, Saurashtra University – Rajkot, for motivating me for this research work.

I wish to express my sincere thanks to all non teaching staff of the Department Mr. Jatibhai, Mrs. Parul, Mrs. Hetal and others and Mr. P.B. Detroja for their help and co-operation.

I would like to express my thankfulness to my friends for moral supports, Specially Hiren Dhuliya, , Paresh, Bhavesh, Pankaj Bhatt, Dr. Sunil Jakhoriya.

I find no words to express my deep sense of gratitude for unending motivation and support given by my parents, Father

Narbherambhai, Mother Hansaben, my sister Naynaben and Kirteeben and my wife Shilpa S. Ransariya and my daughter Shveni.

I here by take the opportunity to those who helped me directly or indirectly during the course of my research work.

Mr. Shailesh N. Ransariya,

Research Scholar,

Dedicated

to

My Parents,

My Guide

&

My Students

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CHAPTER – 1

THE RESEARCH METHODOLOGY

1. INTRODUCTION :-

Corporate restructuring has become a major component in the financial and economic environment all over the world. Industrial restructurings have raised important issues for business decisions as well as for public formulation policy. Since 1991, Indian industries have been increasingly exposed to both domestic and international competition and competitiveness. Hence, in recent times companies have started restructuring their operations around their core business activities through mergers and acquisitions.

2. TITLE OF THE PROBLEM :-

It is true that dramatic events like mergers, acquisitions, takeovers, restructuring and corporate controls occupy the Indian business news papers almost daily. Further they have become central focus of public and corporate policy issues. Some assert that the activities of mergers and acquisitions represent a new force in creativity and productivity. Some other view it is blight in our economy. Regardless of these views, they do represent a major trend in the economical environment. This is an area of potential good as well as potential harm in corporate strategy including manufacturing industry. Mergers take place due to various motives. There for an analysis has to be made to compare the financial performance of pre and post merger of the firms. The title of the problem is as under:

"Financial Growth Indicator of Merger and Acquisition in Indian Corporate Sector"

3. REVIEW OF LITERATURE:

In this study an attempt has been made to briefly review the work already undertaken and methodology employed. A brief review of selected studies has been presented as below:

(1) David C. Cheng (1989), in their paper **'Financial determinants of Bank Takeovers'** found that several studies have examined the determinants of bank merger pricing. Those studies focus on the characteristics of the target and downplay the characteristics of acquirer. Their study found that the purchase price is a negative function of the target's capital to asset ratio. The only variable used in their model is the ratio of acquirer to target assets.

(2) An empirical study entitled **'Takeovers as a strategy of turnaround'** by Ravi Sanker and Rao K.V. (1998) analysis the implications of takeovers from the financial point of view with the help of certain parameters like liquidity, leverage, profitability etc. They observed that a sick company is takeover by a good management and makes serious attempts; it is possible to turnaround successfully.

(3) Ruhani Ali and Gupta G S (1999) in their paper entitled **'Motivation and Outcomes of Malaysian takeovers: An international perspective'** examine the potential motives and effects of corporate takeovers in Malaysia. The Mullar's methodology, which involves the use accounting measures like size, growth, profitability, risk and leverage is employed for the study to analyze the performance characteristics of takeover firms in the pre and post takeovers periods.

(4) Jay Kumar S. (1999) in his dissertation entitled, **'Mergers and Acquisitions: An Evaluation Study'** examines the relative benefits expected by a corporate enterprise when they adopts mergers and

acquisitions as a strategy. The author studies the extent to which the security prices reacted to the announcement of merger.

(5) The working paper **entitled, 'An analysis of merger in the private corporate sector in India'** by Beena P. L. (2000) attempts to analyze the significance of merger and their characteristics. The paper establishes that acceleration of the merger movement in the early 1990s was accompanied by the dominance of merger between firms belonging to the same business group of houses with similar product line.

(6) The dissertation entitled, **'An Analysis of Mergers and Acquisitions'** by Canagavally R. (2000), measures the performance in terms of size, growth, profitability and risk of the companies before and after merger. The dissertation also investigates the share prices of sample companies in response to the announcement of merger.

(7) The paper entitled **'Merger and Acquisition unlocking value'** by Huzifa Husain (2000), explains that takeovers (hostile or non-hostile) may be beneficial to the shareholders if they unlock the hidden value of a company. They also help the existing management to the more receptive to shareholders. Economically, takeovers make sense if the 'private market value' of a company is higher than the market capitalization of the company. Further if takeovers are used as a ploy to prevent competition, it becomes harmful to the economy. Therefore, proper checks and balances have to be put in place to ensure that takeover facilitation improves overall efficiency of the economy.

(8) The study entitled, **Trumps for M & A – Information Technology Management in a merger and acquisition strategy** (2001), found that success of merger and acquisitions depends on proper integration of employees, organization culture, IT, products, operations and service of

both the companies. Proper IT integration in merger plays a critical role in determining how effectively merged organizations are able to integrate business processes and people, and deliver products and services to both internal and external customers of the organization. The study suggests that to address the challenges, Chief Information Officers should be involved from the earliest phase.

(9) Mr. Surjit Kaur (2002) in her dissertation entitled, **A study of corporate takeovers in India**, examines the M & A activity in India during the post liberalization period. The study tested the usefulness of select financial ratios to predict corporate takeovers in India.

(10) The study entitled '**Mergers and Operating Performance : Indian Experience'** (2007) by Pramod Mantravadi and A. Vidyadhar Reddy, explains that This research study aims to study the impact of m & A on the operating performance of acquiring corporate in different periods in India, by examining some pre and post merger financial ratios with chosen sample firms and mergers between 1991-2003. The result suggests that there are minor variations in terms of impact on operating performance following merger in different intervals of time in India.

(11) The paper entitled **'M & A and Corporate Performance in Japan'** By – Ryo Kawahara & Fumiko Takeda ICFAI journal of M & A, Sept, 2007, This paper investigates how M & A affect corporate performance for three years after their implementation. The corporate performance of 162 M & A that took place in Japan from 2001-03 is analyzed by using Wilcoxon signed rank test. They find that overall effects of M & A on corporate performance are statistically insignificant, compared to the corporate performance of other companies within the same industry with similar pre-acquisition performance.

(12) Ruhani Ali and Gupta G S (1999) in their paper entitled, 'Motivation and Outcome ofMalaysian Takeovers: An International Perspective' examine the potential motives and effects of corporate takeovers in Malaysia. The Muller's methodology, which involves the use of accounting measures like size, growth, profitability, risk and leverage, is employed for the study to analyze the performance characteristics of takeover firms in the pre - and post - takeover periods.

(13) The study entitled, **"LBOs, Corporate Restructuring and The Incentive- Intensity Hypothesis"** investigated the argument that corporate restructuring is an intended outcome of LBO transactions directly. Using a detailed database on corporate operations, the study investigated four aspects of corporate restructuring, namely, corporate downsizing, corporate refocusing, portfolio reorganization and changes in the industry characteristics of portfolio business. The results of this study strongly suggest that the governance structure of LBO firms enables the managers to forge growth more effectively than the governance structure of public firms. This study analyzed the effects of LBOs on corporate restructuring activity by analyzing differences in restructuring activity between 33 large LBO firms and 33 closely matched public corporations. The evidences presented in the study show that certain types of corporate restructuring are more prevalent and extensive in LBO firms than similar ones in public firms.

(14) The study, conducted by Ajay Pandey (2001) in the context of developed countries, points out the substantial valuation gains for target firms, particularly in the case of successful takeovers. The primary motivation for the study was to test whether takeovers are seen by capital market as creating value to the firm by improving performance following change in management or as mere replacement

of existing management without any expectation of concomitant improved managerial and firm performance.

(15) Healy, Palepu, Ruback examined the performance of 50 US mergers post acquisition using the criteria of cash flow performance and found that the operating performance of these companies were distinctly better following acquisitions. But the other claim that the operating cash flow performance did not improved

4. OBJECTIVES OF THE STUDY:-

The broad objective of this study is to measure the impact of mergers and acquisitions on financial growth indicators in Indian Corporate Sectors. Other objectives of the study are mentioned as under.

1) To examine and evaluate the impact of mergers and acquisitions on the liquidity and leverage position of the selected units by some important parameters of liquidity and leverage management such as:-

- Current Ratio
- Current Ratio (Including short-term loan)
- Quick Ratio
- Inventory Turnover Ratio
- Debtors Ratio
- Long Term Debt to Equity Ratio
- Total Debt to Equity Ratio
- Fixed Assets Turnover Ratio etc.

2) To examine and evaluate the impact of mergers and acquisitions on the profitability position of the selected companies by some important parameters of profitability management such as:-

- Gross Capital Employed Ratio
- Net Capital Employed Ratio

- Return on Owner's Fund Ratio
- Gross Profit Ratio
- Net Profit Ratio
- Operating Profit Ratio
- Earning Per Share Ratio etc.

5. DATA COLLECTION: -

The study is based on the secondary data taken from the annual reports of selected units and EMIS data base website. And all the data relating to history, growth and development of Industries have been collected mainly from the books and magazine relating to the industry and published paper, report, article and from the various news papers, bulletins and other various research reports published by industry and research organization, various web sites like www. sebi. gov. in, www. indiainfoline.com, www. rbi. Org. in.

The data relating to the selected units under study have been obtained from prospectus, pamphlets and annual reports of the selected units.

6. SELECTION OF SAMPLES: -

The study has been carried out on the micro-level, as it is not possible for the researcher to conduct it on the macro-level. The population of the study consists of all types of the companies having different operations of business and totally different nature of industries. As the study is to be carried out by the individual researcher it is not easy to select all the companies as the samples for the study. So, the convenient random sampling has been done. As such the universe of the study is Indian Industries; the researcher has selected 10 companies (Which are top ten mergers and acquisitions during the year 1996 to 2002) as mentioned below:

No.	Company
01	Ambuja Cement Ltd.
02	Exide Industries Ltd.
03	Gujarat State Fertilizer & Chemicals Ltd.
04	India Cement Ind.
05	Reliance Industries Ltd.
06	Sterlite Industries (India) Ltd.
07	Tata Chemical Ltd.
08	Tata Steel Ltd.
09	Voltas Ltd.
10	Zee Entertainment Enterprises Ltd.

7. PERIOD OF THE STUDY:-

The present study is mainly intended to examine the financial performance of merged companies five years before merger and five years after merger.

8. HYPOTHESIS OF THE STUDY: -

On the basis of data collection, the researcher has identified the following broader hypothesis for the study:

- **NULL HYPOTHESIS: -**

1) There would be no significant difference in means score of profitability indicators in selected units, before and after merger and acquisition.
2) There would be no significant difference in means score of liquidity indicators in selected units, before and after merger and acquisition.
3) There would be no significant difference in means score of leverage indicators in selected units, before and after merger and acquisition.

- **ALTERNATE HYPOTHESIS: -**

1) There would be significant difference in means score of profitability indicators in selected units, before and after merger and acquisition.
2) There would be significant difference in means score of liquidity indicators in selected units, before and after merger and acquisition.
3) There would be significant difference in means score of leverage indicators in selected units, before and after merger and acquisition.

9. TOOLS OF ANALYSIS:-

(A) Ratio Analysis :

Ratios are among the well known and most widely used tools of financial analysis. Ratio can be defined as "The indicated quotient of two mathematical expression".[1] An operational definition of ratio is the relationship between one item to another expressed in simple mathematical form.

(B) Statistical Techniques :-

(i) Average :-

The most commonly used average is the arithmetic mean, briefly referred to as the mean. The mean can be found by adding all the variables and dividing it by total number of years taken. It gives a brief picture of a large group, which it represents and gives a basic of comparison with other groups.[2]

(ii) Index Number :-

According to **Croxton** and **Crowden** "Index numbers are devices for measuring difference in the magnitude of a group of related variables"[3]

While as per **Morris Hamburg** "In its simplest form an index number is nothing more than a relative number or a "relative" which expresses the relationship between two figures, where one of the figures is used as a base."[4]

(iii) The Standard Deviation :-

The standard deviation concept was introduced by **Karl – Pearson** in 1823. It is by far the most important and widely used measure of studying Dispersion. Standard Deviation is also known as root mean square deviation for the reason that it is the square root of the mean of the squared deviation from arithmetic mean. Standard deviation is denoted by small Greek letter "σ".[5] (Read as sigma)

(iv) Student t-test:-

T – test is based on T – Distribution and is considering an appropriate test for judging the significance of a sample mean. It can also be used for judging, the significance of the coefficients of simple and partial correlations.

The relevant test statistic, is calculated from the sample data and then compared with its problem value based on T – distribution at a specified level of significance for concerning degrees of freedom for accepting or rejecting the Null Hypothesis.

10. SIGNIFICANCE OF THE STUDY: -

A) Contribution to the knowledge: -

- Through this study my knowledge particularly regarding various ratios will be improved.
- Through this study my knowledge particularly regarding various statistical tools and techniques and statistical tests is improved.
- My analytical power will be improved.

B) Contribution to the society: -

- Through this research society will be able to know the real situation of the liquidity and profitability position, of selected units, before and after merger and acquisition.
- Through this study creditors and other parties can take proper decision.
- Employees will be able to take proper decision regarding job (work).

C) Contribution to the Industry: -

- Industry may be able to maintain their Liquidity and Profitability position during post merger and acquisition.
- Industry may be able to know the impact of mergers and acquisitions on their financial performance.

11. OUTLINE OF CHAPTER PLAN:-

Chapter – 1
Research Methodology:-

It covers the following aspects:

Introduction, title of the problem, Data collection, Sample selection, Period of the study, Review of literature, Objective of the study, Significance of the study, Hypothesis, Tools of analysis and Limitations of the study.

Chapter – 2
Conceptual Framework of Merger and Acquisition:

In this chapter Introduction, Definition of merger and acquisition, history of merger and acquisition, Types of merger, difference between merger and acquisition, difference between acquisition and takeover, Merger and Acquisition Process, Significance of merger and acquisition, Requirement of merger and acquisition, Motives behind merger and acquisition, Benefits of merger and acquisition, Limitations of merger, Impact of merger and acquisition, Financial accounting for merger and acquisition, Merger and acquisition strategies, Merger and acquisition laws, Merger and acquisition in India, Merger and acquisition in world have been included.

Chapter – 3

Brief profile of the Selected Industries

In this chapter the brief history of the selected 10 units, list of board of directors, products and manufacturing process, organization structure of the selected units, plants and its operations, production capacity of each unit, list of associates and subsidiary companies, major achievements of the selected units, corporate governance report and social responsibility, strength and weaknesses and future plans of the selected units have been discussed.

Chapter – 4

Analysis and Interpretation of Data

In this chapter analysis of profitability, liquidity and leverage position of selected units under study have been explained. Here meaning of profitability, liquidity and leverage, various measurement of profitability, liquidity and leverage and framework of analysis of profitability has been discussed. For analysis and interpretation of data the return on gross capital employed ratio, return on net capital employed ratio, return on share holders' funds ratio, return on long-term funds ratio, Earning per share ratio, gross profit ratio, net profit ratio and operating profit ratio for the profitability analysis and current ratio, quick ratio, inventory turnover ratio, debtors ratio, long-term debt to equity ratio, total debt to equity ratio, fixed assets turnover ratio and working capital turnover ratio for the liquidity and leverage analysis have been calculated by the researcher. Here various ratios of profitability, liquidity and leverage have been tested with the help of student paired 't' test.

Chapter – 5

Summary, Finding and Suggestions

In this chapter summery of first five chapters, major findings and suggestions of the present study have been shown.

12. LIMITATION OF THE STUDY:-

Every live and non live factor has its own limitations which restrict the usability of that factor. The same rule applies to this research work. The major limitations of this study are as under:

1. This study is mainly based on secondary data derived from the annual reports of industry. The reliability and the finding are contingent upon the data published in annual report.

2. There are many approaches for evaluation of Profitability and Liquidity. There are no common views among experts.

3. The study is limited to five years before merger and five years after merger only.

4. Accounting ratios have its own limitation, which also applied to the study.

5. Inflation plays vital role in Indian Economy. If we do not considered inflation when analysis of financial condition, is studied, evaluation may be not truly representative. In this study the effect of inflation is not considered which becomes its limitation.

6. This study is related with ten units. Any generalization for universal application cannot be applied here.

7. Financial analysis do not repict those facts which cannot be expressed in terms of money, for example – efficiency of workers, reputation and prestige of the management

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CHAPTER 2

CONCEPTUAL FRAMEWORK OF MERGER AND ACQUISITION

2.1 Introduction

2.2 Concepts & Definitions

- Merger
- Acquisition
- Amalgamation
- Consolidation
- Combination
- Takeover

2.3 History of merger and acquisition

2.4 Types of merger

2.5 Demerger

2.6 Difference between Merger and Acquisition

2.7 Acquisition and takeover

2.8 Merger and Acquisition Process

2.9 Significance of merger and acquisition

- Requirement of merger and acquisition
- Motives behind merger and acquisition
- Benefits of merger and acquisition

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2.12 Financial accounting for merger and acquisition

2.13 Merger and acquisition laws

2.14 Effective date and appointed date:

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2.17 Merger and acquisition strategies:

2.18 Merger and acquisition in India

2.19 Merger and acquisition in world

CHAPTER 2

CONCEPTUAL FRAMEWORK OF MERGER AND ACQUISITION

2.1 INTRODUCTION

An entrepreneur may grow its business either by internal expansion or by external expansion. In the case of internal expansion, a firm grows gradually over time in the normal course of the business, through acquisition of new assets, replacement of the technologically obsolete equipments and the establishment of new lines of products. But in external expansion, a firm acquires a running business and grows overnight through corporate combinations. These combinations are in the form of mergers, acquisitions, amalgamations and takeovers and have now become important features of corporate restructuring. They have been playing an important role in the external growth of a number of leading companies the world over. They have become popular because of the enhanced competition, breaking of trade barriers, free flow of capital across countries and globalization of businesses. In the wake of economic reforms, Indian industries have also started restructuring their operations around their core business activities through merger, acquisition and takeovers because of their increasing exposure to competition both domestically and internationally.

Mergers and acquisitions (M & As) have been a very important market entry strategy as well as expansion strategy. This present era is known as competition era. In this era companies, to avoid the competition, go for merger, and enjoy sometimes monopoly. Corporate India is waking up to the new millennium imperative of mergers and acquisitions in a desperate search for a panacea for facing the global competition. This is hardly surprising as stiff competition is, in a sense, implicit in any bid to integrate the national economy with the global economy. The ongoing process of liberalization has exposed the unproductive use of capital by the Indian corporate both in public and private sectors. Consolidation through mergers and acquisitions (M & As) is considered one of the best ways of restructuring structure of corporate units.

The concept of mergers and acquisitions is very much popular in the current scenario, so it is significantly popular concept, after 1990s, where India entered in to the Liberalization, Privatization and Globalization (LPG) era. The winds of LPG are blowing over all the sectors of the Indian economy but its maximum impact is seen in the industrial sector. It caused the market to become hyper-competitive. As competition increased in the economy, so to avoid unhealthy competition and to face international and multinational companies, Indian companies are going for mergers and acquisitions.

Basically, a merger involves a marriage of two or more entities. Merger is defined as blending of two or more entity into a single entity. The shareholders of each blending entity will become the substantially the shareholders in the entity which is to carry on the blended entity.

2.2 CONCEPT AND DEFINITION:

Merger is defined as combination of two or more companies into a single company where one survives and the other lose their corporate existence. The survivor acquires the assets as well as liabilities of the merged company or companies.[1]

A merger is a combination of two companies where one corporation is completely absorbed by another corporation. The less important company losses its identity and becomes part of the more important corporation, which retains its identity. A merger extinguishes the merged corporation and the surviving corporation assumes all the right, privileges, and liabilities of the merged corporation. A merger is not the same as a consolidation in which two corporations lose their separate identities and unite to form a completely new corporation.

A merger is a combination of two or more businesses into one business. Laws in India use the term 'amalgamation' for merger. The Income Tax Act,1961 [Section 2(1A)] defines amalgamation as the merger of one or more companies with another or the merger of two or more companies to form a new company, in such a way that all assets and liabilities of the amalgamating companies become assets and liabilities of the amalgamated company and shareholders not less than nine-tenths in value of the shares in the amalgamating company or companies become shareholders of the amalgamated company.

According to the Oxford Dictionary the expression merger or amalgamation means "Combining of two commercial companies into one" and "Merging of two or more business concerns into one" respectively.[2] A merger is just one type of acquisition. One company can acquire another in several other ways including purchasing some or all of the company's assets or buying up its outstanding share of stock.

To end up the word "MERGER" may be taken as an abbreviation which means:

M ➔ Mixing

E ➔ Entities

R ➔ Recourses for

G ➔ Growth

E ➔ Enrichment and

R ➔ Renovation.[3]

◆ ACQUISITION:-

Acquisition in general sense is acquiring the ownership in the property. Acquisition is the purchase by one company of controlling interest in the share capital of another existing company. This means that even after the takeover although there is change in the management of both the firms retain their separate legal identity.

◆ THE FIVE RULES OF SUCCESSFUL ACQUISITION:-

By: Peter F. Drucker is as under [4]

i) Think what you can contribute to the business it is buying not what the acquirer company will contribute to the acquirer.

ii) Common core of unity: The two business must have a common either markets or technology.

iii) Temperamental fit: No acquisition works unless people in the acquiring company respect the product, the markets and the customers of the company they acquire.

iv) Within a year or so the acquiring company must be able to provide top management for the company it acquires.

v) Within the first year of a merger, it is important that a large number of people in management groups of both companies receive substantial promotion across the line that is from one of the former companies to the other.

◆ AMALGAMATION:-

Halabury's laws of England describe amalgamation as a blending of two or more existing undertakings into one undertaking, the shareholders of each blending company becoming substantially the shareholders in the company which is to carry on the blended undertaking. [5]

◆ CONSOLIDATION:-

Consolidation is known as the fusion of two existing companies into a new entity in which both the existing companies extinguish. Thus, consolidation is mixing up of the two companies to make them into a new one in which both the existing companies lose their identity and cease to exist. The mixes up assets of the two companies are known by a new name and the share holders of two companies become shareholders of the new company.. For example, merger of Hindustan Computers Ltd, Hindustan Instruments Ltd, Indian Software Company Ltd and Indian Reprographics Ltd into an entirely new company called HCL Ltd.

◆ COMBINATION:-

Combination refers to mergers and consolidation as a common term used interchangeably but carrying legally distinct interpretation. All mergers, acquisitions and amalgamations are business combinations.

◆ TAKEOVER:-

A takeover generally involves the acquisition of a certain block of equity capital of a company which enables the acquirer to exercise control over the affairs of the company. Normally merger, amalgamation, acquisition, takeover are used interchangeably.

2.3 HISTORY OF MERGER AND ACQUISITION:

Merger and acquisition activity in the United States has typically run in cycles, with peaks coinciding with periods of strong business growth. U. S. merger activity has been marked by five prominent waves: One around the turn of the twentieth century, the second peaking in 1929 the third in the latter half of the 1960s the fourth in the first half of 1980s and the fifth in the latter half of the 1990s. This last peak, in the final years of the twentieth century, brought very high levels of merger activity.

2.4 TYPES OF MERGER

There are mainly four types of mergers based on the competitive relationships between the merging parties:

1) Horizontal Mergers
2) Vertical Mergers
3) Conglomerate Mergers
4) Reverse Mergers

(1) HORIZONTAL MERGERS:

Horizontal Mergers is a combination of two or more firms in the same area of business. Horizontal merger is a merger of two companies which are essentially operating in the same business. The main purpose of this merger is to obtain economy of scale in production by eliminating duplication of facilities, reducing of competition, reduction of cost, increase in share price and market segments. For example, the merger of ICICI Bank and Bank of Madura is a horizontal merger. But the merger of ICICI bank and Mahindra Tractor it is not a horizontal merger.

Horizontal mergers raise three basic competitive issues. The first is the elimination of competition between the merging firms, which, depending on their size, may be significant. The second is that the unification of the merging firm's operations may create substantial market power and could enable the merged entity to raise prices by reducing output unilaterally. The third problem is that by increasing concentration in the relevant market, the transaction may strengthen the ability of the markets remaining participants to co-ordinate their pricing and output decisions. The fear is not that the entities will engage in secret collaboration but that the reduction in the number of industry members will enhance co-ordination of behavior.[6]

2) VERTICAL MERGERS:-

Vertical merger is a combination of two or more firms involved in different stages of production or distribution of the same product. It is a merger of one company with another having different stages of production / distribution process of the same product / service. In short the merging companies are engaged in different stages of production or distribution. The main objective is to increase profitability by the previous distributors. For example, ICICI Ltd With ICICI Bank is an example of vertical merger with backward linkage as far as ICICI Bank is concerned.

Vertical merger may take the form of forward or backward merger. When a company combines with the supplier of material, it is called backward merger and when it combines with the customer, it is known as forward merger. And their two benefits: first, the vertical merger internalizes all transactions between manufacturer and its supplier or dealer thus converting a potentially adversarial relationship into something more like a partnership. Second, internalization can give the management more effective ways to monitor and improve performance. Vertical mergers may also be anticompetitive because their entrenched market power may impede new business from entering the market.

Vertical integration by merger does not reduce the total number of economic entities operating at one level of the market, but it may change patterns of industrial behavior. Whether a forward or backward integration, the newly acquired firm may decide to deal only with the acquiring firm, thereby altering competition among the acquiring firm's suppliers, customers, or competitors. Suppliers may lose a market for their goods, retail outlets may be deprived of supplies, or competitors may find that both supplies and outlets are blocked. This raises the concern that vertical integration will foreclose competitors by limiting their access to sources of supply or to customers. Vertical mergers may also be anticompetitive because their entrenched market power may impede new businesses from entering the market.

3) CONGLOMERATE MERGER:-

Conglomerate merger is an amalgamation of two companies engaged in different line of business, in other words, the merging companies are engaged in diverse business activities.[6] For example, ICICI Ltd merger with Mahindra tractor and Reliance Industries Ltd. merged with Reliance Petroleum Ltd. Conglomerate transactions take many forms, ranging from short term joint ventures to complete mergers. Whether a conglomerate merger is pure, geographical or a product line extension it involves firms that operate in separate market. Conglomerate transactions ordinarily have no direct effect on competition. Conglomerate merger can supply a market or demand for firms thus giving entrepreneurs liquidity at an open market price and with a key inducement to form new enterprises. Conglomerate merger also provide opportunity for firms to reduce capital cost and overhead and achieve other efficiencies.

This type of merger may also reduce the number of smaller firms and increase the merged firm's political power, thereby impairing the social and political goal of retaining independent decision making centre guaranteeing small business opportunities and preserving democratic processes.

4) REVERSE MERGER:-

Reverse merger is a merger of an ordinary merger, achieved the same general industry but in the same line of business. In case of a reverse merger a healthy company merges into a financially weak company and the former company is dissolved. For example the merger of machine tool manufacturer with the manufacturer of industrial conveyor system.

The principal change the name of the company to the name of their company and elect their nominees to the board of directors. A private company merged with an existing public company or a subsidiary of a public company. In a reverse merger an operating private company merges with a public company which has no assets or known liabilities.[7]

2.5 DEMERGER:

It has been defined as a split or division. As the same suggests, it denotes a situation opposite to that of merger. Demerger or spin-off, as called in US involves splitting up of conglomerate (multi-division) of company into separate companies.

This occurs in cases where dissimilar business are carried on within the same company, thus becoming unwieldy and cyclical almost resulting in a loss situation. Corporate restructuring in such situation in the form of demerger becomes inevitable. Merger of SG chemical and Dyes Ltd. with Ambalal Sarabhai enterprises Ltd. (ASE) has made ASE big conglomerate which had become unwieldy and cyclic, so demerger of ASE was done.

A part from core competencies being main reason for demerging companies according to their nature of business, in some cases, restructuring in the form of demerger was undertaken for splitting up the family owned large business empires into smaller companies.

The historical demerger of DCM group where it split into four companies (DCM Ltd., DCM shriram industries Ltd., Shriram Industrial Enterprise Ltd. and DCM shriram consolidated Ltd.) is one example of family units splitting through demergers. Such demergers are accordingly, more in the nature of family settlements and are affected through the courts order.

Thus, demerger also occur due to reasons almost the same as mergers i.e. the desire to perform better and strengthen efficiency, business interest and longevity and to curb losses, wastage and competition. Undertakings demerge to delineate businesses and fix responsibility, liability and management so as to ensure improved results from each of the demerged unit.

Demerged Company, according to Section (19AA) of Income Tax Act, 1961 means the company whose undertaking is transferred, pursuant to a demerger to a resulting company.

2.6 DIFFERENCE BETWEEN MERGER AND ACQUISITION:

◆ WHAT IS A MERGER?

The word Merger has a strictly legal meaning and has nothing to do with how the combined companies operate in the future. A merger occurs when one corporation is combined with and disappears into another corporation. All mergers are statutory mergers, since all mergers occur as specific formal transactions in accordance with the laws, or statutes, of the states where the companies are incorporated. The post-transaction operations or control of a company has no relevance on whether a merger has occurred or not.

◆ WHAT IS AN ACQUISITION?

An Acquisition is the process by which the stock or assets of a corporation are owned by a purchaser. The transaction may take the form of a purchase of stock or a purchase of assets.

◆ DIFFERENCE BETWEEN MERGER AND ACQUISITION:

Difference between Merger and Acquisition is subtle. It is true that the terms Mergers and Acquisitions are used in a way that it seems, both are synonymous. But, the fact is that, there is a slight difference in the two concepts.

In case of a Merger, two firms, together, form a new company. After merger, the separately owned companies become jointly owned and get a new single identity. When two firms get merged, stocks of both the concerns are surrendered and new stocks in the name of new merged company are issued. Generally, Mergers take place between two companies of more or less of same size. In these cases, the process is called Merger of Equals.

But, in case of Acquisition, one firm takes over another and establishes its power as the single owner. Here, generally, the firm which takes over is the bigger and stronger one. The relatively less powerful smaller firm loses its existence after Acquisition and the firm which takes over, runs the whole business by its' own identity. Unlike Merger, in case of Acquisition, the stocks of the acquired firm are not surrendered. The stocks of the firm that are bought by the public earlier continue to be traded in the stock market. But, often Mergers and Acquisitions become synonymous, because in many cases, the big firm may buy out a relatively less powerful one and thus compels the acquired firm to announce the process as a Merger. Although, in reality an Acquisition takes place, the firms declare it as a Merger to avoid any negative impression.

Another difference between Merger and Acquisition is that, when a deal is made between two companies in friendly terms, it is proclaimed as Merger, even in case of a buy out. But, if it is an unfriendly deal, where the stronger firm swallows the target firm, even when the target company is not willing to be purchased, then it is called an Acquisition.

2.7 ACQUISITION AND TAKEOVER:

An acquisition may be defined as an act of acquiring effective control by one company over assets or management of another company without any combination of companies. Thus, in an acquisition two or more companies may remain independent, separate legal entities, but there may be a change in control of the companies. When an acquisition is 'forced' or 'unwilling', it is called a takeover. In an unwilling acquisition, the management of the 'target' company would oppose a move of being taken over. But, when managements of acquiring and target companies mutually and willingly agree for the takeover, it is called acquisition or friendly takeover.

Under the Monopolies and Restrictive Practices Act, takeover means acquisition of not less than 25 percent of the voting power in a company. While in the Companies Act (Section 372), a company's investment in the shares of another company in excess of 10 percent of the subscribed capital can result in takeovers. An acquisition or takeover does not necessarily entail full legal control. A company can also have effective control over another company by holding a minority ownership.

2.8 MERGER AND ACQUISITION PROCESS:

Merger and Acquisition Process is a great concern for all the companies who intend to go for a merger or an acquisition. This is so because, the process of merger and acquisition can heavily affect the benefits derived out of the merger or acquisition. So, the Merger and Acquisition Process should be such that it would maximize the benefits of a merger or acquisition deal.

The Merger and Acquisition Process can be divided in to some steps. The stepwise implementation of any merger process ensures its profitability.

(1) PRELIMINARY ASSESSMENT OR BUSINESS VALUATION:

In this first step of Merger and Acquisition Process, the market value of the target company is assessed. In this process of assessment not only the current financial performance of the company is examined but also the estimated future market value is considered. The company which intends to acquire the target firm engages itself in a thorough analysis of the target firm's business history. The products of the firm, its' capital requirement, organizational structure, brand value everything are reviewed strictly.

(2) PHASE OF PROPOSAL:

After complete analysis and review of the target firm's market performance, in the second step, the proposal for merger or acquisition is given. Generally, this proposal is given through issuing a non-binding offer document

(3) EXIT PLAN:

When a company decides to buy out the target firm and the target firm agrees, then the latter involves in Exit Planning. The target firm plans the right time for exit. It considers all the alternatives like Full Sale, Partial Sale and others. The firm also does the tax planning and evaluates the options of reinvestment.

(4) STRUCTURED MARKETING:

After finalizing the Exit Plan, the target firm involves in the marketing process and tries to achieve highest selling price. In this step, the target firm concentrates on structuring the business deal.

(5) ORIGINATION OF PURCHASE AGREEMENT OR MERGER AGREEMENT:

In this step, the purchase agreement is made in case of an acquisition deal. In case of Merger also, the final agreement papers are generated in this stage.

(6) STAGE OF INTEGRATION:

In this final stage, the two firms are integrated through Merger or Acquisition. In this stage, it is ensured that the new joint company carries the same rules and regulations throughout the organization.

2.9 SIGNIFICANCE OF MERGER AND ACQUISITION:

◆ REQUIREMENT OF MERGER AND ACQUISITION:-

2+2=5: This equation is the special alchemy of a merger or acquisition. The key principle behind buying a company is to create shareholder value over and above that of the sum of the two companies. Two companies together are more valuable than two separate companies this is the main reason behind merger and acquisition.[8]

Sometimes organization can produce goods or services more efficiency if they combine their efforts and facilities. These efficiency gains may come simply of the size of the combined company. Collaborating or sharing expertise may be achieve gains in efficiency or a company might have underutilized assets, the other company can better use. Also a change in management may take the company more profitable. The management of an acquiring company may be motivated more by the desire to manage large companies than by any possible gains in efficiency.

◆ MOTIVES BEHIND MERGER AND ACQUISITION:

Accelerating a company's growth particularly when its internal growth is constrained due to paucity of resources, internal growth requires that a company should develop its operating facilities- manufacturing, research, marketing, etc. But, lack or inadequacy of resources and time needed for internal development may constrain a company's pace of growth. Hence, a company can acquire production facilities as well as other resources from outside through mergers and acquisitions. Specially, for entering in new products/markets, the company may lack technical skills and may require special marketing skills and a wide distribution network to access different segments of markets. The company can acquire existing company or companies with requisite infrastructure and skills and grow quickly.

This may happen because of:-

(1) ECONOMIES OF SCALE:-

Arise when increase in the volume of production leads to a reduction in the cost of production per unit. This is because, with merger, fixed costs are distributed over a large volume of production causing the unit cost of production to decline. Economies of scale may also arise from other indivisibilities such as production facilities, management functions and management resources and systems. This is because a given function, facility or resource is utilized for a large scale of operations by the combined firm.

(2) OPERATING ECONOMIES:-

Arise because, a combination of two or more firms may result in cost reduction due to operating economies. In other words, a combined firm may avoid or reduce over-lapping functions and consolidate its management functions such as manufacturing, marketing, R&D and thus reduce operating costs. For example, a combined firm may eliminate duplicate channels of distribution, or crate a centralized training center, or introduce an integrated planning and control system.

(3) SYNERGY:-

Implies a situation where the combined firm is more valuable than the sum of the individual combining firms. It refers to benefits other than those related to economies of scale. Operating economies are one form of synergy benefits. But apart from operating economies, synergy may also arise from enhanced managerial capabilities, creativity, innovativeness, R&D and market coverage capacity due to the complementarily of resources and skills and a widened horizon of opportunities.

(4) CROSS SELLING: -

For example, a bank buying a stockbroker could than sell its banking products to the stock broker's customers, while the broker can sign up the bank's customers for broker's accounts.

(5) TAXES SAVINGS: -

A profitable company can buy a loss making unit to use the targets tax write offs. In the U.S. and many countries, rules are in place to limit the ability of profitable companies to shop for loss making companies limiting the tax motive of an acquiring company.

(6) GREATER VALUE GENERATION:-

Companies go for Mergers and Acquisition from the idea that, the joint company will be able to generate more value than the separate firms. When a company buys out another, it expects that the newly generated shareholder value will be higher than the value of the sum of the shares of the two separate companies.

(7) GAIN IN MARKET SHARE:-

Mergers and Acquisitions can prove to be really beneficial to the companies when they are weathering through the tough times. If the company which is suffering from various problems in the market and is not able to overcome the difficulties, it can go for an acquisition deal. If a company, which has a strong market presence, buys out the weak firm, then a more competitive and cost efficient company can be generated.

Here, the target company benefits as it gets out of the difficult situation and after being acquired by the large firm, the joint company accumulates larger market share. This is because of these benefits that the small and less powerful firms agree to be acquired by the large firms.

(8) RESOURCE TRANSFER:-

Resource are unevenly distributed across firms and the interaction of target and acquiring firm resources can create value through either overcoming information or combining scarce resources.

2.10 LIMITATION OF MERGER:-

Mergers involves the following limitations

- Elimination of healthy competition
- Striving for bigness
- Concentration of economic power
- Monopoly affecting the customer and suppliers
- Adverse effects on national economy.

◆ WHY MERGER FAILS:-

The main reasons for mergers failure are "autonomy, self-interest, culture clash" all included or lies in leadership. At both implementation and negotiation stages, mergers fail due to failure of leadership. Lack of leadership qualities of managers may cause mergers and acquisitions a failure. Leadership is, thus a crucial management task in strategic restructuring. The following are the reasons for failure of mergers:

- Mergers fail in providing economies of scale.
- Un-utilization or minimum utilization of staff and working hours.
- The inability to appeal country-wide and regionally to refunders.
- **Personal desires**
  - Desire towards authority but not to responsibility.
  - Desire towards to control and commanding/directing the sub-ordinates.
- The people, who are having the negative views on mergers.
- The negative believes of the partners and the people in the society.
- Inefficient and inactive person of a leader or director in merged firm.
- The inability of preparing national policy issues, which are interested by the members in the merged firm.
- The inability of the leader in bridging the cultures within the merged organization.

- Lack of leadership qualities of merged organizations' directors and partners.

In addition to the above, many mergers fail, which may be broadly classified into the following "seven sins", which seem to be committed too often by those making acquisitions:

1. Paying too much.
2. Assuming a boom market won't crash.
3. Leaping before looking.
4. Straying too far afield.
5. Swallowing something too big.
6. Marrying disparate corporate cultures.
7. Counting on key managers staying.

2.11 IMPACT OF MERGER AND ACQUISITION:

(1) IMPACT OF MERGER & ACQUISITION ON SHAREHOLDERS:-

We can further categorize the shareholders into two parts:

- The Shareholders of the acquiring firm
- The shareholders of the target firm.

◆ SHAREHOLDERS OF THE ACQUIRED FIRM:

The shareholders of the acquired company benefit the most. The reason being, it is seen in majority of the cases that the acquiring company usually pays a little excess than it what should. Unless a man lives in a house he has recently bought, he will not be able to know its drawbacks. So that the shareholders forgo their shares, the company has to offer an amount more then the actual price, which is prevailing in the market. Buying a company at a higher price can actually prove to be beneficial for the local economy.

◆ SHAREHOLDERS OF THE ACQUIRING FIRM:

They are most affected. If we measure the benefits enjoyed by the shareholders of the acquired company in degrees, the degree to which they were benefited, by the same degree, these shareholders are harmed. This can be attributed to debt load, which accompanies an acquisition

1) IMPACT OF MERGER & ACQUISITION IN HUMAN DEVELOPMENT EMPLOYEES :-

In the process of consolidation of corporate sector human resource is also considered to be vital and sensitive issue. The UNI Europe estimated that around 13000 jobs have been lost in 10 years as a result of merger and acquisition process. It is a well known fact that whenever there is a merger or an acquisition, there are bound to be lay offs. In the event when a new resulting company is efficient business wise, it would require less number of people to perform the same task. Under such circumstances, the company would attempt to downsize the labor force. If the employees who have been laid off possess sufficient skills, they may in fact benefit from the lay off and move on for greener pastures. But it is usually seen that the employees, those who are laid off, would not have played a significant role under the new organizational set up. This accounts for their removal from the new organization set up. These workers in turn would look for re employment and may have to be satisfied with a much lesser pay package than the previous one. Even though this may not lead to drastic unemployment levels, nevertheless, the workers will have to compromise for the same. If not drastically, the mild undulations created in the local economy cannot be ignored fully.

2) IMPACT OF M & A ON CUSTOMERS:-

The impact of merger and acquisitions has brought a win situation for the customers; this is because the customers are left with a high range of products with a low range of price. This has become possible because the cost of the production which has been reduced due to the cost reduction process adopted by the banks. Thus, offering a wide range of services at a lower rate. All this has become possible due to the advent of information and technology, which allows them to save cost by operating with fewer branches or without a traditional branches network.

3) THE IMPACT OF THE MERGER OR ACQUISITION ON THE NEW ORGANIZATION:

Mergers and acquisitions immediately impact organizations with changes in ownership, in ideology, and eventually, in practice. Of the three root strategic assets noted above, cultural cohesion is most often the critical asset in the eventual success or failure of the overall deal and the one that impacts the extent to which qualitative talent retention can be attained.

Despite the fact that it is increasingly common these days for companies to publish their cultural traits or values, what is listed does not always reflect the actual culture of the place. Anthropologists have long known that the task of learning about a specific group’s culture does not start by asking members themselves to identify the specific traits. In fact, cultural traits are not readily identified by the members of a social group. Understanding the depth of cultural influences that are practiced over time within a specific group or organization requires long periods of reflective observation and the formation of key questions about beliefs, disciplines and innovative problem solving strategies.

4) IMPACT OF MERGERS AND ACQUISITIONS ON TOP LEVEL MANAGEMENT:

Impact of mergers and acquisitions on top level management may actually involve a "clash of the egos". There might be variations in the cultures of the two organizations. Under the new set up the manager may be asked to implement such policies or strategies, which may not be quite approved by him.

When such a situation arises, the main focus of the organization gets diverted and executives become busy either settling matters among themselves or moving on. If however, the manager is well equipped with a degree or has sufficient qualification, the migration to another company may not be troublesome at all.

2.12 FINANCIAL ACCOUNTING FOR MERGER AND ACQUISITION:

Merger and Acquisition Accounting is done either by Purchase Method or by Pooling of Interests Method as per Accounting Standard – 14.

1) POOLING OF INTEREST METHOD :-

This method assumes that the transaction is simply an exchange of equity securities. Therefore the capital stock account of the target firm is eliminated, and the acquirer issues new stock to replace it. The two firm's assets and liabilities are combined at their book values as of the acquisition data. The end result of a pooling of interests transaction is that the total assets of the combined firm are equal to the sum of the assets of the individual firms. No goodwill is generated, and there are no charges against earnings. A tax free acquisition would normally be reported as a pooling of interests.

But, there are some drawbacks of this Purchase Method. When Merger and Acquisition Accounting is done through this Purchase Method, then there is a chance of over rating the Depreciation Charges. This is because, in Purchase Method, book value of assets are used in accounting, but the book value of assets is generally lower than the fair value if there is inflation in the economy.

2) PURCHASE METHOD :-

Under the purchase method assets and liabilities are shown on the merged firm's at book value or their market values as of the acquisition date. This method is based on the idea that the resulting values should reflect the market value established during the bargaining process. The total liabilities of the combined firm equal the sum of the two firm's individual liabilities. The equity of the acquiring firm is increased by the amount of the purchase price.

Purchase accounting usually results in increased depreciation charges because the book value of most assets is usually less than fair value because of inflation. For tax purpose depreciation does not increase because the tax base of the assets remains the same. Since depreciation under pooling accounting method is based on the old book values of the assets accounting income is usually higher under the pooling method. Some firms may dislike the purchase method because of the goodwill created. The reason for this is that goodwill is amortized over a period of years.[9]

2.13 MERGERS AND ACQUISITIONS LAW:

Every country follows its own set of rules and regulations regarding Mergers and Acquisitions. In some countries like USA and Nigeria there are several strict laws regarding Mergers and Acquisitions, while in countries like Thailand there are no specific laws and regulations to govern Mergers and Acquisitions.

Mergers and Acquisitions Law exists in every country of the world. But, the laws and regulations regarding Mergers and Acquisitions differ from country to country. In US the Mergers and Acquisitions Laws are different from those of Nigeria or Thailand. So, to get a real picture of the Mergers and Acquisitions Law, we have to discuss the Mergers and Acquisitions Laws of different countries.

◆ TAKEOVER AND LISTING AGREEMENT EXEMPTION CLAUSES 40A AND 40B OF LISTING AGREEMENT:

Clause 40A deals with substantial acquisition of shares and requires the offeror and the offeree to inform the stock exchange when such acquisition results in an increase in the shareholding of the acquirer to more than 10%.

Clause 40B deals with takeover efforts. A takeover offer refers to change in management where there is no change in management, Clause 40B of listing agreement will not apply. However, sub clause 13 of amendment of Clause 40B also provides an exemption to the scheme approved by BIFR. There is no provision under clause 40B for exemption of non BIFR companies.

◆ MERGERS AND ACQUISITIONS LAW IN THE UNITED STATES OF AMERICA:

In the Unites States of America (USA), Mergers and Acquisitions Law have been generated keeping in mind the interests of the shareholders. To protect the shareholders, US govt. constituted the law that, a merger deal can be finalized only through the process of voting by the Board of directors and voting by the shareholders of the two separate companies.

In the USA, there are both state laws and federal laws to administer Mergers and Acquisitions.

◆ STATE LAWS OF USA REGARDING MERGERS AND ACQUISITIONS:

The State Laws determine the process through which any merger or acquisition can be approved in the country. These laws also ensure that, the shareholders of the target firm receive fair value for their shares. In USA, State laws have also been generated keeping in mind the issue of Hostile Takeover. These laws protect any target company from Hostile Takeover by providing financial and legal support[10].

◆FEDERAL LAWS OF USA REGARDING MERGERS AND ACQUISITIONS:

The Federal Laws keeps a check on the size of the joint firm after a Merger or Acquisition, so that the merged firm cannot develop monopolistic power. The Federal Laws of USA ensure that, no big merged firm involves itself in any business activity which is unlawful.

Just like in the USA, all the other countries have their own laws and regulations regarding Mergers and Acquisitions. In Nigeria, for the approval of any Merger or Acquisition deal, a majority agreement is required to be produced before court. The court sanctions the deal by issuing order. On the contrary, in Thailand, there are no fixed laws and regulations regarding Mergers and Acquisitions. The companies are free to set their own terms and conditions in case of any merger or acquisition.

◆ REGULATIONS FOR MERGERS & ACQUISITIONS IN INDIA:-

Mergers and acquisitions are regulated under various laws in India. The objective of the laws is to make these deals transparent and protect the interest of all shareholders. They are regulated through the provisions of:-

(1) THE COMPANIES ACT, 1956:

The Act lays down the legal procedures for mergers or acquisitions:-

- ❖ **Permission for merger: -** Two or more companies can amalgamate only when the amalgamation is permitted under their memorandum of association. Also, the acquiring company should have the permission in its object clause to carry on the business of the acquired company. In the absence of these provisions in the memorandum of association, it is necessary to seek the permission of the shareholders, board of directors and the Company Law Board before affecting the merger.
- ❖ **Information to the stock exchange:-** The acquiring and the acquired companies should inform the stock exchanges (where they are listed) about the merger.
- ❖ **Approval of board of directors:-** The board of directors of the individual companies should approve the draft proposal for amalgamation and authorize the managements of the companies to further pursue the proposal.

- **Application in the High Court:-** An application for approving the draft amalgamation proposal duly approved by the board of directors of the individual companies should be made to the High Court.
- **Shareholders' and creditors meetings:-** The individual companies should hold separate meetings of their shareholders and creditors for approving the amalgamation scheme. At least, 75 percent of shareholders and creditors in separate meeting, voting in person or by proxy, must accord their approval to the scheme.
- **Sanction by the High Court:-** After the approval of the shareholders and creditors, on the petitions of the companies, the High Court passes an order, sanctioning the amalgamation scheme after it is satisfied that the scheme is fair and reasonable. The date of the court's hearing is published in two newspapers, and also, the regional director of the Company Law Board is intimated.
- **Filing of the Court order:-** After the Court order, its certified true copies is filed with the Registrar of Companies.
- **Transfer of assets and liabilities:-** The assets and liabilities of the acquired company is transferred to the acquiring company in accordance with the approved scheme, with effect from the specified date.
- **Payment by cash or securities:-** As per the proposal, the acquiring company exchanges shares and debentures and/or cash for the shares and debentures of the acquired company. These securities will be listed on the stock exchange.

(2) THE COMPETITION ACT, 2002:

- The Act regulates the various forms of business combinations through Competition Commission of India. Under the Act, no person or enterprise shall enter into a combination, in the form of an acquisition, merger or amalgamation, which causes or is likely to cause an appreciable adverse effect on competition in the relevant market and such a combination shall be void. Enterprises intending to enter into a combination may give notice to the Commission, but this notification is voluntary. But, all combinations do not call for scrutiny unless the resulting combination exceeds the threshold limits in terms of assets or turnover as specified by the Competition Commission of India. The Commission while regulating a 'combination' shall consider the following factors :-

- Actual and potential competition through imports;
- Extent of entry barriers into the market;
- Level of combination in the market;
- Degree of countervailing power in the market;
- Possibility of the combination to significantly and substantially Increase prices or profits;
- Extent of effective competition likely to sustain in a market;
- Availability of substitutes before and after the combination;
- Market share of the parties to the combination individually and as a combination;
- Possibility of the combination to remove the vigorous and effective competitor or competition in the market;
- Nature and extent of vertical integration in the market;
- Nature and extent of innovation;
- Whether the benefits of the combinations outweigh the adverse impact of the combination.
- Thus, the Competition Act does not seek to eliminate combinations and only aims to eliminate their harmful effects.
- The other regulations are provided in the:- The Foreign Exchange Management Act, 1999 and the Income Tax Act,1961. Besides, the

Securities and Exchange Board of India (SEBI) has issued guidelines to regulate mergers and acquisitions. The SEBI (Substantial Acquisition of Shares and Take-over) Regulations, 1997 and its subsequent amendments aim at making the take-over process transparent, and also protect the interests of minority shareholders.

(3) INCOME TAX ACT, 1961:

Income Tax Act, 1961 is vital among all tax laws which affect the merger of firms from the point view of tax savings/liabilities. However, the benefits under this act are available only if the following conditions mentioned in Section 2 (1B) of the Act are fulfilled:

- All the amalgamating companies should be companies within the meaning of the section 2 (17) of the Income Tax Act, 1961.
- All the properties of the amalgamating company (i.e., the target firm) should be transferred to the amalgamated company (i.e., the acquiring firm).
- All the liabilities of the amalgamating company should become the liabilities of the amalgamated company, and
- The shareholders of not less than 90% of the share of the amalgamating company should become the shareholders of amalgamated company.

In case of mergers and amalgamations, a number of issues may arise with respect to tax implications. Some of the relevant provisions may be summarized as follows:

- **Depreciation:** The amalgamated company continues to claim depreciation on the basis of written down value of fixed assets transferred to it by the amalgamating company. The depreciation charge may be based on the consideration paid and without any re- valuation.

However, unabsorbed depreciation, if any, cannot be assigned to the amalgamated company and hence no tax benefit is available in this respect.

- **Capital Expenditures:** If the amalgamating company transfers to the amalgamated company any asset representing capital expenditure on scientific research, then it is deductible in the hands of the amalgamated company under section 35 of Income Tax Act, 1961.

- **Exemption from Capital Gains Tax:** The transfer of assets by amalgamating company to the amalgamated company, under the scheme of amalgamation is exempted for capital gains tax subject to conditions namely (i) that the amalgamated company should be an Indian Company, and (ii) that the shares are issued in consideration of the shares, to any shareholder, in the amalgamated company. The exchange of old share in the amalgamated company by the new shares in the amalgamating company is not considered as sale by the shareholders and hence no profit or loss on such exchange is taxable in the hands of the shareholders of the amalgamated company.

- **Carry Forward Losses of Sick Companies:** Section 72A(1) of the Income Tax Act, 1961 deals with the mergers of the sick companies with healthy companies and to take advantage of the carry forward losses of the amalgamating company. But the benefits under this section with respect to unabsorbed depreciation and carry forward losses are available only if the followings conditions are fulfilled:

1. The amalgamating company is an Indian company.
2. The amalgamating company should not be financially viable.
3. The amalgamation should be in public interest.
4. The amalgamation should facilitate the revival of the business of the amalgamating company.

5. The scheme of amalgamation is approved by a specified authority, and
6. The amalgamated company should continue to carry on the business of the amalgamating company without any modification

- **Amalgamation Expenses:** In case expenditure is incurred towards professional charges of Solicitors for the services rendered in connection with the scheme of amalgamation, then such expenses are deductible in the hands of the amalgamated firm.[11]

(4)SEBI (SUBSTANTIAL ACQUISITION OF SHARES AND TAKEOVER) REGULATIONS ACT, 1997:

On the basis of recommendations of the Committee, the SEBI announced on Febuary20, 1997, the revised take over code as Securities and Exchange Board of India (Substantial Acquisitions of shares and Takeovers), Regulations, 1997. The objective of these regulations has been to provide an orderly framework within which substantial acquisitions and takeovers can take place. The salient features of this new takeover code (Regulations, 1997) may be enumerated as follows:

i. Any person, who holds more than 5% shares or voting rights in any company, shall within two months of notification of these Regulation disclose his aggregate shareholding in that company, to the company which in turn, shall disclose to all the stock exchanges on which the shares of the company are listed, the aggregate number of shares held by each such person.

ii. Any acquirer, who acquires shares or voting rights which (taken together with shares or voting rights, if any, held by him) would entitle him to more than 5% shares or voting rights in a company- (a) in pursuance of a public issue, or (b) by one or more transactions, or (c) in any other manner not covered by (a) and (b) above, shall disclose the aggregate of his shareholding or voting rights in that company, to the company within four working days of the acquisition of shares or voting rights, as the case may be.

iii. Every person, who holds more than 10% shares or voting rights in any company, shall, within 21 days from the end of the financial yea, make yearly disclosures to the company, in respect of his holdings as on 31 March each year.

iv. No acquirer shall agree to acquire, of acquire shares or voting rights which (taken together with shares or voting rights, if any, held by him or by persons acting in concert with him), entitle such acquirer to exercise 10% or more of the voting rights in a company, unless such acquirer makes a public announcement to acquire shares of such company in accordance with the Regulations.

v. No acquirer holding, not less than 10% but not more than 25% of the shares or voting rights in a company, shall acquire, additional shares or voting rights entitling him to exercise more than 2% of the voting rights, in any period of 12 months, unless such acquirer makes a public announcement to acquire shares in accordance with the Regulations.

vi. The minimum offer price shall be the highest of- (a) the negotiated price under the agreement ; (b) average price paid by the acquirer for acquisitions including by way of allotment in a public or rights issue, if any, during the twelve-month period prior to the date of public announcement; (c) the price paid by the acquirer under a preferential allotment made to him, at any time during the twelve month period up to the date of closure of the offer; (d) the average of the weekly high and low of the closing prices of the shares of the target company during the 26 weeks proceeding the date of public announcement.

vii. The public offer shall be made to the shareholders of the target company to acquire from them an aggregate minimum of 20% of the voting capital of the company provided that acquisition of shares from each of the shareholders shall not be less than the minimum marketable lot or the entire holding if it is less than the marketable lot.

viii. Within 14 days of the public announcement of the offer, the acquire must send a copy of the draft letter to the target company at its registered office address, for being placed before the Board of Directors and to all the stock exchanges where the shares of the company are listed.

ix. Any person other than the acquirer who had made the first public announcement, who is desirous of making any offer, shall, within 21 days of the public announcement of the first offer, make a public announcement of his offer for acquisition of some or all of the shares of the same target company. Such offer shall be deemed to be a competitive bid. No public announcement for an offer or competitive bid shall be made during the offer period except during 21-day period from the public announcement of the first offer.

x. Upon the public announcement of a competitive bid or bids, the acquirer(s) who had made the public announcement (s) of the earlier offer(s), shall have the option to make an announcement revising the offer or withdrawing the offer with the approval of the SEBI.

xi. Irrespective of whether or not there is competitive bid, the acquirer who has made the public announcement of offer, any make upward revisions in his offer in respect of the price and the number of shares to be acquired, at any time up to 3 working days prior to the date of the closure of the offer.

xii. No public offer, once made, shall be withdrawn except under the circumstances mentioned in this regulation, namely-(a) the withdrawals is consequent upon any competitive bid; (b) the offer did not receive the minimum level of acceptances, to which it was subject to; (c) the statutory approvals(s) required have been refused; (d) the sole acquirer, being a natural person has died, and (e) such circumstances as in the opinion of SEBI merits withdrawal.

xiii. The acquirer shall deposit in an Escrow Account a sum equivalent to at least 25% of the total consideration payable under the offer up to Rs, 100 crores and 10% of the consideration thereafter. Where the acquirer specifies a minimum level of acceptance and does not want to acquire a minimum 20%, the 50% of the consideration payable is to be deposited in Escrow Account.

xiv. In case, there is any upward revision of offer, consequent upon a competitive bid or otherwise, the value of the Escrow Account shall be increased to equal to at least 25% of the consideration payable upon such revision.

xv. In case of a substantial acquisition of shares in financially weak company not being a sick industrial company, the scheme prepared by a financial institutions may provide for acquisition of shares in the financially weak company in any of the following manner (a) outright purchase of shares, or (b) exchange of shares, or (c) a combination of both; provided that the scheme as far as possible may ensure that after the proposed acquisition, the erstwhile promoters do not own any shares in case such acquisition is made by the new promoters pursuant to such scheme.

xvi. The person acquiring shares from the promoters of the persons in-charge of the management of the affairs of the financially weak company or the financial institutions shall make a public announcement of his intention for acquisition of shares from the shareholders of the company. Such public announcement shall contain relevant details about the offer including the information about the identity and background of the person acquiring shares, number and percentages of shares proposed to be acquired, offer price, the specified date, the date of opening of the offer and the period for which the offer shall be kept open.

xvii. No person shall make a competitive bid for acquisition of shares of the financially weak company once the lead institution has evaluated the bid and accepted the bid of the acquirer who has made the public announcement of offer acquisition of shares from the shareholders other than the promoters.

An amendment to the Regulations, 1997 on substantial acquisition of shares and takeovers has been notified on 28, 1998. SEBI had decided to increase the creeping acquisition limited to 5% from the 25 and the thresh hold limit to 215% from 10%. The rationale for SEBI's decision to increase the creeping limit and the threshold limit is difficult to understand. The decision to increase the creeping to 5% and thresh hold limit to 15% appears to be working against the basic spirit of the takeover code. The increase in creeping acquisition will bring in quiet acquisition without the trigger of making a minimum offer of 20%. In fact the 20% offer was to facilitate the market movements and competitive process and also to keep the management on their toes. The decision to increase the creeping acquisition from 2%to 5% disregards the objective of protection of small shareholders. The decision to increase the threshold limit from 10% to 15% is also difficult to be justified.

(5) FOREIGN EXCHANGE REGULATION ACT 1973 (FERA 1973):

FERA is the primary Indian Law which regulates dealings in foreign exchange. Although there are no provisions in the Act which deal directly with transactions relating to amalgamations, certain provisions of the Act become relevant when shares in Indian companies are allotted to non-residents, where the undertaking sought to be acquired is a company which is not incorporated under any law in India. Section 29 of FERA provides that no foreign company or foreign national can acquire any share of an Indian company except with prior approval of the reserve Bank of India. The Act has been amended to facilitate transfer of shares two non residents and to allow Indian companies to set up subsidiaries and joint ventures abroad without the prior approval of the Reserve Bank of India.

2.14 EFFECTIVE DATE AND APPOINTED DATE:

A compromise or arrangement takes effect from the date when it is arrived at subject to the sanction of the court (NCLT). If the NCLT refuses sanction, it becomes without effect, If the NCLT grants sanction it takes effect, not from the date of the sanction but from the date when it was arrived at. Sanction of the NCLT to a compromise has relation back and a scheme or arrangement agreed to by the creditors

2.15 TAXABLE VERSUS TAX-FREE TRANSACTIONS:

Mergers and acquisitions can be either tax-free or taxable events. The tax status of a transaction may affect its value from both the buyer's and the seller's viewpoints. In a taxable acquisition, the assets of the selling firm are revalued or "written up." Therefore, the depreciation deduction will rise (assets are not revalued in a tax-free acquisition). But the selling shareholders will have to pay capital gains taxes and thus will want more for their shares to compensate. This is known as the capital gains effect. The capital gains and write-up effects tend to cancel each other out.

Certain exchanges of stock are considered tax-free reorganizations, which permit the owners of one company to exchange their shares for the stock of the acquirer without paying taxes. There are three basic types of tax-free reorganizations. In order for a transaction to qualify as a type A tax-free reorganization, it must be structured in certain ways. In contrast to a type B reorganization, the type A transaction allows the buyer to use either voting or nonvoting stock. It also permits the buyer to use more cash in the total consideration since the law does not stipulate a maximum amount of cash that can be used. At least 50 percent of the consideration, however, must be stock in the acquiring corporation. In addition, in a type A reorganization, the acquiring corporation may choose not to purchase all the target's assets.

In instances where at least 50 percent of the bidder's stock is used as the consideration—but other considerations such as cash, debt, or no equity securities are also used—the transaction may be partially taxable. Capital gains taxes must be paid on those shares that were exchanged for no equity consideration.

A type B reorganization requires that the acquiring corporation use mainly its own voting common stock as the consideration for purchase of the target corporation's common stock. Cash must comprise no more than 20 percent of the total consideration, and at least 80 percent of the target's stock must be paid for by voting stock by the bidder.

Target stockholders who receive the stock of the acquiring corporation in exchange for their common stock are not immediately taxed on the consideration they receive. Taxes will have to be paid only if the stock is eventually sold. If cash is included in the transaction, this cash may be taxed to the extent that it represents a gain on the sale of stock.

In a type C reorganization, the acquiring corporation must purchase 80 percent of the fair market value of the target's assets. In this type of reorganization, a tax liability results when the acquiring corporation purchases the assets of the target using consideration other than stock in the acquiring corporation. The tax liability is measured by comparing the purchase price of the assets with the adjusted basis of these assets.

2.16 VALUATION RELATED TO MERGERS AND ACQUISITIONS:

- **Valuation related to mergers and acquisitions** employ several procedures, namely, the income based procedure, the asset based procedure and the market based procedure. There are many factors, which determine whether a particular company ought to be bought or not. The financial soundness of the subject company is very important to determine. Along with these the financial trends over the past couple of years and the trends manifested in the macroeconomic indicators also need to be judged.

- **Valuation related to mergers and acquisitions** usually follow these three methods. They are market based method, asset based method and income based method. It may be felt that the market based method is more relevant but all the three methods are significant depending on the situation prevailing during the course of the mergers as well as acquisitions.

- ***MARKET BASED METHOD:*** *Valuation related to mergers and acquisitions* estimated by the market based method, compares various aspects of the target company with the same aspects of the other companies in the market. These companies (not the target company) usually possess a market value, which has been established previously. There are few things to be kept in mind prior to comparing the various aspects. Firstly, which factors need to be compared and secondly, which are the companies, which will serve as comparables. Public companies, belonging to similar industries (of the target company) may be opted for as comparable. However, if the target company is not listed on the stock exchange or is comparatively smaller in size than the public companies, comparison with the public companies may not be of much help. In such cases, private as well as public databases are available, which are commercial in nature.

The other aspects that need to be compared include book value and earnings or total revenue. Once all the data are collected, an extensive comparison is made to find the value of the target/subject company.

◆ ***Asset based method:*** Valuation related to mergers and acquisitions employ this method when the subject or the target company is a loss making company. Under such circumstances, the assets of the loss making company are calculated. Along with this method, the market based method as well as the income based method may also be employed. Valuations obtained from this method may generate very less value. However, it is more likely to generate the actual picture of the assets of the target company.

◆ ***Income based method:*** Valuation related to mergers and acquisitions employing the income based method take the net present value into consideration. The net present value of income, which is likely to be in the future is taken into account by the application of a mathematical formula.

The phrase **mergers and acquisitions** (abbreviated **M&A**) refers to the aspect of corporate strategy, corporate finance and management dealing with the buying, selling and combining of different companies that can aid, finance, or help a growing company in a given industry grow rapidly without having to create another business entity.

Merger is a tool used by companies for the purpose of expanding their operations often aiming at an increase of their long term profitability. There are 15 different types of actions that a company can take when deciding to move forward using M&A. Usually mergers occur in a consensual (occurring by mutual consent) setting where executives from the target company help those from the purchaser in a due diligence process to ensure that the deal is beneficial to both parties. Acquisitions can also happen through a hostile takeover by purchasing the majority of outstanding shares of a company in the open market against the wishes of the target's board. In the United States, business laws vary from state to state whereby some companies have limited protection against hostile takeovers. One form of protection against a hostile takeover is the shareholder rights plan, otherwise known as the "poison pill".

Historically, mergers have often failed to add significantly to the value of the acquiring firm's shares. Corporate mergers may be aimed at reducing market competition, cutting costs (for example, laying off employees, operating at a more technologically efficient scale, etc.), reducing taxes, removing management, "empire building" by the acquiring managers, or other purposes which may or may not be consistent with public policy or public welfare. Thus they can be heavily regulated, for example, in the U.S. requiring approval by both the Federal Trade Commission and the Department of Justice.

2.17 MERGER AND ACQUISITION STRATEGIES:

Merger and Acquisition Strategies are significant in order to bring success to a merger or acquisition deal. A sound strategic planning can protect any merger from failure. The important issues that should be kept in mind at the time of developing Merger and Acquisition Strategy are discussed as follow:

Merger and Acquisition Strategies are extremely important in order to derive the maximum benefit out of a merger or acquisition deal. It is quite difficult to decide on the strategies of merger and acquisition, specially for those companies who are going to make a merger or acquisition deal for the first time. In this case, they take lessons from the past mergers and acquisitions that took place in the market among other companies and proved to be successful.

Through market survey and market analysis of different mergers and acquisitions, it has been found that there are some golden rules which can be treated as the Strategies for Successful Merger or Acquisition Deal.

These rules or strategies are discussed below:

- Before entering in to any merger or acquisition deal, the target company's market performance and market position is required to be examined thoroughly so that the optimal target company can be chosen and the deal can be finalized at a right price.

- Identification of future market opportunities, recent market trends and customer's reaction to the company's products are also very important in order to assess the growth potential of the company.

- After finalizing the merger or acquisition deal, the integration process of the companies should be started in time. Before the closing of the deal, when the negotiation process is on, from that time, the management of both the companies require to work on a proper integration strategy. This is to ensure that no potential problem crop up after the closing of the deal.

- If the company which intends to acquire the target firm plans restructuring of the target company, then this plan should be declared and implemented within the period of acquisition to avoid uncertainties.

- It is also very important to consider the working environment and culture of the workforce of the target company, at the time of drawing up Merger and Acquisition Strategies, so that the laborers of the target company do not feel left out and become demoralized.

2.18 MERGERS AND ACQUISITIONS IN INDIA:-

TOTAL MERGERS AND ACQUISITIONS:

No.	Company	Merged With
01	A & F HARVEY LTD.	MADURA COATS LTD.
02	A.A.ALLOYS LTD.	BHUWALKA STEEL INDUSTRIES LTD.
03	A.H.BHIWANDIWALA & CO.LTD.	GREAT EASTERN SHIPPING CO.LTD.
04	A.K.STRUCTURAL LTD.	SUPREME INDUSTRIES LTD.
05	A.P.COTEX	ASIAN PAINTS LTD.
06	ABRASIVES & CASTINGS LTD.	WOOD POLYMERS LTD.
07	ACT INDIA LTD.	INDRAD AUTO COMPONENTS LTD.
08	ADDI FASHIONS PVT.LTD.	ADDI INDUSTRIES LTD.
09	ADDI WOOLLENS LTD.	ADDI INDUSTRIES LTD.
10	ADDI WORSTED LTD.	ADDI INDUSTRIES LTD.
11	ADEQUATE WEIGHERS (INDIA)LTD.	GILLANDERS ARBUTHNOT & CO.LTD.
12	ADONI SPG.& WVG.CO.LTD.	KOTHARI INDUSRIAL COPN.LTD.
13	ADVANCE WELDING ALLOYS LTD.	ADVANI-OERLIKON LTD.
14	AEKTA LTD.	KIRTIVARDHAN FINVEST SERVICES PVT.
15	AELPE FINANCE LTD.	ORIENT BEVERAGES LTD.
16	AGIPI CHEMICALS LTD.	STANDARD MEDICAL & PHARMA.LTD.
17	AHMEDABAD LAXMI COTTON MILLS CO.LTD	ARVIND MILLS LTD.
18	AKAR POLYMATIK LTD.	AKAR LAMINATORS LTD.
19	ALCO-CHEM LTD.	UPPER GANGES SUGAR & INDUSTRIES LT
20	ALEMBIC DISTRIBUTORS LTD.	ALEMBIC CHEMICALS WORKS CO.LTD.
21	ALLIANCE FUND MANAGEMENT LTD.	ALLIANCE CREDIT & INVESTMENT LTD.
22	ALU CAPSULES LTD.	LARSEN & TOUBRO LTD.
23	AMBUJA SHIPYARD & SOFTWARE LTD.	GALAXY APPLIANCE LTD.
24	AMIT ALCOHOL & CARBON DIOXDIE LTD.	AEGIS CHEMICALS INDUSTRIES LTD.
25	AMRIT PROTIEN FOOD LTD.	AMRIT BANSPATI LTD.
26	AMRITA EXPORTS PVT.LTD.	MADHUR FOOD PRODUCTS LTD.
27	ANAGRAM FIN.& INDUSTRIES LTD,	BROOKE BOND (INDIA) LTD.
28	ANAGRAM FINANCE LTD.	ICICI LTD.
29	ANAND TANKS & VESSELS PVT.LTD.	ATV PROJECTS INDIA LTD.
30	ANANDMANGAL COMMODEAL PVT.LTD.	SARASWATI COMMERCIAL (INDIA) LTD.
31	ANIL SYNTHETICS LTD.	KANORIA CHEMICALS INDS.LTD.
32	ANJU SYNTHETICS PVT.LTD.	GUJARAT METAL FORM LTD.
33	ANKLESHWAR ION EXCH.& CHEM.LTD.	ION EXCHANGE (INDIA) LTD.
34	APURAJ CHEM LTD.	PIDILITE INDUSTRIES LTD.
35	ARAVALLI SVACHALIT VAHAN LTD.	KELVINATOR OF INDIA LTD.
36	ARRON INVESTMENT LTD.	LLOYDS STEEL LTD.
37	ARTPLY WOOD INDUSTRIES LTD.	KITPLY INDUSTRIES LTD.
38	ARUN GENERAL INDUSTRIES LTD.	GENERAL INDUSTRIAL SOCIETY LTD.
39	ARUNA LEATHERS & EXPORTS LTD.	MRF LTD.
40	ASEA LTD.	HINDUSTAN BROWN BOVERI LTD.
41	ASHIANA PROTEINS LTD.	ASHIANA HOUSING & FIN.(I) LTD.
42	ASIAN CABLE & INDUSTRIES LTD.	RPG CABLES LTD.
43	ASIAN CABLES CORPN.LTD.	ASIAN CABLES & INDUSTRIES LTD.
44	ASIAN COFFEE LTD.	CONSOLIDATED COFFEE LTD.
45	ASIAN WOODS & POLYMERS PVT.LTD.	KITPLY INDUSTRIES LTD.

46	ASOKA MILLS LTD.	ARVIND MILLS LTD.
47	ASSOCIATED ELECTRICAL INDS.LTD.	GENERAL ELECTRIC CO.OF INDIA LTD.
48	ASSOCIATED HOTELS OF INDIA LTD.	EAST INDIA HOTELS LTD.
49	ASSOCIATED POWER CO.LTD.	DISHERGARH POWER SUPPLY CO.LTD
50	ATLANTIC (EAST) LTD.	RECKITT & COLEMAN OF INDIA LTD.
51	ATTAREEKHAT TEA CO.LTD.	GEORGE WILLIAMSON (ASSAM) LTD.
52	ATTIKHAN (BILIGIRI) LTD.	SANGAMESHWAR COFFEE EST.& INDS.LTD
53	ATUL PRODUCTS LTD.	GUJARAT AROMATICS LTD.
54	AUTO RUBBERS TOOLS LTD.	TVS SRICHAKRA LTD.
55	BABHNAM SUGAR MILLS LTD.	BALRAMPUR CHINNI MILLS LTD.
56	BAGHJAN TEA CO.(1935) LTD.	MACNEILL &MAGOR LTD.
57	BAHADUR TEA CO.LTD.	DHUNSERI TEA & INDUSTRIES LTD.
58	BALLY JUTE CO.LTD.	BIRLA JUTE & INDUSTRIES LTD.
59	BALMADIES PLANTATION LTD.	KOTHARI INDUSTRIAL CORPN.LTD.
60	BALSARA AND COMPANY PVT.LTD.	BALSARA HYGIENS PRODUCTS LTD.
61	BAMBINO FOOD INDUSTRIES LTD.	JAYA FOOD INDUSTRIES LTD.
62	BANARHAT TEA CO.LTD.	ANDREW YULE & CO.LTD.
63	BANGALORE HOSPITAL LTD.	McDOWELL & CO.LTD.
64	BANGALORE WOOLLEN COT.& SILK CO.LTD	BINNY LTD.
65	BAREILLY HOLDINGS LTD.	NAGA HILLS TEA CO.LTD.
66	BARGAGE TEA CO.LTD.	GEORGE WILLIAMSON (ASSAM) LTD.
67	BASANTI COTTON MILLS LTD.	SWAN MILLS LTD.
68	BASMATIA TEA CO.LTD.	ANDREW YULE & CO.LTD.
69	BATA PROPERTIES LTD.	BATA INDIA LTD.
70	BCR LTD.	BALLARPUR INDUSTRIES LTD.
71	BECO ENGINEERING LTD.	MUKUND LTD.
72	BELVEDERE JUTE MILLS CO.LTD.	CHEVIOT CO.LTD.
73	BENCHMARK HOMES & RESORTS LTD.	SINCLAIRS HOTELS & TRANSPORT LTD.A
74	BENGAL INGOT CO.LTD.	BALLARPUR INDUSTRIES LTD.
75	BENGAL UNITED TEA CO.LTD.	MCLEOD RUSSEL (INDIA) LTD.
76	BETJAN TEA CO.LTD.	GILLANDERS ARBUTHNOT & CO.LTD.
77	BHARAT BHUSHAN EQUITY TRADERS LTD.	BHARAT BHUSHAN SHARE & ST.BROKERS
78	BHARAT FERTILISERS INDUSTRIES LTD.	PATEL PACKAGING INDUSTRIES LTD.
79	BHARAT SUGAR MILLS LTD.	NEW INDIA SUGAR MILLS LTD.
80	BHILWARA VIKING PETROLEUM LTD.	HEG LTD.
81	BHOOTEACHING TEA CO.LTD.	DIMAKUSI TEA CO.LTD.
82	BIAX LTD.	CIMMCO BIRLA LTD.
83	BLACK DIAMOND DREXIM PVT.LTD.	SARASWATI COMMERCIAL (INDIA) LTD.
84	BLB MUTUAL SERVICES LTD.	BLB SHARES & FINANCE SERVICES LTD.
85	BLUE MOUNTAIN ESTATES AND INDS.LTD.	KOTHARI INDUSTRIAL CORPN.LTD.
86	BOEHRINGER MANNHEIN INDIA LTD.	NICHOLAS PIRAMAL (INDIA) LTD.
87	BOKAKHAT TEA CO.LTD.	METHONI TEA CO.LTD.
88	BOMBAY BREWERIES LTD.	HERBERTSONS LTD.
89	BOMBAY STEAM NAV.CO.(1953) LTD.	SCINDIA STEAM NAVIGATION CO.LTD.
90	BORDUBI TEA CO.LTD.	GEORGE WILLIAMSON (ASSAM) LTD.
91	BORELLI TEA CO.LTD.	GEORGE WILLIAMSON (ASSAM) LTD.
92	BOROI TEA CO.LTD.	GEORGE WILLIAMSON (ASSAM) LTD.
93	BORPUKHURI TEA CO.LTD.	BISHNAUTH TEA CO.LTD.
94	BREUL INVESTMENT LTD.	LAKME LTD.
95	BRITISH ASSAM TEA CO.LTD.	MCLEOD RUSSEL (INDIA) LTD.

96	BUCKINGHAM &CARNATIC CO.LTD.	BINNY LTD.TED.
97	BUDGE BUDGE JUTE MILLS CO.LTD.	DELTA JUTE MILLS CO.LTD.
98	BUKHIAL TEA ESTATES LTD.	MACNEILL &MAGOR LTD.
99	BULAND SUGAR CO.LTD.	RAZA BULAND SUGAR CO.LTD.
100	C & E MORTON (INDIA) LTD.	UPPER GANGES SUGAR & INDS.LTD.
101	CALCUTTA DISCOUNT CO.LTD	ANDREW YULE & CO.LTD.
102	CALTEX IOL REFINING (INDIA) LTD.	HINDUSTAN PETROLEUM CORPN.LTD.
103	CAMPHOR AND ALLIED PRODUCTS LTD.	PROFEEL SENTINEL LTD.
104	CAPOL FARM EQUIPMENT LTD.	EICHER TRACTORS LTD.
105	CARBON & CHEMICALS INDIA LTD.	PHILLIPS CARBON BLACK LTD.
106	CARBORUNDUM UNIVERSAL INVT.LTD.	CARBORUNDUM UNIVERSAL LTD.
107	CAREW PHIPSON LTD.	McDOWELL & CO.LTD.
108	CENTRAL BANK OF INDIA LTD.	TATA ENG.& LOCOMOTIVE CO.LTD.
109	CETEX PETROCHEMICALS LTD.	KEC INTERNATIONAL LTD.
110	CHAITANYA ORGANICS PVT.LTD.	AUROBINDO PHARMA LTD.
111	CHASE OVERSEAS LTD.	CHASE BRIGHT STEEL LTD.
112	CHEMICALS & PLASTICS LTD.	URETHANES INDIA LTD.
113	CHEMPLAST INVESTMENTS LTD.	CHEMICALS & PLASTICS INDIA LTD.
114	CHENDUR FORGE EXPORTS LTD.	EL FORGE LTD.
115	CHEVIOT MILLS CO.LTD.	DELTA JUTE MILLS CO.LTD.
116	CHITPORE GOLABARI CO.LTD.	ANDREW YULE & CO.LTD.
117	CHOLAMANDALAM SOFTWARE LTD.	CHOLAMANDALAM FACTORING LTD.
118	CHOONABHUTTI TEA CO.LTD.	BANARHAT TEA CO.LTD.
119	CITY DELSTAR CABLE LTD.	CITY GIFTS (I) LTD.
120	CITY FINANCIAL SERVICES LTD.	CITY GIFTS (I) LTD.
121	CLIVE BUILDING (CALCUTTA) LTD.	GILLANDERS ARBUTHNOT & CO.LTD.
122	CLIVE ROW INVESTMENT HOLDING CO.LTD	ANDREW YULE & CO.LTD.
123	COASTAL DISTILLERY LTD.	McDOWELL & CO.LTD.
124	COIMBATORE ALCOHOL AND CHEM.LTD.	ANNARI AMMAN SUGAR LTD.
125	COIMBATORE COTTON MILLS LTD.	LAKSHMI MILLS CO.LTD.
126	COIMBATORE PIONEER MACHINE WORKS	LAKSHMI AUTOMATIC LOOM WORKS LTD.
127	COMET STEELS LTD.	JAI CORPORATION LTD.
128	CONWEL CANS (INDIA) LTD.	HINDUSTAN TIN WORKS LTD.
129	COOPER ENGINEERING LTD.	WALCHANDNAGAR INDUSTRIES LTD.
130	COORLA SPINNING AND WVG.CO,LTD.	SWAN MILLS LTD.
131	CORE LABORATORIES LTD.	CORE PARENTERALS LTD.
132	CORE LABS.LTD.	CORE PARENTERALS LTD.
133	CORRAMORE TEA CO.LTD.	MCLEOD RUSSEL (INDIA) LTD.
134	CPITA COATED STEELS LTD.	JAI CORPORATION LTD.
135	CRESCENT DYES & CHEMICALS LTD.	I.C.I.LTD.
136	CROMPTON ENG.CO.LTD.	BEST & COMPANY (P) LTD.
137	CROSLANDS RESEARCH LABORATORIES LTD	RANBAXY LABORATORIES LTD.
138	CROWN SPG.& MFG.CO.LTD.	HINDOOSTAN SPG.&WVG.MILLS LTD.
139	CUTFAST ABRASIVE TOOLS LTD.	CARBORUNDUM UNIVERSAL LTD.
140	CUTFAST POLYMERS LTD.	CARBORUNDUM UNIVERSAL LTD.
141	D.MACROPOLO & CO.LTD.	GODFREY PHILLIPS INDIA LTD.
142	D.WALDIE & CO.LTD.	GILLANDERS ARBUTHNOT & CO.LTD.
143	DAKSHIN PHARMACEUTICALS LTD.	SOL PHARMACEUTICALS LTD.
144	DALHOUSIE JUTE CO.LTD.	HINDUSTAN DEVELOPMENT CORPN.LTD.
145	DALTA INDUSTRIES LTD.	DALTA INTERNATIONAL LTD.

146	DARJEELING TEA CO.LTD.	DARJEELING PLANTATION INDS.LTD.
147	DAVID BROWN GREAVES LTD.	GREAVES COTTON & CO.LTD.
148	DECCAN FIBRE GLASS LTD.	CEAT LTD.
149	DECCAN POLYPACKS LTD.	DCL POLYESTERS LTD.
150	DECCAN SUGAR & ABKHARI CO.LTD.	NAVA BHARAT FERRO ALLOYS LTD.
151	DECCAN WIRES LTD.	PANYAM CEMENT & MINERAL IND.LTD.
152	DENA BANK LTD.	STRAW PRODUCTS LTD.
153	DEVANGA BANK LTD.	VIJAYA COMMERCIAL CREDIT LTD.
154	DEXO LABORATORIES LTD.	STANDARD ORGANICS
155	DEXO PHARMA (P) LTD.	SOL PHARMACEUTICALS LTD.
156	DHARAMVIR FABRICS PVT.LTD.	OVERSEAS SYNTHETICS LTD.
157	DHUNSERI TEA & INDUSTRIES LTD.	ROYAL REFINERIES LTD.
158	DIRAI TEA CO.LTD.	MACNILL & MAGOR LTD.
159	DISTILLERS TRADING CORPORATION LTD.	KESAR ENTERPRISES LTD.
560	DLF UNITED LTD.	DLF UNIVERSAL LTD.
161	DOOM DOOMA INDIA LTD.	BROOKE BOND (INDIA) LTD.
162	DOTPRINT SYSTEMS PVT.LTD.	SCANDOT GRAPHICS LTD.
163	DSM SUGAR (KASHIPUR) LTD.	DSM AGRO PRODUCTS LTD.
164	DUCTRON CASTINGS LTD.	ASHOK LEYLAND LTD.
165	DUNCAN AGRO INDUSTRIES LTD.	CHANDCHHAP FERT.AND CHEMICALS LTD.
166	E.I.D.PARRY LTD.	E.I.D.PARRY (INDIA) LTD.
167	EASTERN ABRASIVE LTD.	CARBORUNDUM UNIVERSAL LTD.
168	ECC WORKSHOPS LTD.	LARSEN & TOUBRO LTD.
169	EDDIVANNA RUBBER & TEA CO.LTD.	COCHIN MALABAR ESTATES AND INDS.LT
170	EICHER TRACTORS LTD.	ROYAL ENFIELD MOTORS LTD.
171	ELECON (MADRAS) LTD.	ELECON ENGINEERING CO.LTD.
172	ELECTRICAL INSTRUMENTS MFG.CO.LTD.	GUJARAT MACHINERY MANUFACTURERS LTD
173	ELECTRO EQUIPMENTS CORPN.LTD.	BINANI METALS LTD.
174	EMPIRE FINANCE LTD.	FORTIS FINANCIAL SERVICES LTD.
175	ENGINE VALUES LTD.	ENGINE COMPONENTS LTD.
176	ENKAY TEXOFOOD INDUSTRIES LTD.	ENKAY SYNTHETICS LTD.
177	ESCORT TRACTORS LTD.	ESCORTS LTD.
178	ESCORTS TRACTORS LTD.	ESCORTS LTD.
179	ESKAY NARROW FABRICS PVT.LTD.	SKY INDUSTRIES LTD.
180	ESSAR BULK CARRIERS LTD.	KARNATAKA SHIPPING CORPN.LTD.
181	ESTEEM CAPITAL SERVICE LTD.	NAT WEST CAPITAL SERVICES LTD.
182	EVEREST FEFRIGERANTS LTD.	AEGIS CHEMICALS INDUSTRIES LTD.
183	FALCON GULF CERAMICS LTD.	E.I.D. PARRY (INDIA) LTD.
184	FLAKT INDIA LTD.	ASEA BROWN BOVERI LTD.
185	FLEX LAMINATERS LTD.	FLEX INDUSTRIES LTD.
186	FLEX PAPERS LTD.	FLEX INDUSTRIES LTD.
187	FLOWMORE POLYESTERS LTD.	SRF LTD.
188	GAIRKHATA TEA CO.LTD.	GILLANDERS ARBUTHNOT & CO.LTD.
189	GANESH LEA-FINVEST LTD.	GANESH HSG.FINANCE CORPORATION LTD
190	GANGES TRANSPORT & TRADING CO.LTD.	BINNY LTD.
191	GARDEN PRINT CENTRE PVT.LTD.	GARDEN SILK MILLS LTD.
192	GEC LTD.	ENGLISH ELECTRIC CO.LTD.
193	GERALD ENGINEERING LTD.	HINDUSTAN DEVELOPMENT CORPN.LTD.
194	GINGIA TEA CO.LTD.	MCLEOD RUSSEL (INDIA) LTD.
195	GIRNAR PRATISTHAN LTD.	KANORIA INDUSTRIES LTD.

196	GOA ELECTRICALS & FANS LTD.	CROMPTON GREAVES LTD.
197	GODREJ SOAPS LTD.	GJU.GODREJ INNO.CHEMICALS LTD.
198	GOGTE STEELS LTD.	SPECIAL STEELS LTD.
199	GOHPUR TEA CO.LTD	MACNEILL & MAGOR LTD.
200	GOVIND RUBBER LTD.	PAWAN TYRES LTD.
201	GRAPHITE VICARB INDIA LTD.	CARBON EVERFLOW LTD.
202	GREAT EASTERN COMMERCIAL CORPN.LTD.	GEEP INDUSTRIAL SYNDICATE LTD.
203	GREAVES CHITRAM LTD.	GREAVES COTTON & CO.LTD.
204	GREAVES LOMBARDINI LTD	GREAVES COTTON & CO.LTD.
205	GREAVES SEMICONDUCTORS LTD.	GREAVES COTTON & CO.LTD.
206	GUARDIAN HEALTH CARE LTD.	CROSSLANDS RESEARCH LTD.
207	GUJ. GLASS LTD.	NICHOLAS LAB.INDIA LTD.
208	GUJ.NYLON LTD.	GSFC LTD.
209	GUJARAT AMBUJA PROTEINS LTD.	GUJARAT AMBUJA EXPORTS LTD.
210	GUJARAT PROJECTS & PROFIN LTD.	GALAXY APPLIANCES LTD.
211	GUNGARAM TEA CO.LTD.	DUNCANS AGRO INDUSTRIES LTD.
212	GVK HOTELS LTD.	NOVOPAN INDUSTRIES LTD.
213	HALEM TEA CO.LTD.	MCLEOD RUSSEL (INDIA) LTD.
214	HANTAPARA TEA CO.LTD.	DUNCANS AGRO INDUSTRIES LTD.
215	HAPJAN PURBAT TEA CO.LTD.	MOHEEMA LTD.
216	HARITA FINANCE LTD.	HARITA SRINIVASA FINANCE PVT.LTD.
217	HARRISONS & CROSSFIELD LTD.	HARRISONS MALAYALAM LTD.
218	HASTINGS MILLS LTD.	SHREE DIGVIJAY CEMENT CO.LTD.
219	HAVERO INDUSTRIES LTD.	APTE AMALYAMATIONS LTD.
220	HAYWARD WALDIE REFINERY LTD.	GILLANDERS ARBUTHNOT & CO.LTD.
221	HEM-PRI CONTAINERS PVT.LTD.	ORIENTAL CONTAINERS LTD.
222	HILVERSUM ELECTROMICS LTD.	BUNDY TUBING OF INDIA LTD.
223	HIMACHAL TELEMACTICS LTD.	HIMACHAL FUTURISTICS COMM.LTD.
224	HIMALYAM PLYWOOD INDS.PVT.LTD.	KITPLY INDUSTRIES LTD.
225	HIMIONIC HOLDING LTD.	AMBALAL SARABHAI ENTERPRISES LTD.
226	HIND AUTO INDUSTRIES LTD.	AUTOMOBILE PRODUCTS OF INDIA LTD.
227	HINDUSTAN COMPUTERS LTD.	HCL LTD.
228	HINDUSTAN INSTRUMENTS LTD.	HCL LTD.
229	HINDUSTAN KOKOKU WIRE LTD.	HINDUSTAN DEVELOPMENT CORPN.LTD.
230	HINDUSTAN POLYMERS LTD.	MCDOWELL & CO.LTD.
231	HINDUSTAN REPROGRAPHICS LTD.	HCL LTD.
232	HOLLY FIELD DISTRIBUTORS PVT.LTD.	JACQUART CHEMICALS INDUSTRIES LTD.
233	HOOLUNGOOREE TEA CO.LTD.	ANDREW YULE & CO.LTD.
234	HOTELS (1938) PVT.LTD.	EAST INDIA HOTELS LTD.
235	HUNWAL TEA CO.LTD.	MCLEOD RUSSEL (INDIA) LTD.
236	HYDERABAD ALLWYN LTD.	VOLTAS LTD.
237	IDL SALZBAN (INDIA) LTD.	IDL INDUSTRIES LTD.
238	IFB VENTURE CAPITAL FINANCE LTD.	IFB FINANCE LTD.
239	IMPERIAL TEA CO.LTD.	MCLEOD RUSSEL (INDIA) LTD.
240	IND-ITAL CHEMICALS LTD.	UB PETROPRODUCTS LTD.
241	INDIA INFUSION LTD.	TORRENT PHARMACEUTICALS LTD.
242	INDIAN COMPUTER SOFTWARE CO.LTD.	HCL LTD.
243	INDIAN CROWN CORK CO.LTD.	LARSEN & TOUBRO LTD.
244	INDIAN REFINERIES LTD.	INDIAN OIL CORPN.LTD.
245	INDIAN SUGAR & GENERAL ENG.COR.LTD.	SARASWATI INDL.SYNDICATE LTD.

246	INDIAN TACK & NAIL CO.LTD.	GILLANDERS ARBUTHNOT & CO.LTD.
247	INDIAN TOOL MANUFACTURESRS LTD.	ZENITH LTD.
248	INDIAN TUBE CO.LTD.	TATA IRON AND STEEL CO.LTD.
249	INDO LOWENBRAU BREWERIES LTD.	UNITED BREWERIES LTD.
250	INDOFIL CHEMICALS LTD.	MODIPON LTD.
251	INDUSTRIAL CONTAINERS LTD.	BALMER LAWRIE & CO.LTD.
252	INGIT FASHIONS PVT.LTD.	JACQUART CHEMICALS INDUSTRIES LTD.
253	INTEGRATED ADVISORY SERVICES LTD.	INTEGRATED ENTERPRISES (INDIA) LTD
254	INTERNATIONAL TRACTOR CO.OF (I) LTD	MAHINDRA & MAHINDRA LTD.
255	INVESTA LTD.	TATA INVESTMENT CORPORATION LTD.
256	INVESTA MACHINE TOOLS & ENG.CO.LTD.	TATA ENG.& LOCOMOTIVE CO.LTD.
257	ISMT HOLDING LTD.	INDIAN SEAMLESS METAL TUBES LTD.
258	ITC CLASSIC FINANCE LTD.	ICICI LTD.
259	J & P COATS (INDIA) PVT.LTD.	MADURA COATS LTD.
260	J.G.GLASS LTD.	BALLARPUR INDUSTRIES LTD.
261	J.K.MANUFACTURERS LTD.	JUGGILAL KAMLAPAT COTTON SPG.& WVG
262	J.K.STEE & INDUSTRIES LTD.	J.K.SYNTHETICS LTD.
263	JAIN BIOTECH LTD.	JAIN IRRIGATION SYSTEMS LTD.
264	JAIN KEMIRA FERTILIZERS LTD.	JAIN IRRIGATION SYSTEMS LTD.
265	JAIN PLASTICS & CHEMICALS LTD.	JAIN IRRIGATION SYSTEMS LTD.
266	JAIN REHAN BIOTECH LTD.	JAIN IRRIGATION SYSTEMS LTD.
267	JAIPAN DOMESTIC APPLIANCE LTD.	SNAIL FORGINGS LTD.
268	JAIPRAKASH ASSOCIATES PVT.LTD.	JAIPRAKASH INDUSTRIES LTD.
269	JALPAIGURI TEA CO.LTD.	BIJOYNAGAR TEA CO.LTD.
270	JAYALAKSHMI COTTON AND OIL PRD.LTD.	ANDHRA SUGAR LTD.
271	JAYSHREE FILAMENTS LTD.	GARDEN SILK MILLS LTD.
272	JAYSHREE TEXTILES & INDS.LTD,	INDIAN RAYON AND INDS.LTD.
273	JAYSWAL NECO LTD.	NAGPUR ENGINEERING CO.LTD.
274	JG GLASS LTD.	BALLARPUR INDUSTRIES LTD.
275	JIK INDUSTRIES LTD.	KRISHNA FINSTOCK LTD.
276	JINDAL FERRO ALLOYS LTD.	JINDAL STRIPS LTD.
277	JOHN WYETH (INDIA) LTD.	CYANAMID INDIA LTD.
278	JUBILEE MILLS LTD.	SWAN MILLS LTD.
279	K.G.GLUCO BIOLS LTD.	RIDDHI SIDDHI STARCH & CHEM.LTD.
280	KALALI CHEMICALS LTD.	TRANSPEK INDUSTRY LTD.
281	KALIMATI INVESTMENT CO.LTD.	TATA IRON & STEEL CO.LTD.
282	KALINGA TUBES LTD.	INDIAN METALS & FERRO ALLOYS LTD.
283	KAMAL SHIPPING CO.LTD.	SCINDIA STEAM NAVIGATION CO.LTD.
284	KARNATAKA SCOOTERS LTD.	BROOKE BOND (INDIA) LTD.
285	KARSON PAINTS LTD.	COATES OF INDIA LTD.
286	KAY DISTILLERY INDUSTRIES LTD.	FORBES FORBES CAMPBELL & CO.LTD.
287	KAYPEE MANTEX LTD.	BINDU SYNTHETICS LTD.
288	KDB INDUSTRIES LTD.	BALLARPUR INDUSTRIES LTD.
289	KERALA ELECTRC LAMP WORKS LTD.	CROMPTON GREAVES LTD.
290	KFA CORPORATION LTD.	NAGPUR POWER & INDUSTRIES LTD.
291	KHAITAN FAN (INDIA) LTD.	KHAITAN ELECTRIC LTD.
292	KHAITAN INDUSTRIAL COMPLEX LTD.	KHAITAN FAN (INDIA) LTD.
293	KHANDELWAL UDYOG LTD.	ACME MANUFACTURING CO.LTD.
294	KHSL INDUSTRIES LTD.	KHAITAN OVERSEAS & FINANCE LTD.
295	KILBURN & CO.LTD.	MACNEILL & MAGOR LTD.

296	KILBURN PROPERTIES LTD.	MACNEILL & MAGOR LTD.
297	KILLICK NIXON &CO. LTD.	KILLICK NIXON LTD.
298	KINALUR RUBBER CO.LTD.	COCHIN MALABAR ESTATES AND INDS.LT
299	KIRLOSKAR LEASING & FINANCE LTD.	KIRLOSKAR INVESTMENT & FIN.LTD.
300	KLAYMAN PORCELAINS LTD.	NCL INDUSTRIES LTD.
301	KODAK LTD.	INDIA PHOTOGRAPHIC CO.LTD.
302	KOTAMULLAI TEA CO.LTD.	DUNCANS AGRO INDUSTRIES LTD.
303	KOTHARI GENERAL FOODS LTD.	BROOKE BOND (INDIA) LTD.
304	KOTHARI TEXTILES LTD.	KOTHARI INDUSTRIAL CORPN.LTD.
305	KUHUM TEA CO.PVT.LTD.	B & A PLANTATION AND INDUSTRIES LT
306	KUTTIADI RUBBER CO.LTD.	COCHIN MALABAR ESTATES AND INDS.LT
307	L.G.B.INDUSTRIES LTD.	L.G.BALAKRISHNAN & BROS.LTD.
308	LASER LAMPS (HARYANA) LTD.	LUMAX INDUSTRIES LTD.
309	LEDO TEA CO.LTD.	DUNCANS AGRO INDUSTRIES LTD.
310	LI TAKA LABORATORIES LTD.	LI TAKA PHARMACEUTICALS LTD.
311	LIGHT METAL INDUSTRIES LTD.	INDIA FOILS LTD.
312	LIPTON INDIA LTD.	BROOKE BOND (INDIA) LTD.
313	LOHIA MACHINERY MFG.LTD.	LOHIA STARLINGER LTD.
314	LUMINO LAMPS LTD.	CROMPTON GREAVES LTD.
315	LUXURY FINANCE & INVESTMENTS LTD.	THACKER & CO.LTD.
316	M.G.INVESTMENT & INDL.CO.LTD.	MAFATLAL INDUSTRIES LTD.
317	MAC AGRO INDUSTRIES LTD.	SOUTH INDIA CORPORATION (AG) LTD.
318	MAC CIVIL ENGINEERS LTD.	MAC INDUSTRIES LTD.
319	MAC INDUSTRIAL PRODUCTS LTD.	SOUTH INDIA CORPORATION (AG) LTD.
320	MAC INDUSTRIES LTD.	SOUTH INDIA SUGARS LTD.
321	MAC PROPERTY DEVELOPMENT LTD.	MAC INDUSTRIES LTD.
322	MADHUR HOUSING FINANCE LTD.	MADHUR CAPITAL & FIN LTD.
323	MADHYA PRADESH INUSTRIES LTD.	STRAW PRODUCTS LTD.
324	MAFATLAL FINE SPG.& MFG.CO.LTD.	MAFATLAL INDUSTRIES LTD.
325	MAFATLAL GOGALBHAI & CO.(P) LTD.	MAFATLAL INDUSTRIES LTD.
326	MAGNETIC STEEL LTD.	LLOYDS STEEL LTD.
327	MAHADEVI INVESTMENT CO.LTD.	PIRAMAL SPG.& WVG.MILLS LTD.
328	MAHARASHTRA MIRROR INDUSTRIES LTD.	MAHARASHTRA SAFETY GLASS WORKS LTD
329	MAHARASHTRA SUGAR MILLS LTD.	TILAKNAGAR INDUSTRIES LTD.
330	MAHARASHTRA WELDAIDS LTD.	ESAB INDIA LTD.
331	MAHAVAL ORGANICS LTD.	AARTI INDUSTRIES LTD.
332	MAHINDRA NISSAN ALLWYN LTD.	MAHINDRA & MAHINDRA LTD.
333	MAHINDRA SPICER LTD.	MAHINDRA & MAHINDRA LTD.
334	MALBROS HOTELS LTD.	BHARAT HOTELS LTD.
335	MANISH DYE PRODUCTS PVT.LTD.	INDOKEM LTD.
336	MARTIN BURN FINANCE LTD.	MARTIN BURN LTD.
337	MAXXON INDIA LTD.	MAX INDIA LTD.
338	MCLEOD RUSSEL (INDIA) LTD.	EVEREADY INDUSTRIES INDIA LTD.
339	METAL DISTRIBUTORS LTD.	BINANI METALS LTD.
340	METTUR CHEMICALS AND INDS.CORPN.LTD	CHEMICALS AND PLASTIC INDIA LTD.
341	MIM TEA CO.LTD.	ANDREW YULE & CO.LTD.
342	MINDIA CHEMICALS LTD.	POLYOLEFINS INDUSTRIES LTD.
343	MIPCO SEIKO BEARINGS LTD.	MIPCO SEAMLESS RINGS (GUJ) LTD.
344	MODERN INDIA CONSTRUCTION CO.LTD.	GENERAL INDUSTRIAL COCIETY LTD.
345	MOHABUND TEA CO.LTD.	GEORGE WILLIAMSON (ASSAM) LTD.

346	MOHTA INDUSTRIES LTD.	MAHAVIR SPINNING MILLS LTD.
347	MONTARI CHEMICALS LTD.	MONTHARI AGRO INDUSTRIES LTD.
348	MOONDAKOTEE INDUSTRIES LTD.	DARJEELING PLANTATION LTD.
349	MURPHULANI (ASSAM) TEA CO.LTD.	ANDREW YULE & CO.LTD.
350	MURPHY INDIA LTD.	CEAT LTD.
351	MURRUGAPPA ELECTRONICS LTD.	E.I.D.PARRY (INDIA) LTD.
352	MURUGAPPA ELECTRONICS	E.I.D.PARRY(INDIA) LTD.
353	MUTLTI STEEL (INDIA) LTD.	PODDAR PROJECTS LTD.
354	MYSORE INDUSTRIAL & TESTING LAB.LTD	IDL CHEMICALS LTD.
355	NAGPUR ALLOYS CASTING LTD.	NAGPUR ENGINEERING CO.LTD.
356	NAGRI FARM TEA CO.LTD.	DIMAKUSI TEA CO.LTD.
357	NAHAR FIBRES LTD.	NAHAR EXPORTS LTD.
358	NALWA INTERNATIONAL LTD.	JINDAL IRON & STEEL CO.LTD.
359	NAMDANG TEA CO.(INDIA) LTD.	WILLIAMSON FINANCIAL SERVICES LTD.
360	NARAYAN SILK MILLS LTD.	LAXMI STARCH LTD.
361	NASRAPURA METAL LTD.	JINDAL IRON & STEEL CO.LTD.
362	NATCO LABORATORIES LTD.	NATCO PHARMA LTD.
363	NATIONAL ELECTRICAL INDUSTRIES LTD.	VOLTAS LTD.
364	NATIONAL RIFLES LTD.	INDIAN HUME PIPE CO.LTD.
365	NATIONAL TOBACCO CO.OF INDIA LTD.	DUNCANS AGRO INDUSTRIES LTD.
366	NAV CHROME LTD.	NAVA BHARAT FERRO ALLOYS LTD.
367	NAVDEEP POLYMERS LTD.	MANEKLAL HARILAL MILLS LTD.
368	NAVIN ALLOYS LTD.	JINDAL IRON & STEEL CO.LTD.
369	NEOMER LTD.	ALEMBIC CHEMICALS WORKS CO.LTD.
370	NEPC TEA GARDEN LTD.	NEPC AGRO FOODS LTD.
371	NETLON PRODUCTS (INDIA) LTD.	BUNDY TUBING OF INDIA LTD.
372	NEW ASSAM VALLEY TEA CO.LTD.	MACNEILL & MAGOR LTD.
373	NEW CHUMTA TEA LTD.	ROOPACHERRA TEA CO.LTD.
374	NEW DOOARS TEA CO.LTD.	BANARHAT TEA CO.LTD.
375	NEW MONKHOSHI TEA CO.LTD.	MACNEILL & MAGOR LTD.
376	NEW SWADESHI SUGAR MILLS LTD.	OUDH SUGAR MILLS LTD.
377	NICCO BATTERIES LTD.	NICCO CORPORATION LTD.
378	NICCO INVESTMENTS LTD.	NICCO UCO FINANCIAL SERVICES LTD.
379	NICCO ORISSA LTD.	TELELINK NICCO LTD.
380	NICCO STEELS LTD.	NATIONAL INS. CABLE CO.OF INDIA LT
380	NILNITA CHEMICALS LTD.	NIRMA LTD.
381	NIRANJAN MILLS LTD.	PIRAMAL SPG.& WVG.MILLS LTD.
382	NODURON FOUNDERS MAHARASHTRA LTD	TATA ENG.& LOCOMOTIVE CO.LTD.
383	NORTHERN DIGITAL EXCHANGES LTD.	CROMPTON GREAVES LTD.
384	NORTHERN HATCHERIES PVT.LTD.	WESTERN HATCHERIES LTD.
385	NOVOPAN INDIA LTD.	NOVOPAN INDUSTRIES LTD.
386	NOWROSJEE WADIA GIG.& PROCES.CO.LTD	BOMBAY DYEING AND MFG.CO.LTD.
387	NSL LTD.	PENNAR STEELS LTD.
388	NUBOARD MANUFACTURING CO.LTD.	KITPLY INDUSTRIES LTD.
389	OKHA SALT WORKS LTD.	TATA CHEMICALS LTD.
390	OLDHAM & SON (INDIA) LTD.	STANDARD BATTERIES LTD.
391	ORIENTAL CARBON LTD.	ORIENTAL CARBON & CHEMICALS LTD.
392	ORIENTAL CARPET MFG. LTD.	SHREE DIGVIJAYA WOOLLEN MILLS LTD.
393	ORIENTAL GOVT.SEC.LIFE ASS.CO.LTD.	INVESTMENT CORPN.OF INDIA LTD.
394	ORISSA SYNTHETICS LTD.	STRAW PRODUCTS LTD.

395	ORMUL PRODUCTS (INDIA) LTD.	GILLANDERS ARBUTHNOT & CO.LTD.
396	OVERSEAS SILK MILLS PVT.LTD.	OVERSEAS SYNTHETICS LTD.
397	P.A.SPG.MILLS (P) LTD.	P.A.MILLS INDIA LTD.
398	PANTAPE MAGNETICS LTD.	DCW LTD.
399	PATODIA TEXTILE INDUSTRIES LTD.	PATODIA POLYTEX LTD.
400	PAWN HATCHRIES LTD.	WESTERN HATCHERIES LTD.
401	PCA ENGINEERS LTD.	HAWKINS COOKERS LTD.
402	PCS DATA GENERAL INDIA LTD.	PCS INDUSTRIES LTD.
403	PEFCO INDUSTRIES LTD.	KORES (INDIA) LTD.
404	PENTASIA CHEMICALS LTD.	ASIAN PAINTS (INDIA) LTD.
405	PERFECT SPINNERS LTD.	GTN TEXTILES LTD.
406	PERION HOLDINGS LTD.	AMBALAL SARABHAI ENTERPRISES LTD.
407	PHIPSON & CO.LTD.	CAREW PHIPSON LTD.
408	PHOENIX ELECTRIC (INDIA) LTD.	PHOENIX LAMPS (INAIA) LTD.
409	PINE CHEMICALS LTD.	CAMPHOR & ALLIED PRODUCTS LTD.
410	PINSEL COMPUTER PRODUCTS LTD.	PINE CHEMICALS LTD.
411	PIONEER MAGNISIA WORKS LTD.	TATA CHEMICALS LTD.
412	PIRAMAL HEALTH CARE LTD.	NICHOLAS PIRAMAL INDIA LTD.
413	PLAMA LABORATORIES LTD.	STRIDE ARCOLAB LTD.
414	PLASTIC RESINS AND CHEMICALS LTD.	DCW LTD.
415	PMP AUTO INDUSTRIES LTD.	MORARJEE GOCULDAS SPG.& WVG.CO.LTD
416	PODDAR STEEL LTD.	PODDAR PROJECTS LTD.
417	POLAR ELECTROTECH LTD.	POLAR INDUSTRIES LTD.
418	POLUTECH LTD.	COROMANDEL ENGINEERING CO.LTD.
419	POLYMERS CORPN.OF GUJARAT LTD.	GUJARAT STATE FERTILISER CO.LTD.
420	POLYOLEFINS INDUSTRIES LTD.	NATIONAL ORGANICS LTD.
421	PONDS (INDIA) LTD.	HINDUSTAN LEVER
422	POWMEX STEEL LTD.	GKW LTD.
423	PRABHAT SILK & COTTON MILLS CO.LTD.	GARDEN SILK MILLS LTD.
424	PRASHANT KHOSLA PNEUMATIC LTD.	KIRLOSKAR OIL ENGINES LTD.A
425	PRECISION TOOLS INDIA LTD.	MACNEILL & MAGOR LTD.
426	PREMIER BREWERIES LTD.	UNITED BREWERIES LTD.
427	PRESS METAL CORPN.LTD.	TUBE INVESTMENT LTD.
428	PRESSMAN MUTUAL FUNDS LTD.	PRESSMAN LEASINGS LTD.
429	PROGRESSIVE SERVICES LTD.	LYNX INDIA LTD.
430	PROTEIN PRODUCTS OF INDIA LTD.	RATHI INDIA LTD.
431	PRUDENTIAL INTERNATIONAL LTD.	JESSWAL COMMERCIAL ENT.LTD.
432	PULLIKANAM TEA ESTATES LTD.	COCHIN MALABAR ESTATES & INDS.LTD.
433	PUNJAB POWER GEN.MACHINES LTD.	CROMPTON GREAVES LTD.
434	QUEST INTERNATIONAL INDIA LTD.	POND'S (INDIA) LTD.
435	RAASI CERAMICS INDUSTRIES LTD.	RAASI CEMENTS LTD.
436	RAJASHREE POLYFIL LTD.	CENTURY ENKA LTD.
437	RAJASTHAN POLYMERS & RESINS LTD.	GREAVES LTD.
438	RAJDOOT PAINTS LTD.	BERGER PAINTS LTD.
439	RAJGARH TEA CO.LTD.	ANDREW YULE & CO.LTD.
440	RAJMAI TEA CO.LTD.	GEORGE WILLIAMSON (ASSAM) LTD.
441	RAJSHREE POLYFIL LTD.	CENTURY ENKA LTD.
442	RALLI MACHINES LTD.	RALLIS INDIA LTD.
443	RALLIFAN LTD.	RALLIS INDIA LTD.
444	RALLIS CHEMICALS LTD.	RALLIS INDIA LTD.

445	RAMAKEM LTD.	INDOKEM LTD.
446	RAMCO SUPER LEATHERS LTD.	GEORGE BIRD LTD.
447	RAMGANGA FERTILIZERS LTD.	VAM ORGANICS CHEMICALS LTD.
448	RAMJHORA TEA CO.LTD.	HANUMAN TEA CO.LTD.
449	RAMON AND DEMM LTD.	EICHER TRACTORS LTD.
450	RANISATI SYNTEX LTD.	VINAYAKA SYNTHETICS LTD.
451	RATHI AIR PRODUCTS LTD.	JOTINDRA STEEL & TUBES LTD.
452	RATNAKAR SHIPPING CO.LTD.	INDIA STEAMSHIP CO.LTD.
453	RATNAMANI ENGINEERING LTD.	RATNAMANI METALS & TUBES LTD.
454	RAZA SUGAR CO.LTD.	RAZA BULAND SUGAR CO.LTD.
455	RELIANCE PETROCHEMICALS LTD.	RELIANCE INDUSTRIES LTD.
456	RENUKOOT POWER CO.LTD.	KANORIA CHEMICALS & INDUSTRIES LTD
457	REVLON INVT.& FINANCE LTD.	LLOYDS STEEL LTD.
458	RICO AGROILS LTD.	RICO AUTO INDUSTRIES LTD.
459	ROHIT MILLS LTD.	ARVIND MILLS LTD.
460	ROLAND INDUSTRIAL CO.LTD.	INOX LEASING AND FINANCE LTD.
461	ROLTA COMPUTERS AND INDS.(P) LTD.	ROLTA INDIA LTD.
462	ROLTA CONSULTANCY SERVICES (P) LTD.	ROLTA INDIA LTD.
463	ROLTA INVESTMENT (P) LTD.	ROLTA INDIA LTD.
464	ROLTA LEASING AND HOLDING LTD.	ROLTA INDIA LTD.
465	RUKNI TEA CO.LTD.	SONAI RIVER TEA CO.LTD.
466	RUPAJULI TEA CO.LTD.	GEORGE WILLIAMSON (ASSAM) LTD.
467	RUPAL CHEMICALS INDUSTRIES LTD.	AARTI DRUGS LTD.
468	RUSTON & HORNSBY (INDIA) LTD.	GREAVES COTTON & CO.LTD.
469	S G CHEMICALS & PHARMACEUTICALS LTD	AMBALAL SARABHAI ENTERPRISES LTD.
470	S.S. MIRANDA LTD.	MORARJI GOCULDAS SP.& WVG.MILLS LT
471	SAGAR REAL ESTATE LTD.	SLM MANEKLAL INDUSTRIES LTD.
472	SAKTHI SOYA LTD.	SAKTHI SUGARS LTD.
473	SALVIGOR LABORATORIES LTD.	AARTI ORGANICS LTD.
474	SANDEEP STEELS LTD.	SANDEEP INDUSTRIES LTD.
475	SANDOZ (INDIA) LTD.	HINDUSTAN CIBA GEIGY LTD.
476	SANKEY WHEELS LTD.	GUEST KEEN WILLIAMS LTD.
477	SAPEIC INDIA LTD.	IDL CHEMICALS LTD.
478	SASSOON SPG.& MFG.CO.LTD.	MAFATLAL FINE SPG.& MFG.CO.LTD.
479	SATHAVAHANA CHAINS LTD.	TUBE INVESTMENT OF INDIA LTD.
480	SATYAM CEMENT LTD.	RUPANGI IMPEX LTD.
481	SAVITRI PESTICIDES & AGROCHEM LTD.	AIMCO PESTICIDES LTD.
482	SCANDOT GRAPHIC PROCESS PVT.LTD.	SCANDOT GRAPHICS LTD.
483	SCICI LTD.	ICICI LTD.
484	SELECTRIC INVESTMENTS LTD.	CHEMICALS & PLASTICS INDIA LTD.
485	SEWA PAPERS LTD.	BALLARPUR INDUSTRIES LTD.
486	SHAHIBAG INVESTMENT LTD.	AMBALAL SARABHAI ENTERPRISES LTD.
487	SHANKEY WHEELS LTD.	GUEST KEEN WILLIAMS LTD.
488	SHARDA JWELLARY INTERNATIONAL LTD.	SHARDA DRUG & INDUSTRIES LTD.
489	SHARPEDGE LTD.	INDIAN SHAVING PRODUCTS LTD.
490	SHORROCK SPG.& MFG.CO.LTD.	MAFATLAL INDUSTRIES LTD.
491	SHREE GANESH FABRICS LTD.	VINAYAKA SYNTHETICS LTD.
492	SHREE GOPAL INDUSTRIES LTD.	MAHARAJA SHREE UMAID MILLS LTD.
493	SHREE GOPAL PAPER MILLS LTD.	BALLARPUR INDUSTRIES LTD.
494	SHRI AMBICA TUBES LTD.	SHRI AMBICA MILLS LTD.

495	SHRI JAGDISH MILLS LTD.	SHRI AMBICA MILLS LTD.
496	SIDHARTH PAPERS LTD.	ROLLATAINERS LTD.
497	SIDHPUR MILLS COMPANY LTD.	RELIANCE INDUSTRIES LTD.
498	SIEL FINANCIAL SERVICES LTD.	SHRIRAM AGRO-TECH INDUSTRIES LTD.
499	SIFCO LTD.	CONSOLIDATED COFFEE LTD.
500	SIMBHAOLI INDUSTRIES PVT.LTD.	SIMBHAOLI SUGAR MILLS LTD.
501	SKP BROKERAGE LTD.	SKP SECURITIES LTD.
502	SLM MANEKLAL INDUSTRIES LTD.	SAGAR REAL ESTATE LTD.
503	SM CHEMICALS & PHARMACEUTICALS LTD.	AMBALAL SARABHAI ENTERPRISES LTD.
504	SMS UDYOG LTD.	INDUSTRIAL OXYGEN COMPANY LTD.
505	SOFTEX INFRA LTD.	BOMBAY POTTERIES & TILES LTD.
506	SOL DRUGS LTD.	SOL PHARMACEUTICALS LTD.
507	SONA DISTILLERIES LTD.	HERBERTSONS LTD.
508	SOUTH INDIA SHIPPING CORPN.LTD.	ESSAR SHIPPING CORPORATION LTD.
509	SOUTHERN AGRIFURANE INDUSTRIES LTD.	SPIC LTD.
510	SOUTHERN ELECTRONIC (INDIA) LTD.	HIGH ENERGY BATTERIES (INDIA) LTD.
511	SOUTHERN INDL.CORORATION LTD.	MAC INDUSTRIAL PRODUCTS LTD.
512	SOUTHERN SWITCHGEAR LTD.	THANA ELECTRIC SUPPLY CO.LTD.
513	SPARTEK GRANITES LTD.	SPARTEK CERAMICS LTD.
514	SPECIAL WEAVES LTD.	GARDEN SILK MILLS LTD.
515	SPRING STEEL LTD.	GWALIOR STRIPS LTD.
516	SPRINGS INDIA LTD.	ORIENT PAPER & INDUSTRIES LTD.
517	SREE AUTO PARTS LTD.	RANE BRAKES LTD.
518	SRI GANESH ANAND PETROCHEMICALS LTD	NAGARJUNA FERTILIZERS & CHEM.LTD.
519	STANDARD ORGANICS LTD.	SOL PHARMACEUTICALS LTD.
520	STANDARD EQUITY FUND LTD.	DR.REDDY'S LABORATORIES LTD.
521	STANDARD PHARMACEUTICALS LTD.	AMBALAL SARABHAI ENTERPRISES LTD.
522	STAR INDUSTRIES & TEXTILS ENT.LTD.	APS STAR INDUSTRIES LTD.
523	STARDIA CHEMICALS LTD.	CITURGIA BIOCHEMICALS LTD.
524	STEEL CONTAINERS LTD.	BALMER LAWRIE & CO. LTD.
525	STERLING STEEL LTD.	J.C.T.LTD.
526	STERLITE COMMUNICATIONS LTD.	STERLITE INDUSTRIES LTD.
527	STORMAC INDIA LTD.	STOVEC INDUSTRIES LTD.
528	STURDIA CHEMICALS LTD.	CITURGIA BIOCHEMICALS LTD.
529	SUGAR & INDUSTRIES LTD.	BAJAJ HINDUSTAN LTD.
530	SUMITRA PHARMACEUTICALS & CHEM.LTD.	NICHOLAS PIRAMAL LTD.
531	SUNCARB PVT.LTD.	UCAL FUEL SYSTEMS LTD.
532	SUNDATTA FOODS & FIBRES LTD.	MODERN MILLS LTD.
533	SUPER AGRO-TECH LTD.	SUPER TANNERY (INDIA) LTD.
534	SUPER HOUSE LTD.	AMINSONS LTD.
535	SUPREME POWERTONICS PVT.LTD.	HIND RECTIFIERS LTD.
536	SURAC HOLDINGS	AMBALAL SARABHAI ENTERPRISES LTD.
537	SURAT FASHIONS LTD.	OVERSEAS SYNTHETICS LTD.
538	SWASTIK HOUSEHOLD & INDL.PRD.(P)LTD	AMBALAL SARABHAI ENTERPRISES LTD.
539	SWASTIK TEXTILE MILLS LTD.	APTE AMALGAMATIONS LTD.
540	SWASTIK UDYOG LTD.	SAW PIPES LTD.
541	SWEEKAR FINANCIAL SERVICES PVT.LTD.	JACQUART CHEMICALS INDUSTRIES LTD.
542	T I MILLS LTD.	TUBE INVESTMENT OF INDIA LTD.
543	T.MANEKLAL MFG.CO.LTD.	SLM MANEKLAL INDUSTRIES LTD.
544	TAIPOO TEA ASSOCIATION LTD.	GILLANDERS ARBUTHNOT & CO.LTD.

545	TALLIAR COFFEE ESTATES LTD.	TALAYAR TEA CO.LTD.
546	TAMILNADU DADHA PHAM.LTD.	SUN PHARMACEUTICALS INDU.LTD.
547	TATA FERTILIZERS LTD.	TATA CHEMICALS LTD.
548	TATA FISON INDUSTRIES LTD.	RALLIS INDIA LTD.
549	TATA INDUSTRIAL FIN.LTD.	TATA FINANCE LTD.
550	TATA KORF ENG. SERVICE LTD.	TATA IRON & STEEL CO.LTD.
551	TATA MERLIN & GERIN LTD.	VOLTAS LTD.
552	TATA METALS & STRIPS LTD.	SPECIAL STEELS LTD.
553	TATA OIL MILLS LTD.	HINDUSTAN LEVER LTD.
554	TATA PIGMENTS LTD.	TATA IRON & STEEL CO.LTD.
555	TATA REFRACTORIES LTD.	TATA IRON & STEEL CO.LTD.
556	TEA BEVERAGES & ALLIED INDUS.LTD.	B & A PLANTATION AND INDUSTRIES LT
557	TEA ESTATE INDIA LTD.	BROOKE BOND INDIA LTD.
558	TEDDINGTON CHEMICALS FACTORY (P)LTD	RALLIS INDIA LTD.
559	TEEN ALI TEA CO.LTD.	GROB TEA CO.LTD.
560	TELELINK LTD.	ZENITH COMPUTERS LTD.
561	THIRANI CHEMICALS LTD.	LIME CHEMICALS LTD.
562	THISTAR ORGANICS LTD.	GALAXY APPLIANCE LTD.
563	TIKAMANI STEEL CO.LTD.	BHUWALKA STEEL INDUSTRIES LTD.
564	TINGRI TEA CO.LTD.	GEORGE WILLIAMSON (ASSAM) LTD.
565	TITAGARH PAPER LTD.	TITAGARH STEELS LTD.
566	TIWAC INDUSTRIES LTD.	WALCHANDNAGAR INDUSTRIES LTD.
567	TORRENT MEDI SYSTEMS LTD.	TORREN PHARMACEUTICALS LTD.
568	TRACTORS INDIA LTD.	SPUNDISH ENGINEERS LTD.
569	TRANS ASIA PACKAGING LTD.	ASIAN CONSOLIDATED INDUSTRIES LTD.
570	TRIBENI TISSUES LTD.	I.T.C.LTD.
571	TRISTAR ORGANICS LTD.	GALAXY APPLIANCE LTD.
572	TRU WHEELS LTD.	AMFORGE INDUSTRIES LTD.
573	TTK CHEMICALS LTD.	TTK PHARMA LTD.
574	TUBE PRODUCTS OF INDIA LTD.	TUBE INVESTMENT OF INDIA LTD.
575	TULSYAN SYNTHETICS LTD..LTD.	TULSYAN NEC LTD.
576	TVS LAKSHMI CREDIT LTD.	HARITA SRINIVASA FINANCE PVT.LTD.
577	UDAJPUR PHOSPAHITES & FERTILIZER LTD	DHARAMSI MORARJI CHEMICALS CO.LTD.
578	UNIFORT METALLIZERS LTD.	AKAR LAMINATOR LTD.
579	UNIROYAL INDL.LEASING & FINANCE LTD	PALLADIUM TRADING & AGENCIES LTD.
580	UNITED CREDIT FIN.SERVICES LTD.	UNITED CREDIT LTD.
581	UNIVARSAL ELECTRIC LTD.	SHREE DIGVIJAYA WOOLLEN MILLS LTD.
582	UNIVERSAL TYRES LTD.	JAYSHREE TEA & INDUSTRIES LTD.
583	UPCON CABLES LTD.	RPG CABLES LTD.
584	USHA HYDRAULICS LTD.	USHA TELEHOIST LTD.
585	USHA MARTIN INDUSTRIES	USHA BELTRON LTD.
586	USHA MARTIN INDUSTRIES LTD.	USHA BELTRON LTD.
587	USHA UDYOG LTD.	USHA ISPAT LTD.
588	UTKAL MACHINERY LTD.	LARSEN & TOUBRO LTD.
589	VADILAL FINANCIAL SERVICES LTD.	VADILAL INDUSTRIES LTD.
590	VARELI TEXTILE INDUSTRIES LTD.	GARDEN SILK MILLS LTD.
591	VAYAZ INDIA PESTICIDES PVT.LTD.	AIMCO PESTICIDES LTD.
592	VEGOILS LTD.	NOBLE SOYA HOUSE LTD.
593	VENKY'S (INDIA) LTD.	WESTERN HATCHERIES LTD.
594	VIDEOCON NARMADA ELECTRONICS LTD.	VIDEOCON INTERNATIONAL LTD.

595	VINYL HOLDING LTD.	CHEMICALS & PLASTICS INDIA LTD.
596	VOLRHO LTD.	VOLTAS LTD.
597	VRW INDUSTRIES LTD.	TUBES & MALLEABLES LTD.
598	WADI FINANCIERS AND INVT.LTD.	AMBALAL SARABHAI ENTERPRISES LTD.
599	WADI HOLDINGS LTD.	AMBALAL SARABHAI ENTERPRISES LTD.
600	WANDLESIDE NATIONAL CONDUCTORS LTD.	VOLTAS LTD.
601	WARNER HINDUSTAN LTD.	PARKE DAVIS (INDIA) LTD.
602	WARREN METAL INDUSTRIES LTD.	WARSEN TEA LTD.
603	WATERFALL ESTATES LTD.	KOTHARI INDUSTRIAL COPN.LTD.
604	WEST BOKARO LTD.	TATA IRON AND STEEL CO.LTD.
605	WESTERN INSULATED CABLE LTD.	INCAB INDUSTRIES LTD.
606	WHILFENS (INDIA) LTD.	RALLIS INDIA LTD.
607	WHIRLPOOL WASHING MACHINE LTD.	WHIRLPOOL OF INDIA LTD.
608	WHITCO LTD.	AMBALAL SARABHAI ENTERPRISES LTD.
609	WILLIAMSON MAGOR & CO.LTD.	MACNEILL & BARRY CO.LTD.
610	WYETH (INDIA) PVT.LTD.	CYANAMID INDIA LTD.
611	WYETH LABORATORIES LTD.	CYANAMID INDIA LTD.
612	XPRO-INDIA LTD.	CIMMCO LTD.
613	YANAM OILS LTD.	SIRIS AGRO LTD.

SOME MAJOR M&A BATTLES, 1993-1998

No.	ACQUIRER	TARGET	PERIOD
01	Coco Cola Co.	Parle export Brands	September 93
02	Eicher Tractors	Royal Enfield Motors	September 95
03	Exide Industries	Standard Batteries	November 97
04	Gujrat Ambuja	Modi Cement	August 97
05	Hindustan Lever	Lakme	February 98
06	Hindustan Lever	TOMCO	March 94
07	I.C.I.	Asian Paints	August 97
08	I.C.I.C.I.	I.T.C.-Classic Finance	November 97
09	India Cements	Rassi Cement	February 98
10	Merind	Tata Pharma	August 97
11	India Cements	Rassi Cement	February 98
12	Merind	Tata Pharma	August 97
13	Nusli Wadia	Britania Industries	October 95
14	Poly Sindo	J.C.T. Synthetic Fiber Division	September 97
15	Sterlite Industries	Indian Aluminium	February 98
16	TISCO	Ipitata Refractories	April 97
17	Whirlpool	Kelvinator of India	March 96
18	Workhardt	Wallis Labs	February 98
19	Workhardt	Merind	February 98

THE TOP 10 ACQUISITIONS MADE BY INDIAN COMPANIES WORLDWIDE:

Acquirer	Target Company	Country targeted	Deal value ($ ml)
Tata Steel	Corus Group plc	UK	12,000
Hindalco	Novelis	Canada	5,982
Videocon	Daewoo Electronics Corp.	Korea	729
Dr. Reddy's Labs	Betapharm	Germany	597
Suzlon Energy	Hansen Group	Belgium	565
HPCL	Kenya Petroleum Refinery Ltd.	Kenya	500
Ranbaxy Labs	Terapia SA	Romania	324
Tata Steel	Natsteel	Singapore	293
Videocon	Thomson SA	France	290
VSNL	Teleglobe	Canada	239

◆ **FOREIGN ACQUISITION BY INDIAN FIRMS 2000-2006:**

A Sectoral Comparison		
Sector	**Number**	**Percentage**
IT/Software/BPO	90	29.40
Pharmaceuticals	62	20.30
Automotive	27	8.80
Chemical and Fertilizers	19	6.20
Consumer goods	17	5.50
Metals & Mining	15	4.90
Oil & Gas	14	4.60
Others	62	20.30
Total	306	100.00

The above table reflects the foreign acquisition by Indian firms during last 6 years. Table clearly depicts that % of foreign acquisition by Indian firms was highest in IT/Software and BPO sector, i.e., 29.4% while foreign acquisition by Indian firms in pharmaceuticals & healthcare sector was 20.3% during last 6 years which was second highest. Number of foreign acquisition is also highest in IT/Software and BPO sector i.e., 90 firms while pharmaceuticals & healthcare sector and other sectors are in second number with 62 foreign acquisition. While in the automotive, chemical & fertilizers, Consumer goods, metals and mining and oil and gas sectors, the number of firms acquired by Indian firms were 27 firms, 19 firms, 17 firms, 15 firms and 14 firms respectively.

2.19 MERGERS AND ACQUISITIONS IN WORLD:-

The opening up of the European countries to international mergers and acquisitions and the economic reforms in developing countries provided major boost to international mergers and acquisitions since the 1990s. Foreign investment gets major impetus from international mergers and acquisitions. While there are various advantages of international mergers and acquisitions, certain impediments in the form of regulatory restrictions also exist. [12]

The adoption of economic reforms in many countries in the last two decades of the 20th century opened up opportunities of international mergers and acquisitions. With different countries opening up their economies to foreign investors, international mergers and acquisitions has received. The European economy also opened up to foreign mergers and acquisitions in the 1990s, which resulted in M&A (merger and acquisition) activities of large volumes taking place across Europe.

While USA has always been the pioneer in merger and acquisition activities, UK too has registered high levels of mergers and acquisitions. With the European countries gaining momentum in mergers and acquisitions, international mergers and acquisitions also received a major boost.

There are various benefits that accrue to firms that undertake international mergers and acquisitions. Cross border mergers and acquisitions are effective in boosting Foreign Direct Investment (FDI). For international investors, it is easier to invest through a merger or an acquisition. International mergers and acquisitions provide access to infrastructure and customer base in a country which is quite difficult to build from the scratch. Moreover an existing brand name in a country provides strong business edge. Access to local markets of different countries is possible through international mergers and acquisitions. [13]

With the developing countries adopting liberal economic policies, the incentives of firms in the developed nations to indulge in mergers and acquisitions in these countries are huge. International mergers and acquisitions provide a way to tap the markets of these countries. On the other hand, for these developing countries international mergers and acquisitions provide them access to improved technologies and more productive operative mechanisms.

However there are certain impediments to international mergers and acquisitions. Regulations of different countries play an important role. In some countries certain sectors are prohibited from international mergers and acquisitions, while for some other sectors certain conditions need to be fulfilled. In China, for instance, laws regarding international mergers and acquisitions are quite stringent.

◆ US MERGERS AND ACQUISITIONS:

More mergers and acquisitions take place in the USA than in any other country in the world. Real estate, finance and insurance are among the top sectors in terms of mergers and acquisitions in the USA. In the USA large firms are more likely to undergo mergers or acquisitions than smaller firms. US mergers and acquisitions have a major impact on jobs and employment.

Mergers and acquisitions have been higher in USA than any other country in the world. In the 1990s mergers and acquisitions in the United States of America accelerated rapidly. The effects of mergers and acquisitions on the jobs and business and on the overall US economy have been substantial. Takeovers and mergers of record values, unmatched in any other country have taken place in various sectors in the United States of America.

Mergers and acquisitions have not been uniform across all industries in the USA. In the 1990s majority of the mergers and acquisitions took place in real estate, finance and insurance sectors. An average of 6.4% firms in these sectors were merged or acquired during the period 1990-1994. The industries with high employment that had undergone high rate of mergers and acquisitions included banks, hospitals, restaurants and grocery stores. Almost 25% of the employees in these sectors found themselves working under new employers during this period due to mergers and acquisitions. More than 4000 establishments in these sectors were acquired during this period.

A total of almost 1,00,000 firms were merged or taken over in the first half of the 1990s. Large firms in the US are more likely to undergo mergers or acquisitions than smaller firms. The value of mergers and acquisitions in larger firms has expectedly been much higher. It has been observed that only 1.6% of small firm locations were merged or acquired between 1990 and 1994. Large firms preferred to merge with or acquire other large firms. Small firms also acquired other firms. Such acquisitions were restricted to single units of other small firms.

A major impact of mergers and acquisitions was in terms of employment. Downsizing took place in large firms that were taken over. On the other hand mergers and acquisitions in many sectors led to rapid creation of jobs thus leading to higher employment. Another positive impact was that many employees in small firms found themselves working for large companies as a result of mergers and acquisitions in the United States of America.

◆ MERGERS AND ACQUISITIONS IN CHINA:

Mergers and acquisitions have grown significantly in China in recent years. This fast growth in mergers and acquisitions in China can be attributed to economic reforms and China's accession to WTO. Government agencies in China play a strong supervisory role in approving mergers and acquisitions.

Mergers and acquisitions have played a significant role in the rapid growth of China's economy in recent years. Potential of acquisitions in China is large, given the rapid expansion in business in the country. While mergers and acquisitions were almost unheard in China even in the mid 1990s, they have played an important role in foreign investment in China in recent years.

► REASONS FOR GROWTH OF MERGERS AND ACQUISITIONS IN CHINA:-

Two factors played an important role in the fast growth of mergers and acquisitions in China -

- Economic reforms in China - reforms in China led to robust growth which led to increased mergers and acquisitions
- China's accession to World Trade Organization (WTO) - China's accession to WTO, opened up the doors of foreign investment to various industry sectors. This also had considerable impact on the growth of mergers and acquisitions in China.

However an important role is played by the Chinese government in regulating the merger and acquisition activities in China. Both commercial and social aspects are taken into consideration by the Chinese government in the review and approval of mergers and acquisitions. [14]

►GOVERNMENT AGENCIES SUPERVISING MERGERS AND ACQUISITIONS IN CHINA:

The government agencies that play an important role in regulating mergers and acquisitions in China are -

- The Ministry of Commerce - The Ministry of Commerce regulates foreign investment in China and has the authority to supervise and approve mergers and acquisitions.

- The State Development and Reform Commission (SDRC)- This agency supervises the restructuring of public sector firms and also approves foreign investment. Thus foreign firms investing in mergers or acquisitions needs to get approval from the State Development and Reform Commission

- The State-Owned Assets Supervision and Administration Commission (SASAC) - The SASAC supervises mergers and acquisitions of enterprises owned by the state.

- The China Securities Regulatory Commission (CSRC) - The CSRC monitors the capital markets of China and plays an important role in merger and acquisition transactions.

Apart from these four, other government agencies may play a role in mergers or acquisitions depending on the specific case. [15]

While stringent Chinese laws have characterized the process of mergers and acquisitions in China, efforts are being made in recent years to induce greater flexibility to facilitate the process of mergers and acquisitions in China.

2.19 LARGEST M&A DEALS WORLDWIDE SINCE 2000:

LARGEST M&A DEALS WORLDWIDE SINCE 2000

Rank	Year	Acquirer Company	Target Company	Value (in Mil. USD)	%
1	2000	America Online Inc. (AOL)	Time Warner	164,747	21.83
2	2000	Glaxo Wellcome Plc.	SmithKline Beecham Plc.	75,961	10.06

3	2004	Royal Dutch Petroleum Co.	Shell Transport & Trading Co	74,559	9.87
4	2006	AT&T Inc.	BellSouth Corporation	72,671	9.62
5	2001	Comcast Corporation	AT&T Broadband & Internet Svcs	72,041	9.54
6	2004	Sanofi - Synthelabo SA	Aventis SA	60,243	7.98
7	2000	*Spin-off* : Nortel Networks Corporation	N.A.	59,974	7.95
8	2002	Pfizer Inc.	Pharmacia Corporation	59,515	7.89
9	2004	*Merger* : JP Morgan Chase & Co.	Bank One Corporation	58,761	7.79
10	2006	*Pending*: E.on AG	Endesa SA	56,266	7.45
		Total		754,738	100

(**Source:** Institute of Mergers, Acquisitions and Alliances Research)

The above table shows the ten largest M&A deals worldwide since 2000. Table and figure reflects that the largest M & A deal during last 6 year was between American Online Inc and. Time Warner of worth $ 164,747 million during 2000, which account 21.83% of total transaction value of top ten worldwide merger and acquisition deals. While second largest deal was between Glaxo Wellcome Plc. & SmithKline Beecham Plc. Of US $ 75,961 million which was also occurred during 2000, which was 10.06 % of total transaction value of top ten worldwide M & a deals & third largest deal was between Royal Dutch Petroleum Co. Shell Transport & Trading Co of worth US $ 74,559 million, it is 9.87 % of total transaction value of top ten worldwide M & A deals.

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CHAPTER – 3

BRIEF PROFILE THE SELECTED INDUSTRIES

3.1 History and Profile of Ambuja Cement Ltd.

3.2 History and Profile of Exide Industry Ltd.

3.3 History and Profile of Gujarat State Fertilizers and Chemical Ltd.

3.4 History and Profile of India Cement Ltd.

3.5 History and Profile of Reliance Industry Ltd.

3.6 History and Profile of Sterlite Industry Ltd.

3.7 History and Profile of Tata Chemical Ltd.

3.8 History and Profile of Tata Steel Ltd.

3.9 History and Profile of Voltas Ltd.

3.10 History and Profile of Zee Entertainment Enterprises Limited

CHAPTER – 3

BRIEF PROFILE THE SELECTED INDUSTRIES

1. AMBUJA CEMENT LIMITED

◆ INTRODUCTION:

The Cement industry is one of the few industries in India which have achieved global competitiveness. India is the second largest cement producer in the world. The cement industry matches world standards, on all parameters. The quality of Indian cement compares with the internationally accepted British and American standards. Also, the industry's productivity, energy efficiency and environment standards are among the best in the world.

Gujarat Ambuja Cements is a relatively young company in the industry. Ambuja Cements Limited was earlier known as Gujarat Ambuja Cements Limited (GACL). The company was set up in 1986. In this short span Ambuja Cements has achieved massive growth and presently, the total cement capacity of the company is 16 million tones. The company has three subsidiaries, viz, Ambuja Cement Rajasthan Limited (ACRL), Ambuja Cement Eastern Limited (ACEL) and Ambuja Cement India Limited (ACIL). Ambuja also has a strategic investment in ACC through its subsidiary (ACIL).

Ambuja Cements is the most profitable cement company in India, and the lowest cost producer of cement in the world. One of the major reasons that Ambuja Cements is the lowest cost producer of cement in the world is its emphasis on efficiency. Power consists over 40% of the production cost of cement. The company improved efficiency of its kilns to get more output for less power. Thereafter Ambuja Cements set up a captive power plant at a substantially lower cost than the national grid. The company sourced a cheaper and higher quality coal from South Africa, and better furnace oil from the Middle East. As a result, today, the company is in a position to sell its excess power to the local state government.

◆ BOARD OF DIRECTORS:

No.	Designation	Name
01	Chairman Emeritus	Suresh Neotia
02	Chairman	N. S. Sekhsaria
03	Vice Chairman	Paul Hugentobler
04	Director	Markus Akermann
05	Director	M L Bhakta
06	Director	Nasser Munjee
07	Director	Rajendra P Chitale
08	Director	Shailesh Haribhakti
09	Director	Omkar Goswami
10	Director	Naresh Chandra
11	Director	Onne van der Weijde
12	Director	A. L. Kapur
13	Director	Nirmalya Kumar
14	Whole Time Director	B. L. Taparia

◆ CHANGE IN THE NAME OF THE COMPANY :

The company had set up its first cement plant in the joint sector with GIIC in the state of Gujarat. To reflect the manufacturing base in Gujarat, the name of the company was kept as Gujarat Ambuja Cements Ltd. As the operations of the company have spread to several states in the country in the last 23 years, the word "Gujarat" was dropped to reflect the true geographical presence of the company and the name was changed to Ambuja Cements Limited with effect from 5th April, 2007, with all requisite approvals.

◆ TYPES OF CEMENT IN INDIA:

The types of cement in India have increased over the years with the advancement in research, development, and technology. The Indian cement industry is witnessing a boom as a result of which the production of different kinds of cement in India has also increased. By a fair estimate, there are around

11 different types of cement that are being produced in India. The production of all these cement varieties is according to the specifications of the BIS.

Some of the various types of cement produced in India are:

- Clinker Cement
- Ordinary Portland Cement
- Portland Blast Furnace Slag Cement
- Portland Pozzolana Cement
- Rapid Hardening Portland Cement
- Oil Well Cement
- White Cement
- Sulphate Resisting Portland Cement

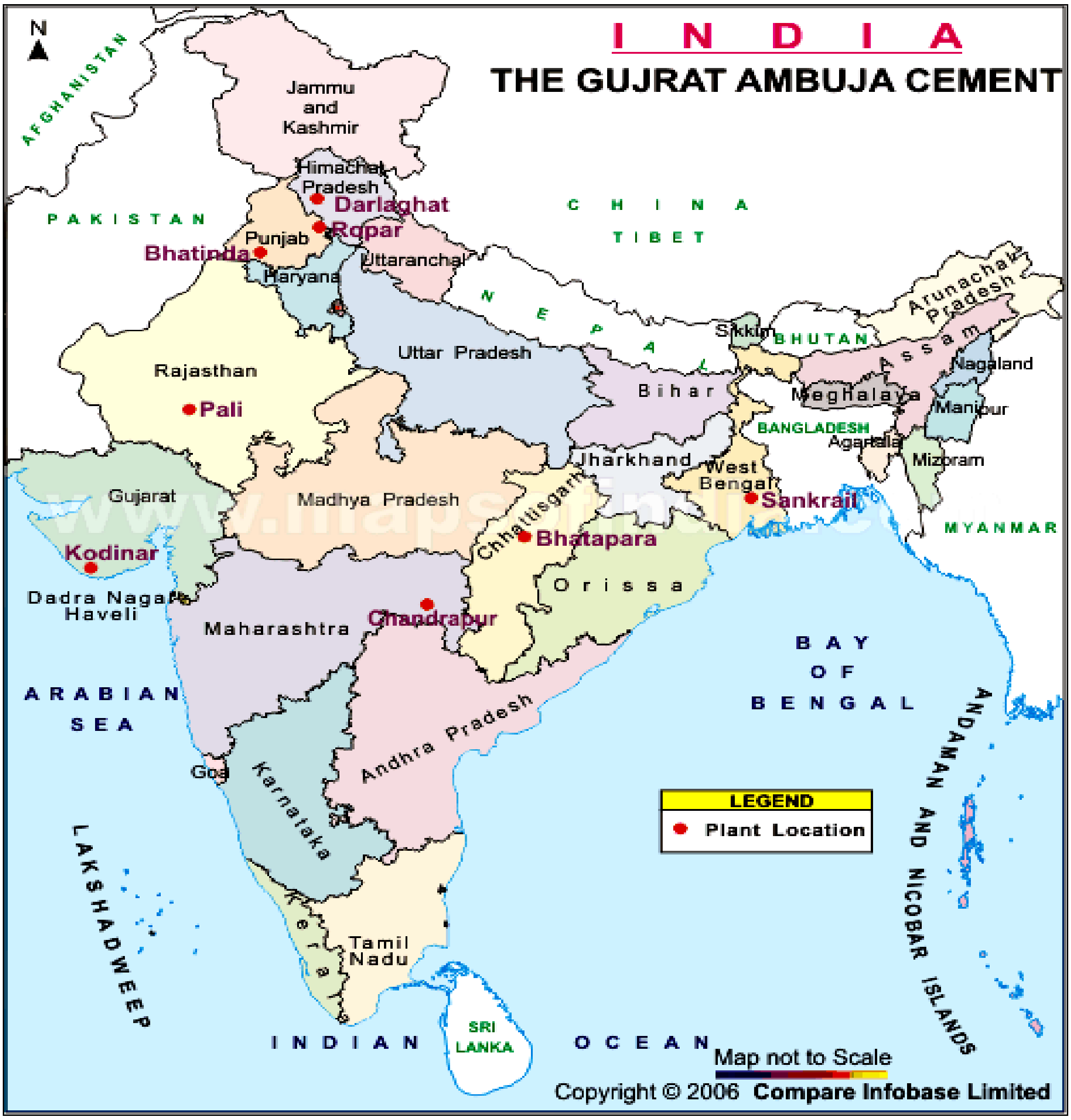
In India, the different types of cement are manufactured using dry, semi-dry, and wet processes. In the production of Clinker Cement, a lot of energy is required. It is produced by using materials such as limestone, iron oxides, aluminum, and silicon oxides. Among the different kinds of cement produced in India, Portland Pozzolana Cement, Ordinary Portland Cement, and Portland Blast Furnace Slag Cement are the most important because they account for around 99% of the total cement production in India.

The Portland variety of cement is the most common one among the types of cement in India and is produced from gypsum and clinker. The Ordinary Portland cement and Portland Blast Furnace Slag Cement are used mostly in the construction of airports and bridges. The production of white cement in the country is very less for it is very expensive in comparison to grey cement. In India, while cement is usually utilized for decorative purposes, marble foundation work, and to fill up the gaps between tiles of ceramic and marble.

The different types of cement in India have registered an increase in production in the last few years. Efforts must be made by the cement industry in India and the government of India to ensure that the cement industry continues innovation and research to come up with more and more varieties in the near future.

◆ PLANTS IN INDIA:

Location	State	Process Used
Darlaghat	Himachal Pradesh	Grinding Unit
Ropar	Punjab	Grinding Unit
Bhatinda	Punjab	Grinding Unit
Pali	Rajasthan	Dry
Kodinar	Gujarat	Dry
Sankrail	West Bengal	Grinding Unit
Bhatapara	Chhattisgarh	Dry



◆ EXPORT OF INDIAN CEMENT

The export of Indian cement has increased over the years, giving a boost to the Indian cement industry.

The demand for cement in the foreign countries is a derived demand, for it depends on industrial activity, real estate, and construction activity. Since growth is taking place all over the world in these sectors, Indian export of cement is also increasing. The cement industry in India has around 300 mini cement plants and 130 large cement plants. The total production capacity of these plants is around 167.36 million tons. The India cement industry is technologically very advanced, as a result of which the quality of Indian cement is now considered the second best in the world. This has given a major boost to the Indian export of cement. The production of cement in India is not only able to meet the domestic demand, but large amounts are also exported. A fair amount of clinker and cement by-products are also exported by India. As the quality of Indian cement is very good, its demand in the international market is always high.

In 2001-2002, 3.38 million tons of cement was exported from India. That figure stood at 3.47 million tons in 2002-03, and 3.36 million tons in 2003-04. In 2001-2002, 1.76 million tons of clinker was exported from India. In 2002-2003 clinker exports amounted to 3.45 million tons, and in 2003- 2004 the figure stood at 5.64 million tons. This shows that the export of Indian cement has been increasing at a steady pace over the years. Export of India cement has been mostly to the West Asian countries.

The major companies exporting Indian cement are:

Ambuja Cement

Ultra Tech Cement

L&T Limited

Aditya Cement

Export of Indian cement has registered growth a fair amount of growth, giving a boost to the Indian economy. That it continues to rise, more efforts must be made by the cement industry in India and the government of India.

◆ PRODUCTION

Total cement production increased by 5%, from 16.9 to 17.8 million tones. The increase was mainly as a result of a full year's production at Farakka and Roorkee facilities which started in mid 2007, and commencement of grinding at Surat terminal in early 2008. Clinker production was 1% lower than in 2007, at 11.5 million tones. Higher production at Rabriyawas following the 2007 up-gradation was offset by lower production as a result of unplanned stoppages at the Maratha and Darlaghat plants.

◆ MARKETING

While in the first half of 2008, the government introduced a ban on exports and encouraged imports from Pakistan, in the second half the realty boom suddenly turned to bust. With the global economy coming to a crunching halt, funds for major housing, commercial and infrastructure projects practically dried up.

To revive demand in the real estate sector, the government introduced a slew of monetary and fiscal measures. In December, the excise duty on cement was reduced by 4%, and on clinker by Rs.150 per tone, and countervailing duties were re-imposed on imported cement. The export ban was also fully lifted. Interest rates were lowered in a bid to boost residential hous200712

◆ CEMENT MANUFACTURING PROCESS:

Ordinary Portland cement is produced by grinding cement clinker in association with gypsum (3-5%) to specified fineness depending on the requirements of the cement consumers. Cement clinker is produced on large scale by heating finely pulverised Calcareous and Argillaceous materials at very high temperature upto 1450oC in rotary kilns. The Calcarious and Argillaceous materials obtained from the earth are properly proportioned to get a suitable ratio of lime (CaO), Silica (SiO_2), Alumina (Al_2O_3) and Iron (Fe_2O_3) present in the mixture. As the raw materials are obtained directly from limestone and clay mines, minor constituents like Magnesia (MgO), Sodium, Potassium, Sulphur, Chlorine compounds etc., may also be present in the raw materials upto limited extent which do not adversely affect either the manufacturing process or the quality of cement produced. Limestone is the major raw material used for manufacture of cement and about 35% of raw materials are lost in the atmosphere in the form of gaseous compounds of which carbon dioxide is the major one. Therefore cement units are necessarily located near the cement grade limestone deposit. The major steps or unit operations involved in cement manufacturing process include:

- Mining, Crushing, Pre-homogenization, Grinding and Final Blending of raw materials for preparation of kiln feed.
- Preprocessing of kiln feed in presence of combustion gas/ flame generated from combustion of pulverized coal, mineral oil or natural gas.
- Grinding of cement clinker along with
- Gypsum for production of OPC
- Gypsum and other additive / blending components for production of cement other than OPC.
- Packing and dispatch of cement.

◆ THE STRATEGY OF THE COMPANY

- Captive Infrastructure: Ports & Power Plants
- Presence in the growing markets of North & West
- Retail Focus – Premium pricing
- Largest Exporter of cement
- 21% Cement transport by sea - Cheapest Mode
- One of the Lowest Cost Cement Producer

◆ MAJOR ACHIEVEMENTS OF AMBUJA CEMENT

- Most profitable cement company in India.
- Lowest cost producer of cement in the world.
- Its environment protection measures are at par with the best in the world. The pollution levels at all its cement plants are lower than the rigorous Swiss standards of 100 mg/NM3.
- The only cement company to be awarded with the National Quality Award.
- First cement company to first to receive the ISO 9002 quality certification.
- Received ISO 14000 Certification for environmental systems.
- India's largest exporter of cement.
- Received Best Award for highest exports by CAPEXIL.
- First company to introduce the concept of bulk cements movement by sea in India.

◆ ENVIRONMENT POLICY

Our environment policy is built around two simple truths. One, no cement plant can flourish at the cost of the environment. As one of the country's largest producers of cement, with a large presence around the country, we have an obligation to protect the environment we function in.

Our efforts to achieve world standards in environment protection, for instance, have had the happy outcome of substantially improving efficiency and profitability. The fact is, a cleaner environment is just better for the people, it reduces wear and tear on plants and machinery as well. Besides dust in cement plants is nothing but cement itself, which we capture and bag.
Our approach has made us the one of the world's most environment friendly cement company.

◆ AWARDS:

For its work on improving community living and encouraging sustainable development, ACF has won national and international awards. With such recognition our faith in our mission is renewed and it encourages us to work towards our future objectives.

Year	Award Authority	Award Details
2008	Excellent Water Management Initiative Award - Beyond the Fence	Awarded by CII-Godrej Green Business Centre for salinity mitigation work in Gujarat
2007	Navjivani School of Special Education, Patiala	Sardarni Satwant Kaur Memorial Special Educator Award **conferred on Suresh Kumar Thakur, Principal of Ambuja Manovikas Kendra**
2007	Asian Institute of Management	Asian CSR Awards, 'The Excellence Award' in the Concern for Health category
2007	Government of India	'The Rashtrapati Puraskaar' for making sanitation facilities easily available to rural populations in Chhattisgarh
2006	Development Support Centre (DSC)	'The Rural Development Award' conferred on Mr. Hari Bhai Mori, Sr. Programme Manager at Ambuja Nagar
2004	Asian Institute of Management	The Asian CSR Awards for our contribution towards developmental activities
2003	Business World	FICCI-SEDF Corporate Social Responsibility Award

◆ HUMAN RESOURCE :

Building organizational capabilities has been the central theme for all our HR initiatives. A formal employee survey was conducted during the year to identify the characteristics of our organization that has made us distinctive and successful and to identify specific areas where we can improve ourselves, especially in comparison to our competition. Quite appropriately, therefore the "People Power" project has been initiated by the company, and as the name suggests, aims at empowering people through initiatives related to talent management, organization structure and processes.

Global HR practices related to talent assessment techniques are being used to assess our talent and develop leadership skills for future challenges. Career planning is being given a fresh impetus with emphasis on overall development in different functional areas. Multiple projects are being implemented within the company that provides new developmental opportunities to our people in inter-disciplinary areas.

Performance management as an ongoing activity is well established in the organization with larger and deeper involvement of employees across all levels and an objective mechanism for assessment and feedback. The employee development aspect of Performance Management Systems (PMS) provides a meaningful linkage to leadership training.

Global HR systems and processes related to talent development and compensation management will enable the organization to realize its people potential and develop capabilities for future growth.

2. EXIDE INDUSTRY LIMITED

◆ INTRODUCTION:

The Company was incorporated as Associated Battery Makers (Eastern) Ltd., on 31st January, 1947 under the Companies Act, 1913 to purchase all or any of the assets of the business of manufacturers, buyers and sellers of and dealers in and repairers of electrical and chemical appliances and goods carried on by the Chloride Electric Storage Company (India) Ltd, in India , since 1916 with a view thereto to enter into and carry into effect (either with or without modification) an agreement which had already been prepared and was expressed to be made between the Chloride Electric Storage Co (India) Ltd on the one part and the Company of the other part. The name of the Company was changed to Chloride India Ltd on 2nd August, 1972. The name of the Company was again changed to Chloride Industries Ltd. vide fresh Certificate of Incorporation dated 12th October, 1988. The name of the Company was further changed to Exide Industries Ltd. on 25th August, 1995.

The Company manufactures the widest range of storage batteries in the world from 2.5 Ah to 20,400 Ah capacities, covering the broadest spectrum of applications. The Company has six factories strategically located across the country – two in Maharashtra, one in West Bengal, two in Tamil Nadu and one in Haryana. The Company's predecessor carried on their operations as import house from 1916 under the name Chloride Electrical Storage Company. Thereafter, the Company started manufacturing storage batteries in the country and has grown to become one of the largest manufacturer and exporter of batteries in the sub-continent today. Exide separated from its UK-based parent, Chloride Group Plc., in 1989, after the latter divested its ownership in favour of a group of Indian shareholders. The Company has grown steadily, modernized its manufacturing processes and taken initiatives on the service front. Constant innovations have helped the Company to produce the world's largest range of industrial batteries extending from 2.5 Ah to 15000 Ah and covering various technology configurations.

◆ VISION AND MISSION OF THE COMPANY:

1. VISION:

- Simultaneous to providing credible value addition to customers, employees and shareholders, being recognized by society as a responsible corporate citizen.
- Achieving operational excellence along with caring for environmental protection.

2. MISSION:

- To carefully balance the interest of all stakeholders

- Strive to fulfill aspirations of the employees and pursue excellence with passion without deviating from our core values.

3. **CORE VALUES:**
   - Customer Orientation
   - Personal Integrity & Commitment
   - Teamwork and Mutual Support
   - People Development and Involvement
   - Striving for Excellence
   - Management by Processes and Facts
   - Responsible Corporate Citizen.

◆ BOARD OF DIRECTORS

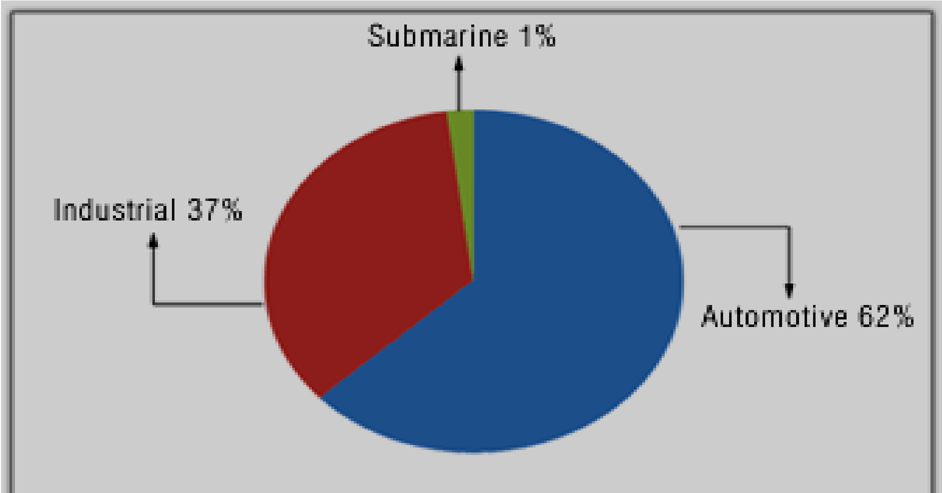
No.	Designation	Name
01	Chairman Emeritus	S.B Ganguly
02	Chairman & Non Executive Director	R.G. Kapadia
03	Vice Chairman & Non-Executive Director	R.B. Raheja
04	Managing Director & Chief Executive Officer	T.V. Ramanathan
05	Director – Industrial	G. Chatterjee
06	Director – Automotive	P.K. Kataky
07	Director – Research & Development	S.K .Mittal
08	Director – Finance & Chief Financial Officer	A.K. Mukherjee
09	Non Executive Director	Vijay Aggarwal
10	Non Executive Director	H. M. Kothari
11	Non Executive Director	Bhaskar Mitter
12	Non Executive Director	S.N. Mookherjee
13	Non Executive Director	A.H. Parpia
14	Non Executive Director	S.B. Raheja
15	Non Executive Director	W. Wong

◆ PRODUCTS OF THE COMPANY:

(1) EXIDE: Exide The brand name embodies the values of excellence, commitment, dependability and service, which has shaped its, character -leadership, is a continuing responsibility. He flagship of Exide Industries Limited Distribution Network is the Exide Care. Designed on a platform of common identity elements and specified service standards, these outlets across India are manifestations of Exide's commitment to superior Customer Care and Service. Exide Cares are One Stop Battery Shops providing Total Power solutions to Customers through Exide's wide range of Products. The Exide Care's design, ambience, cutting edge service technology and customer focus combine to give the Customer a complete "experience" of the brand. Presently in the wide network of 3000 plus Exide authorized Dealers across India, there are 100 exclusive Exide Cares.

(2) SF SONIC: SF Sonic Characterized by power at its peak throughout its lifetime, SF Sonic is the ultimate in power-packed batteries. Backed by the technology of the world famous Furukawa Battery of Japan, SF Sonic has a formidable line up of models for all types of 4 wheelers and 2 wheelers on Indian roads. You can get vital information on cutting-edge Furukawa technologies, great tips on battery maintenance, latest news and trends of the automobile industry and lots more from this site. What’s more, you can even enjoy custom built games, download cool wall papers and screen savers absolutely free.

(3) INDUSTRIAL: Industrial Storage Batteries are an essential requirement to keep electrically operated equipments going when the mains fail. Railway, Telecommunications, Defense, Mining, Hospitals, Airlines Signaling & Communications..... All depend on Exide to fulfill their needs for Standby Power. Railway Systems, from Air conditioning, Train Lighting to Signaling, Diesel Loco Starter, and Electric Multiple Units depend on Exide to keep running smoothly. Starting with batteries for Fork Lift Trucks, Golf Carts, Electric Wheel Chairs, etc., Exide has steadily developed the technology for powering electric vehicles as well as water vessels driven by battery power. The special power-packs are considerably lighter and can be recharged faster than conventional batteries.



Segmentwise distribution of company's sales (2008-09)

◆ NEW PRODUCTS

- During the year under review, your company entered into an agreement to jointly develop bipolar technology with a UK based Research organization - Atraverda Limited. Key technology issues in development of bipolar batteries have been identified with the intent of creating a Pilot Plant at Chinchwad, to establish the production technology. Low height batteries in the ATB brand for DIN applications, commenced manufacture at Taloja from August 2007. The tele-tubular range of industrial batteries, were introduced into production at the Shamnagar Plant, from September 2007 onwards. The Sonic Jumbo range above 100Ah, for the full range, started production from October 2007. A new battery for General Motors was designed to replace a competitor's product. Perhaps the most significant new product to come out of R&D during the year under review was the battery for the Tata Motors Nano car. In view of the innovative features included in this battery, a design registration has been filed in India.
- An application for an International Patent for Advanced Hybrid Maintenance free technology has been initiated in partnership with Daramic of USA, who has supplied a special separator design,

jointly for this purpose. Field trials have commenced for maintenance free batteries at ABML Sri Lanka, where introduction of the entire maintenance free range, is planned from June 2008. Tests are in progress for a maintenance free version of a flat plate inverter battery, which would be added some time during the year.

- An extended stand-by range in transparent containers was introduced into production at Hosur in January 2008. An upgraded version of the maintenance free range of motorcycle batteries, with a warranty of thirty six months, is proposed to be manufactured at Chinchwad from May 2008. The new Research block which was inaugurated at the R&D Centre in the earlier year, has added to the company's capabilities for conducting in-house tests.

◆ PLANT AND ADDRESS:

Address Type	Address
Shamnagar	91 New Chord Road, ,Athpur,,Shamnagar, 24 Parganas West Bengal-743128
Haldia	Durgachak,,Haldia,, Midnapur Dist West Bengal-721602
Bawal	Plot No. 179, ,Sector 3,,H S I D C Growth Centre, Bawal Haryana-123501
Chinchwad	D2, ,M I D C Industrial Estate,,Chinchwad East Pune Maharashtra-411019
Taloja	Plot No. T-17 ,M I D C Taloja Industrial Area, Taloja Maharashtra-410208
Hosur	Chichurakanapalli,,Sevaganapalli Panchayat,,Hosur Taluk, Dharmapuri Dist Tamil Nadu-635103

The following table depicts the ISO certifications of the Company's various Plants:

	ISO 9001	TS-16949	ISO 14001	OHSAS 18001
Haldia	✓	✓	✓	
Hosur	✓	✓	✓	✓
Shamnagar	✓	✓	✓	
Taloja		✓	✓	
Chinchwad		✓	✓	
Bawal		✓		

(A) Company's Plant at Shamnagar, West Bengal is an ISO-9001 & ISO-14001 Certified by TUV-NORD, Germany. It has secured the following awards and recognitions:

- Certificate of Appreciation for Commendable Effort in Total Quality – by CII – 2003
- Certificate of Appreciation for Commendable Effort in Energy Conservation – by CII – 2003
- Certificate of Merit for Most Significant Achievement in Total Quality Management– by CII-2004 & 2005
- Certificate of Appreciation for Best Practice in Industrial Relations – by CII –2005-06
- 1st Position for Sustaining a High level of Productivity Award Contest – by CII – 2006-07
- Most Significant Improvement in TQM Quality Award Contest – by CII – 2006-2007

(B) Company's Plant at Haldia, West Bengal is an ISO-9001 and ISO 14001 certified by TUV-NORD, Germany. It has secured the following awards and recognitions:

- Quality Award by CII-2003 & 2006
- Productivity Award from CII 'Category A'-2003

- Safety Award from CII- 2003
- Award for Best Practices in Industrial Relations – by CII -2004
- Indal Trophy for HRD- by CII- 2005 & 2007
- Productivity Award- by CII-2005
- Certificate of Appreciation for Energy Conservation- by CII- 2005
- Environment Excellence Award- by West Bengal Pollution Control Board & Indian Chamber of Commerce - 2005
- ITC Trophy for Safety, Health & Environment - by CII – 2007

(C) Company's Plant at Hosur, Tamilnadu is an ISO-9001, ISO / TS-16949 and ISO-14001 certified by TUV-NORD of Germany. It has secured the following awards and recognitions:

- 100 PPM award from OEM customer American Power Corporation – January '03
- Quality award from OEM customer Toyota - April '03 & April '04
- Safety award from Government of Tamilnadu - April'03
- 100 PPM award from OEM customer Hyundai - June'03
- Zero PPM Award from OEM customer Toyota – April'04
- Green award from OEM customer Toyota - April'04
- Best Quality supplier award from OEM customer Toyota – April'05
- Zero PPM award from OEM customer Toyota- April'05
- Quality Delivery Award from OEM customer Toyota - April'05
- First Prize in Best Garden Competition (Industrial Category) awarded by Mysore Horticulture Society – 2005
- Leadership and Excellence Award in Safety , Health & Environment by CII –2006
- Indian Manufacturing Excellence – "Gold" Award –for Automotive Ancillary Category from Frost & Sullivan in 2006
- CII-EXIM Bank Award for Strong Commitment to Excel by CII in 2006
- 6th TERI Corporate Environmental Award- May' 07

(D) Company's Plant at Taloja, Maharashtra is an ISO / TS-16949 & ISO 14001 Certified. It has secured the following awards and recognitions:

- Supplier Award – Certificate of Appreciation- by Honda Siel Cars India Limited in 2002.
- 1st Company to be put on MPCB Website for using secured landfill in 2003.
- Quality Silver Award by Bajaj in 2006.

(E) Company's Plants at Chinchwad, Maharashtra and Bawal, Haryana are ISO / TS – 16949 and ISO – 14001 certified by TUV – NORD and the one at Kanjurmarg, Maharashtra is an ISO – 9001 certified by TUV – NORD.

(F) The Company also secured Best SMF Battery Award for three consecutive years –2005-2006-2007

◆ HUMAN RESOURCES:

The company had 3888 nos. permanent employees as at the end of March 2008. The training needs for the managerial category of employees is assessed by the HR department, at the beginning of the year and a number of programmes are organized with both in-house and external experts to deliver need-based training. The directors of the company wish to place on record the appreciation of the contribution by all employees of the company in ensuring high levels of performance and efficiency, which has helped your company to scale higher pinnacles of success. The company also desires to place on record, its appreciation of the support and co-operation of the distributors, C&F Agents, dealers, bankers and all others associated as partners in the company's growth.

◆ CORPORATE GOVERNANCE:

The company believes that transparency is the cornerstone of your company's philosophy and all requirements of corporate governance are adhered to, both in letter and spirit. As you are aware, your company has a model code for "Insider Trading" which was introduced in the year 2004. In addition, your company continues to maintain a strong internal control system, backed up by dedicated internal audit teams, which work on a regional basis. The company is in compliance with all requirements of Clause 49 of the Listing Agreement.

◆ HONEST AND ETHICAL CONDUCT:

All executives are expected to act in accordance with the highest standards of personal and professional integrity, honesty and ethical conduct, while working on the company's premises, at company sponsored business and social events, or at any other place where executives represent the company. Honest conduct is understood as such conduct that is ethical, free from fraud or deception and conforming to the accepted professional standards. Ethical conduct includes the ethical handling of actual or apparent conflicts of interest between personal and professional relationships.

3. Gujarat State Fertilizers & Chemicals Limited

◆ INTRODUCTION:

Gujarat State Fertilizers & Chemicals Limited operates through two segments: fertilizer products and industrial products. The Company manufactures urea, ammonium, sulphate, di-ammonium phosphate, ammonium phosphate sulphate, gypsum, melamine, caprolactam, sulphuric acid, anhydrous ammonia, bio-fertilizers, oleum, bio-fuels, water soluble fertilizers, plant tissue culture and seeds nylon-6, among others.

Gujarat State Fertilizers and Chemicals Ltd - The facet of care can be expressed in thought and action. And since its beginning, in 1962, GSFC has consistently translated the facet of care in its every activity. Unfolding before you is the epic of the Gujarat State Fertilizers & Chemicals Ltd, an organization, in the annals of Indian Corporate history, founded on the single minded principle of offering the best to the customer.

GSFC is taking its philosophy of care and extending it to every facet of its existence, employees, suppliers, services, society and even the environment. In offering its care to an even larger section of society, GSFC has transcended the boundaries of the ordinary to be able to truly fulfill its goal of being "Basic to India's Progress".

Initially with the equity structure, comprising of 49% of State Government participation and 51% of Public and Financial Institutions, today the Government's involvement has come down to 38.4%. As an organization formed for supporting the farmers, GSFC's every act revolves around the avowed goal of "not only selling fertilizers, but also offering happiness." Translating this belief has been the constant standard that its every act must measure up to.

◆ VISION AND MISSION OF THE COMPANY:

(1) VISION:

- "To emerge as a world-class, multi-product, eco-friendly global company through technological development, innovation and customer satisfaction and thereby to contribute to the welfare of society."

(2) MISSION:

- To provide quality inputs and services to agriculture and industry at competitive prices and thereby improving quality of life of the people.

- To achieve excellence through creativity, innovation and services to the society.

(3) VALUES:

- Strong Commitment towards clean environment and social services.
- Hard work, Discipline, Integrity, Honesty, Dedication, Mutual respect and Transparency.
- Strong commitment to quality of products and customer services.
- Promotion of creativity and professionalism through HRD.

◆ BOARD OF DIRECTORS:

No.	Designation	Name
01	Chairman	Shri A. K. Joti, IAS
02	Director	Shri D.C. Anjaria
03	Director	Shri Ajay N. Shah
04	Director	Shri Vijai Kapoor
05	Director	Shri P.N. Roy Chowdhury, IAS
06	Director	Shri M M Srivastava, IAS
07	Director	Shri D. J. Pandian, IAS
08	Managing Director	Shri Haribhai V Patel, IAS

◆ PRODUCTS OF THE COMPANY:

(1) Anhydrous Ammonia: The main raw material for Ammonia is Naphtha and Associated Gas. The applications of Anhydrous Ammonia are as under:

- In the manufacture of Explosives Ammonium Nitrate and Nitrite, Nitroglycerine, Tri-Nitrotoluene, Nitrocellulose and other Nitrogen Compounds used in the manufacture of Explosives.
- Manufacture of chemicals like Methylamines, Monoethylamine, Melamine, Amino-Resins, Cynamides, Fertilizers, Petrochemical Products, etc.

- In Pulp and Paper Industry For pulping of wood and as a dispersant for casin in the coating of paper industry.
- In the Metal Industry for retaining of scrap metal. In the extraction of certain metals e.g. copper, nickel, molybdenum and tungsten from their ores. In metal treating where cracked ammonia is used as a reducing atmosphere for the bright annealing of stainless steels, nickel and its alloys for reduction of metal oxides.
- In the manufacture of household Ammonia Detergents and Cleansers.
- In production of Nitrogen Dioxide required for converting Sulphur Dioxide in lead chamber process for manufacturing Sulphuric Acid.

(2) Argon Gas: GSFC has Air Separation Unit with a capacity to manufacture 3.2 million NM3 per year Argon Gas. The applications of Argon Gas are as under:

- Inert gas shield in arc welding.
- Welding and cutting of Aluminum, Stainless Steel, Titanium etc. mainly to create an inert zone.
- In electronics, lamp and valve manufacture.
- In metal refining, treatment and brazing.
- In degassing of ferrous and non-ferrous alloys.
- A.O.D. process for stainless steel manufacture, Laboratory and research medical application.
- Refining of copper, Aircraft and missile industries.
- Brazing and soldering, Cryogenics and refrigeration.

(3) Caprolactam: GSFC has two Caprolactam Plants having rated capacities of 20000 TPA and 50000 TPA. The main raw materials are Benzene, Oleum, Ammonia, Carbon dioxide, Synthesis Gas, Sulphur dioxide, Caustic soda and Sulphuric acid. Caprolactam is a base material for manufacture of Nylon-6. Its applications are in the manufacture of

- Nylon-6 fibres for textile and tyre cord.
- Moulding engineering components and other extrusion profiles.
- Monomer castings.

(4) Melamine (Gujlamine): GSFC has two Melamine Plants having rated capacities of 5000 TPA and 10000 TPA. The main raw material is Urea. GUJALAMINE is the trade name of Melamine pure chemical powder being manufactured by GSFC. Melamine is always reacted with formaldehyde and then made into resins or molding powder for making innumerable products of beauty and utility. The applications of Melamine are as under:

- **Laminates:** For table tops, kitchen shelves, platforms, wall cladding, bus bodies, interior of railway coaches, counters, deckings, instrument panels.
- **Consumer Moulded Goods:** Bowls, trays, spatulas, mixer's base, crockery, cutlery items, launderable buttons, lamp shades.
- **Treatment Resin for Paper**: For currencies, toilet paper, facial tissues, shopping and shipping bags, map papers, food wrappers, photographic paper.

(5) Nylon-6 (Gujlon): GSFC has the largest capacity Engg. Plastic Nylon-6 Plant in the country with a rated capacity of 7,000 MT. The main raw material for Nylon-6 is Caprolactam which is available from captive capacity. Gujlon is the registered trade name of Nylon-6 chips manufactured by GSFC. Nylon-6 is tough, lightweight, abrasion resistant, shock resistant, corrosion resistant, heat resistant with higher melting point, low specific gravity, electrical insulation property and dimensional stability.

It requires no lubrication and can be machined and finished in ways similar to metals. This versatile plastic is available in general purpose injection moulding grades, glass fibre reinforced grade, plasticized grade and extrusion grades to suit diverse applications. The applications of Nylon - 6 are as under:

- Precision engineering components.
- Components for electrical and electronic industries.
- Components for appliances and consumer goods.
- Film for packaging of food stuffs, vegetable oils.
- Components for hardware, building and furniture industries.

(6) **Oleum:** GSFC has SO2 Oleum Plant with a rated capacity of 28,000 TPA.. The raw material for Oleum is Sulphur. The applications of Melamine are as under:

- Dyestuff Industries
- Detergent Industries
- As a whitening agent in Paper Industry
- Petrochemical Products

(7) **Sulphuric Acid:** GSFC has got two Sulphuric Acid Plants with a rated capacity of 1350 MTPD & 400 MTPD. The main raw material for Sulphuric Acid is Sulphur which is imported. It has various uses in the following fields :

- Fertilizers
- Rayon
- Steel Industry
- Refineries
- Petrochemicals
- Paints
- Textiles
- For the production of Hydrochloric Acid, Phosphoric Acid, Boric Acid
- Synthetic Detergents

- Aviation Gasoline
- Laboratory Reagents
- Dyestuffs
- Dairy Industries

(8) **Fertilizers:** GSFC's Fertilizer Marketing Division market various types of fertilizers and agri inputs to the farming community in nine states of India, namely, Gujarat, Maharashtra, M P , Rajasthan, Punjab , Haryana, U P , A P & Karnataka through its wide distribution network.

◆ CUSTOMER SERVICES:

- A team of well-qualified and experienced personnel in the field of Mould designing, Testing & processing is available to render services to the CUSTOMERS.
- We provide Guidance to the CUSTOMERS for selection of appropriate grades, processing parameters & Process techniques for various applications.
- We provide after-sales services to the CUSTOMERS for solving the problems related to "Man, Machine and Material".
- We also offer testing facilities to the CUSTOMERS for various Thermoplastic Raw Materials.

◆ HUMAN RESOURCES:

The company's HR cell was set up in 1965 with the objectives of raising facilities for development and enhancing technological skills. This facet of GSFC looks into 3 primary areas namely training, employee welfare and employee growth programme:

(1) **Training:** Having established training centers, these are fully-equipped with modern equipments like Computerized Triangle Simulator and a comprehensive array of supplementary aids. GSFC expert operators educate the participant about various equipments.

Behavioural sciences and skill improvement seminars are offered to all. Over the years, GSFC has imparted its technical skills to participants from leading educational and corporate organizations in India and abroad. The company also provides consultancy services to corporate bodies wishing to set up similar operations abroad.

(2) Employee Welfare: GSFC provides an extensive and liberal range of amenities to its employees. This perhaps is the reason why its employee's turnover rate is only 1.5%. In Fertilizer Township – A Township created exclusively for GSFC employees, the company has built over 1000 houses within the complex. Well-equipped hospital and school ensure a well-rounded development of GSFC's employees children. To foster greater understanding between employees, GSFC actively encourages various social events, gatherings and activities. Sports, entertainment… all have an important role to play. These form vital bedrock to even more schemes that cater to the economic and professional well-being of the employees.

(3) Employee Growth Programme: To ensure the continued progress of the company, GSFC offers strong and dynamic programmes designed to motivate all levels of employee towards greater performance. To ensure practical knowledge levels are on par with GSFC's standards, the company has a 2 years training period for all Graduate Engineering Trainees aspiring to be officers. A well-planned training programme ensures that all employees get benefits from the latest that the world has to offer. Through these activities, GSFC empowers its employees to reach greater heights of productivity, verified by the fact that 50% of its managers in operations and management have been promoted from staff level.

4. INDIA CEMENT LIMITED

◆ INTRODUCTION:

The India Cements Ltd was established in 1946 and the first plant was setup at Sankarnagar in Tamilnadu in 1949. Since then it has grown in stature to seven plants spread over Tamilnadu and Andhra Pradesh. The capacities as on March 2002 have increased multifold to 9 million tons per annum.

◆ FOUNDERS OF THE COMPANY:

Shri Sankaralinga Iyer was a pioneer of heavy industry in the South. Primarily a banker, he ventured into the field of industry with a rare devotion and confidence with the prime objective of developing major industries in the state. With his banking experience and interest in exploring the mineral potential of South India, he went ahead boldly with his scheme of building a cement plant in the vicinity of Thalaiyuthu, where extensive deposits of limestone were assuredly available. Shri Sankaralinga Iyer with his energy and drive gave the cement project a realistic form and content.

"There's no stronger foundation than the one built with vision."

	
S.N.N.Sankaralinga Iyer (1901-1972)	T.S. Narayanaswami (1911-1968)

- Two men with vision to inspire dreams for an industrial India. Two men with the ability to translate those dreams into reality. And the ability to build enduring relationships..... To build the future.
- In his task of establishing the enterprise, Shri Iyer was ably assisted by Shri T.S. Narayanaswami, who is always identified with the formation and

running of The India Cements Limited. Shri T.S.Narayanswami was the catalyst who saw the project through numerous hurdles and made it emerge as a viable and marketable proposition.

- He looked beyond Cement to Aluminium production, Chemicals and Plastics and Shipping after he had fully established the India Cements' potential for expansion. A pioneer Industrialist and visionary, Shri T.S. Narayanswami played a dynamic role in the resurgence of industrialization in free India.

◆ VISION AND MISSION OF THE COMPANY:

(1) VISION:

- The new millennium will bring with it new challenges and greater opportunities. The **21st century** will most certainly see the unfolding of a period of extraordinary possibilities and incredible developments bringing about more fundamental changes in the global economy than the last 200 years. The successful corporate will be those who equip themselves to meet the challenges and convert opportunities into winning strategies. If we are to keep pace, it is imperative that we learn to successfully tread the global pathway.

- In this journey, clarity of vision, a readiness to cultivate a global mindset, effectiveness, harnessing of human resources to enhance job and knowledge skills of employees, a strong accent on R & D and innovation and a move away from selling, to innovative marketing in recognition of the fact that the Customer is truly King, are some of the strategies that will help corporate to survive and succeed.

- However it must be remembered that it is not enough to adopt a set of values and just leave them in place. In order to move with the changing times, values and ideas must be ceaselessly re-examined so as to ensure that they are in tune with the organization’s goals.

- The India Cements Limited is committed to contribute its might in making the 21st century an "**Indian Century**".

(2) MISSION:

- **Aiming High:** We should be one of the largest Cement Companies in the Country. Our growth in size will be through continuous review of potentials of the existing manufacturing resources, strategic acquisitions and expansions
- **Core Competency:** Cement will be our mainstay. However, we shall venture into related fields which afford purposeful synergy.
- **Quality Quest:** Product quality, consistency and customer service will be pursued as an act of faith throughout the organization.
- **Modern Mindset:** In an environment which is intensively competitive, we shall be futuristic in outlook and effective in management.
- **Pursuit of Excellence:** The growing size of our business permits us to have an R & D set up of our own. We shall continuously challenge methods, systems, operating parameters. We shall constantly review our manufacturing systems to upgrade quality and value of products.
- **Human Resources:** We consider people as our valuable Assets. Our HRD Systems will be totally proactive and tuned to provide excellent working environment and transparent organizational culture for creativity, innovation and participation.
- **Value Addition:** ICL will continuously strive to enhance its value to its customers, Shareholders and Employees.
- **Community Welfare:** As the organization grows, as a good Corporate Citizen, we shall be sensitive to the welfare and development needs of the Society around us.

◆ BOARD OF DIRECTORS:

The India Cements Ltd is a professionally managed company headed by Mr.N.Srinivasan, Vice Chairman and Managing Director. The day-today affairs of the company are managed by him assisted by key personnel in each functional area. The Board of Directors is ultimately responsible for the management of the affairs of the company.

No.	Designation	Name
01	Vice Chairman & Managing Director	Shri.N.Srinivasan
02	Director	Mrs.Chitra Srinivasan
03	Whole Time Director	Ms.Rupa Gurunath
04	Director	Shri.B.S.Adityan
05	Director	Shri.R.K.Das
06	Director	Shri.N.Srinivasan
07	Director	Shri.N.R.Krishnan
08	Director	Shri.A.Sankarakrishnan
09	Director	Shri.Arun Datta

◆ PRODUCTS OF THE COMPANY:

(1) 53 Grade Cement: Coromandel King, Sankar Sakthi and Raasi Gold are high strength cements to meet the needs of the consumer for high strength concrete. As per BIS requirements the minimum 28 days compressive strength of 53 Grade OPC should not be less than 53 Mpa. For certain specialized works such as prestressed concrete and certain items of precast concrete requiring consistently high strength concrete, the use of 53 Grade OPC is found very useful. 53 Grade OPC produces higher-Grade concrete at very economical cement content. In concrete mix design, for concrete M-20 and above Grades a saving of 8 to 10% of cement may be achieved with the use of above mentioned 53 Grade OPC.

Coromandel King, Sankar Sakthi and Raasi Gold can be used for the following applications.

- RCC works (Preferably where grade of concrete is M-25 and above).

- Precast concrete items such as paving blocks, tiles building blocks etc
- Prestressed concrete components
- Runways, concrete Roads, Bridges etc.
- Multistory buildings.

(2) 43 Grade Cement: Coromandel, Sankar and Raasi are the 43 grade OPCs most popular general-purpose cement in the market today. The production of 43 grade OPC is nearly 50% of the total production of cement in the country

The 43 grade OPC can be used for following applications:

- General Civil Engineering construction work
- RCC works(preferably where grade of concrete is up to M-30)
- Precast items such as blocks, tiles, pipes etc
- Asbestos products such as sheets and pipes
- Non-structural works such as plastering, flooring etc.

(3) 33 Grade Cement: This cement is used for general civil construction work under normal environmental conditions. The compressive strength of cement after 28 days test as per IS specification is 33 MPa. Due to low compressive strength, this cement is normally not used where high grade of concrete viz, M-20 and above is required. The availability of higher grades of OPC in the market are affecting the use of 33 grade OPC and now a day's 43 grade OPC is normally used for general construction work instead of 33 grade OPC. More useful for mass concreting and plain cement concreting. Normally made to order basis. It can be used for plastering and single storeyed individual houses.

(4) Portland Pozzolana Cement (PPC): The Portland Pozzolana Cement is a kind of Blended Cement which is produced by either intergrading of OPC clinker along with gypsum and pozzolanic materials in certain proportions or grinding the OPC clinker, gypsum and Pozzolanic materials separately and thoroughly blending them in certain proportions.

Pozzolana is a natural or artificial material containing silica in a reactive form. It may be further discussed as siliceous or siliceous and aluminous material which in itself possesses little, or no cementitious properties but will in finely divided form and in the presence of moisture, chemically react with calcium hydroxide at ordinary temperature to form compounds possessing cementitious properties. It is essential that pozzolana be in a finely divided state as it is only then that silica can combine with calcium hydroxide (liberated by the hydrating Portland cement) in the presence of water to form stable calcium silicates which have cementitious properties. The pozzolanic materials commonly used are:

- Volcanic ash
- Calcined clay
- Fly ash
- Silica fumes

(5) Sulphate Resisting Portland Cement (SRC): Sulphate Resisting Portland Cement is a type of Portland Cement in which the amount of tricalcium aluminates (C3A) is restricted to lower than 5 % and (2 C3A + C4AF) lower than 25%. The SRC can be used for structural concrete wherever OPC or PPC or Slag Cement is usable under normal conditions. The use of SRC is particularly beneficial in such conditions where the concrete is exposed to the risk of deterioration due to sulphate attack. For example, in contact with soils and ground waters containing excessive amounts of sulphates as well as for concrete in seawater or exposed directly to seacoast. The IS 456 2000 (revised draft code) has made elaborate provisions for use of particular type of cement against different percentages of soluble sulphate salts.

The use of SRC is recommended for following applications:

- Foundations, piles
- Basements and underground structures
- Sewage and Water treatment plants
- Chemical, Fertilizers and Sugar factories
- Food processing industries and Petrochemical projects
- Coastal works.
- Also for normal construction works where opc is used.

◆ PLANT AND ADDRESS:

Plant	Location Address	Capacity Million tones (P/a)
SANKARNAGAR	The India Cements Limited Sankarnagar P.O., Tirunelveli District, Tamil Nadu Pincode:627357	1.55
SANKARI	The India Cements Limited Sankari West P.O., Salem District, Tamil Nadu. Pincode:637303	0.72
DALAVOI	The India Cements Limited Dalavoi P.O., Perambalur District, Tamil Nadu Pincode:621709	1.30
CHILAMKUR	The India Cements Limited, Chilamkur, Cuddapah District, Andhra Pradesh Pincode:516310	1.30
YERRAGUNTLA	The India Cements Limited, Yerraguntla, Cuddapah District, Andhra Pradesh Pincode:516309	0.52

MALKAPUR	The India Cements Limited, Malkapur Village, Tandur Mandal, Rangareddy District, Andhra Pradesh. Pincode:500157	1.12
VISHNUPURAM	The India Cements Limited Vishnupuram,Wadapally, Nalgonda District, Andhra Pradesh. Pincode:508355	2.30

◆ PRODUCTION CAPACITY:

(1) Region wise Capacity and Production

Region	Installed Capacity	% of total Capacity	Cement Production (Mnts)	% of total Production
Northern	27.65	18.0	26.71	20.9
Eastern	22.96	15.0	18.73	14.7
Southern	48.6	31.6	38.98	30.6
Western	29.38	19.1	22.76	17.8
Central	25.0	16.3	20.39	16.0
Total	**153.59**	**100**	**127.57**	**100**

(2) Plant Size wise Capacity and Production:

Type of Units	Installed Capacity	% of total Capacity	Cement Production (Mnts)	% of total Production
Large Plants (Nos. 129)	153.59	93	127.57	96
White & Mini Cement Plants (around 365)	11.10	7	6.00 (P)	4
Total:	**164.69**	**100**	**133.57(P)**	**100**

(3) Process Wise Cement Production (Large Plants):

Process	Production (Mnts)	% of total
Dry	122.83	96.3
Semi-Dry	1.53	1.2
Wet	0.19	0.1
Others	3.02	2.4
Total:	**127.57**	**100**

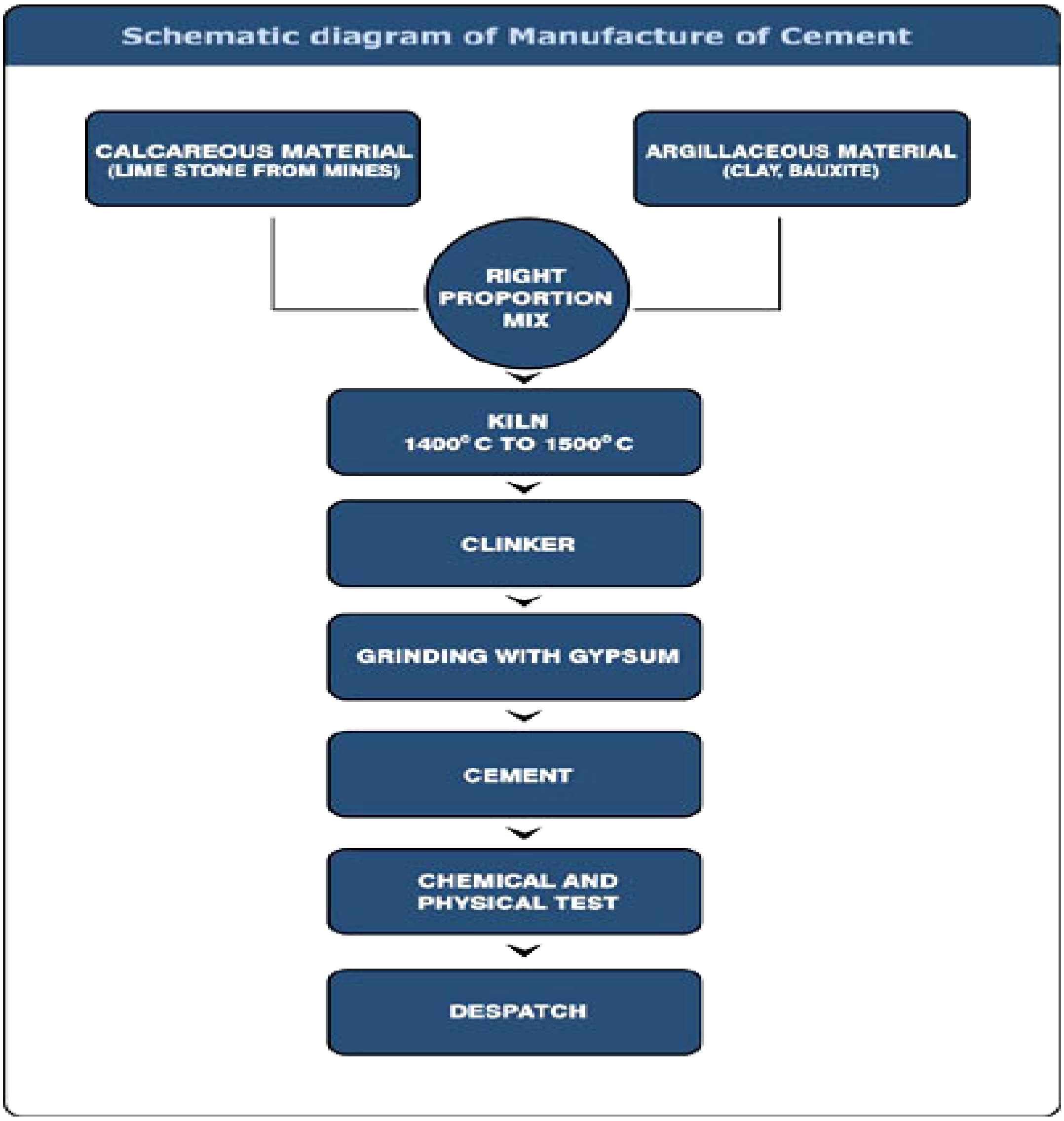
(4) Overall Capacity Position:

Plant	Production (Mnts)
Sankar Nagar	1.55
Sankari Durg	0.72
Chilamkur	1.30
Dalavoi	1.30
Yerraguntla	0.52
Vishnupuram	2.30
Malkapur	1.12
Total	**8.81**

◆ CEMENT MANUFACTURING PROCESS:

Ordinary Portland cement is produced by grinding cement clinker in association with gypsum (3-5%) to specified fineness depending on the requirements of the cement consumers. Cement clinker is produced on large scale by heating finely pulverised Calcareous and Argillaceous materials at very high temperature upto 1450oC in rotary kilns. The Calcarious and Argillaceous materials obtained from the earth are properly proportioned to get a suitable ratio of lime (CaO), Silica (SiO_2), Alumina (Al_2O_3) and Iron (Fe_2O_3) present in the mixture. As the raw materials are obtained directly from limestone and clay mines, minor constituents like Magnesia (MgO), Sodium, Potassium, Sulphur, Chlorine compounds etc., may also be present in the raw materials upto limited extent which do not adversely affect either the manufacturing process or the quality of cement produced. Limestone is the major raw material used for manufacture of cement and about 35% of raw materials are lost in the atmosphere in the form of gaseous compounds of which carbon dioxide is the major one. Therefore cement units are necessarily located near the cement grade limestone deposit. The major steps or unit operations involved in cement manufacturing process include:

- Mining, Crushing, Pre-homogenization, Grinding and Final Blending of raw materials for preparation of kiln feed.
- Pyroprocessing of kiln feed in presence of combustion gas/ flame generated from combustion of pulverized coal, mineral oil or natural gas.
- Grinding of cement clinker along with
- Gypsum for production of OPC
- Gypsum and other additive / blending components for production of cement other than OPC.
- Packing and dispatch of cement.



◆ NAME OF THE ASSOCIATE /SUBSIDIARY COMPANIES

No.	Name of the company	Subsidiary / Associate
01	Industrial Chemicals & Monomers Ltd	Subsidiary Company
02	ICL Securities Ltd	Subsidiary Company
03	ICL Financial Services Ltd	Subsidiary Company
04	ICL International Ltd	Subsidiary Company
05	Trishul Concrete Products Ltd	Subsidiary Company
06	PT. Coromandel Minerals Recourses, Jakarta, Indonesia	Subsidiary Company
07	Coromandel Electric Company Ltd	Associate Company
08	Unique Receivable Management Pvt. Ltd.	Associate Company
09	Coromandel Sugars Ltd	Associate Company
10	India Cements Capital Ltd	Associate Company
11	Raasi Cement Ltd	Associate Company
12	Coromandel Travels Limited	Associate Company

5. RELIANCE INDUSTRY LIMITED

◆ INTRODUCTION:

The Reliance Group, founded by Dhirubhai H. Ambani (1932-2002), is India's largest private sector enterprise, with businesses in the energy and materials value chain. Group's annual revenues are in excess of US$ 28 billion. The flagship company, Reliance Industries Limited, is a Fortune Global 500 company and is the largest private sector company in India.

In the year 1966 the RIL was founded by Shri Dhirubhai H.Ambani, it was started as a small textile manufacturer unit. In May 8th, 1973 RIL was incorporated and conformed their name as RIL in the year 1985. Over the years, the company has transformed their business from manufacturing of textiles products into a petrochemical major. RIL is the largest private-sector enterprise in India in terms of revenues, profits, net worth, assets and market capitalization. It's operations capture value addition at every stage, from the production of crude oil and gas to polyester, polymer and chemical products, and finally to the production of textiles. The company operates mainly in India but has business activities and customers in more than 100 countries around the world. It has production facilities at three major locations in India and a further four locations in Europe. It also has exploration and production interests in India, Yemen and Oman.

The merger places Reliance in the reckoning for a place in the Fortune Global 500 list of the world's largest corporations. During the year the company has also amalgamated Indian Petrochemicals Corporations Limited (IPCL), which leads to compete from a stronger base in the global market. Reliance discovered natural gas in the very first exploration well it drilled in the deep-water exploration block KG-D6 in the Krishna-Godavari basin off Andhra Pradesh. In 2004-05, RIL acquired the polyester major, Trevira GmbH, headquartered in Frankfurt, Germany which has the capacity of 130,000 tones per annum of polyester staple fibers, polyester filament yarns and polyester chips.

◆ VISION AND MISSION OF THE COMPANY:

→ Growth through Commitments
→ Growth is care for good health
→ Growth is care for safety
→ Growth is care for the environment
→ Growth is betting on our people
→ Growth is thinking beyond business

We care about…………

- Quality
- Research & Development
- Health, Safety & Environment
- Human Resource Development

- Energy Conservation
- Corporate Citizenship

Reliance believes that any business conduct can be ethical only when it rests on the nine core values of Honesty, Integrity, Respect, Fairness, Purposefulness, Trust, Responsibility, Citizenship and Caring. The essence of these commitments is that each employee conducts the company's business with integrity, in compliance with applicable laws, and in a manner that excludes considerations of personal advantage. We do not lose sight of these values under any circumstances, regardless of the goals we have to achieve. To us, the means are as important as the ends.

◆ BOARD OF DIRECTORS:

No.	Designation	Name
01	Chairman & Managing Director	Mukesh D Ambani
02	Executive Director	Nikhil R Meswani
03	Executive Director	Hital R Meswani
04	Executive Director	Hardev Singh Kohli
05	Director	Ramniklal H Ambani
06	Director	Mansingh L Bhakta
07	Director	Yogendra P Trivedi
08	Director	Dharam Vir Kapur
09	Director	Mahesh P Modi
10	Director	Ashok Misra
11	Director	Dipak C Jain
12	Director	Raghunath A Mashelkar
13	Company Secretary	Vinod M Ambani
14	Executive Director	R Ravimohan
15	Executive Director	PMS Prasad

◆ BOARD COMMITTEES

The Board has established the following Committees to assist the Board in discharging its responsibilities:

- Audit Committee
- Remuneration Committee
- Shareholders'/Investors' Grievance Committee
- Finance Committee
- Health, Safety and Environment Committee
- Corporate Governance and Stakeholders' Interface Committee
- Employees Stock Compensation Committee

The Board has adopted charters setting forth the roles and responsibilities of each of the above Committees as well as qualifications for Committee membership, procedures for Committee members' appointment and removal, Committee structure and operations and reporting to the Board. The Board may constitute new Committees or dissolve any existing Committee, as it deems necessary for the discharge of its responsibilities.

◆ PRODUCTS AND BRANDS OF THE COMPANY:

The Company expanded into textiles in 1975. Since its initial public offering in 1977, the Company has expanded rapidly and integrated backwards into other industry sectors, most notably the production of petrochemicals and the refining of crude oil.

The Company now has operations that span from the exploration and production of oil and gas to the manufacture of petroleum products, polyester products, polyester intermediates, plastics, polymer intermediates, chemicals and synthetic textiles and fabrics.

The Company from time to time seeks to further diversify into other industries. The Company's subsidiary Reliance Jamnagar Infrastructure Limited is currently establishing infrastructure facilities such as roads and buildings for the proposed Special Economic Zone (SEZ) at Jamnagar, Gujarat.

The Company's major products and brands, from oil and gas to textiles are tightly integrated and benefit from synergies across the Company. Central to the Company's operations is its vertical backward integration strategy; raw materials such as PTA, MEG, ethylene, propylene and normal paraffin that were previously imported at a higher cost and subject to import duties are now sourced from within the Company. This has had a positive effect on the Company's operating margins and interest costs and decreased the Company's exposure to the cyclicality of markets and raw material prices. The Company believes that this strategy is also important in maintaining a domestic market leadership position in its major product lines and in providing a competitive advantage.

The Company's operations can be classified into four segments namely:

- Petroleum Refining and Marketing business
- Petrochemicals business
- Oil and Gas Exploration & Production business
- Others

The Company has the largest refining capacity at any single location. The Company is:

- Largest producer of Polyester Fiber and Yarn
- 4th largest producer of Polypropylene (PP) and Paraxylene (PX)
- 6th Largest producer of Purified Terephthalic Acid (PTA)
- 7th largest producer of Mono Ethylene Glycol (MEG)

◆ MANUFACTURING FACILITIES IN VARIOUS PLANTS OF THE COMPANY:

Reliance Industries Limited operates world-class manufacturing facilities across the country at Allahabad, Barabanki, Dahej, Hazira, Hoshiarpur, Jamnagar, Nagothane, Nagpur, Naroda, Patalganga, Silvassa and Vadodara.

- Allahabad Manufacturing Division located in Allahabad, Uttar Pradesh, is spread over 105 acres. It is equipped with polymerization and continuous polymerization facilities.

- Barabanki Manufacturing Division located near Lucknow, Uttar Pradesh, is spread over 106 acres. It manufactures Black Fibre.

- Dahej Manufacturing Division located near Bharuch, Gujarat, is spread over 1,778 acres. It comprises of an ethane / propane recovery unit, a gas cracker, a caustic chlorine plant and 4 downstream plants, which manufacture polymers and fibre intermediates.

- Hoshiarpur Manufacturing Division located in Hoshiarpur, Punjab, is spread over 69 acres. It manufactures a wide range of PSF, PFF, POY and polyester chips.

- Hazira Manufacturing Division located near Surat, Gujarat, is spread over 700 acres. It comprises of a Naptha cracker feeding downstream fibre intermediates, plastics and polyester plants.

- Jamnagar Manufacturing Division located in Jamnagar, Gujarat, is spread over 7,400 acres. It comprises of a petroleum refinery and associated petrochemical plants. The refinery is equipped to refine various types of crude oil (sour crude, sweet crude or a mixture of both) and manufactures various grades of fuel from motor gasoline to Aviation Turbine Fuel (ATF). The petrochemicals plants produce plastics and fibre intermediates.

- Nagothane Manufacturing Division located in Raigad, Maharashtra, is spread over 1,860 acres. It comprises of an ethane and propane gas cracker and five downstream plants for the manufacture of polymers, fibre intermediates and chemicals.

- Nagpur Manufacturing Division located in Nagpur, Maharashtra, is spread over 368 acres. It manufactures polyester filament yarn, dope-dyed specialty products of different ranges, fully drawn yarn and polyester chips.

- Naroda Manufacturing Division located near Ahmedabad, Gujarat, is RIL's first manufacturing facility and is spread over 150 acres. This synthetic textiles and fabrics manufacturing facility manufactures and markets woven and knitted fabrics for home textiles, synthetic and worsted suiting and shirting, ready to wear garments and automotive fabrics.

- Patalganga Manufacturing Division located near Mumbai, Maharashtra, is spread over 200 acres. It comprises of polyester, fibre intermediates and linear alklyl benzene manufacturing plants.

- Silvassa Manufacturing Division located in the Union Territory of Dadra and Nagar Haveli, is spread over 127 acres. It manufactures a wide range of specialty products such as Recron Stretch, Linen Like, Melange, Thick-n-thin and Bi-shrinkage yarns.

- Vadodara Manufacturing Division located in Vadodara, Gujarat, is spread over 1,263 acres. It comprises of a Naptha cracker and 15 downstream plants for the manufacture of polymers, fibres, fibre intermediates and chemicals.

Each of these complexes has world class manufacturing facilities.

◆ INNOVATION:

For those who study innovative organizations Reliance Industries will be a shining example of how innovation is practiced in almost everything that they do. Here are few things that set them apart:

- **"Impossible is an inspiring word"** - Nothing turns on the leadership at Reliance Industries than this magical word. Again to quote the Jamnagar example, it was considered impossible to turn a barren land into a greenbelt. Today mangoes grown in Jamnagar are sold in Harrods London.

- **"Hands on thinking, hands off execution."** - It is characteristic of Reliance leadership. They think everything through and meticulous planning is their hall mark. When it comes to execution empowerment delegation down to the last employee in the chain is clearly demonstrated.

- **"First time it is learning. Second time it is a mistake."** - Mistakes are never frowned upon; instead they are treated as a learning opportunity. It is one such mistake converted to learning that created the world's largest 'Craft Centre' located at Jamnagar. Cumulatively it has trained 1, 50,000 workmen - electricians, welders, carpenters.

- **"Sense of urgency"** - Reliance speed is legendary now. Reliance has mastered project management skills and has made it virtually into a fine art. It is this sense of speed that restored operations in record time in Jamnagar, Patalganga and Hazira after being affected by cyclones and floods.

- **"Think. Anticipate. Be prepared."** Part of meticulous thinking is the ability to anticipate problems. "Every transformation initiative will face resistance. It is our job to anticipate the resistance, take the responsibility to earn the respect of all stakeholders to create a win-win business model."

- **"Dreams and Vision are the most potent fuels in the world."** - This is an unmistakable Reliance hallmark espoused both by the founder Chairman Sh. Dhirubhai Ambani and the current Chairman Sh. Mukesh Ambani. To a question on what would be his next big ambition Sh. Mukesh Ambani answered "Rural transformation. Creating direct employment for half a million people in rural India. Creating a supply chain that the world will envy."

- **"Measuring success differently"** - Developing a metric to measure how much money was spent, is just one example of inspiring people to think and act differently and effectively.
- **"Asking the right questions."** - Reliance Leadership excels in asking the right questions. The company folklore is replete with examples of deceptively simple questions, leading on to incredible outcomes. Commonsense is the bedrock of such thinking.

"Hard work, timely decisions, speed and ingenuity" says one of the senior managers of Reliance Industries to sum up what Reliance is all about. It is evident that Reliance Industries is where it is today because of Innovation in thinking and execution. Given its ambition for India and its own organization Reliance leadership has now taken on a major initiative in the innovation domain.

The leadership of RIL recognizes that its biggest competitive advantage and differentiator in the future would be innovation. Innovation has to become the language, the behaviour definer, the culture and the soul of Reliance, even more explicitly than ever before.

◆ MAJOR SUBSIDIARIES:

»	Reliance Netherlands B.V.
»	Reliance Retail Limited
»	Reliance Jamnagar Infrastructure Limited
»	Reliance Haryana SEZ Limited
»	Reliance Industrial Investments and Holdings Limited
»	Reliance Ventures Limited
»	Reliance Strategic Investments Limited
»	Reliance Exploration and Production DMCC
»	Reliance Industries (Middle East) DMCC
»	Reliance Global Management Services Limited
»	Reliance Commercial Associates Limited
»	RIL (Australia) Pty Ltd
»	Recron (Malaysia) Sdn Bhd

»	Gulf African Petroleum Corporation (Mauritius)
»	GAPCO Tanzania Limited
»	GAP Oil Tanzania Limited
»	GAPCO Kenya Limited
»	Transenergy Kenya Limited
»	GAPCO Uganda Limited
»	GAPCO Rwanda Sarl
»	GAP Oil (Zanzibar) Limited
»	Reliance Fresh Limited
»	Retail Concepts and Services (India) Limited
»	Reliance Retail Insurance Broking Limited
»	Reliance Dairy Foods Limited
»	Reliance Retail Finance Limited
»	RESQ Limited
»	Reliance digital Retail Limited
»	Reliance Financial Distribution and Advisory Services Limited
»	Reliance Hyper mart Limited
»	Reliance Retail Travel & Forex Services Limited
»	Reliance Brands Limited
»	Reliance Wellness Limited
»	Reliance Footprint Limited
»	Reliance Integrated Agri Solutions Limited
»	Reliance Trends Limited
»	Reliance Lifestyle Holdings Limited
»	Reliance Universal Ventures Limited
»	Reliance AutoZone Limited
»	Strategic Manpower Solutions Limited
»	Reliance Gems and Jewels Limited
»	Delight Proteins Limited
»	Reliance F&B Services Limited
»	Reliance Agri Products Distribution Limited
»	Reliance Leisures Limited
»	Reliance Retail Securities and Broking Company Limited
»	Reliance Home Store Limited
»	Reliance Trade Services Centre Limited
»	Reliance Food Processing Solutions Limited
»	Reliance Supply Chain Solutions Limited
»	Reliance Loyalty and Analylitics Limited
»	Reliance Digital Media Limited

➢	Reliance-Grand Optical Private Limited
➢	Reliance Vantage Retail Limited
➢	Reliance People Serve Limited
➢	Reliance Infrastructure Management Services Limited
➢	Reliance International Exploration and Production, Inc
➢	Reliance Petro investments Limited
➢	Reliance Universal Commercial Limited
➢	Reliance Global Commercial Limited
➢	Wave Land Developers Limited
➢	Reliance Cyprus Limited
➢	Reliance Global Business B.V.
➢	Reliance Global Energy Services Limited
➢	Reliance Gas Corporation Limited
➢	Reliance Global Energy Services (Singapore) Pte. Ltd
➢	Reliance Polymers (India) Limited
➢	Reliance Polyolefins Limited
➢	Reliance Aromatics & Petrochemicals Private Limited
➢	Reliance Energy and Project Development Private Limited
➢	Reliance Chemicals Limited
➢	Reliance Universal Enterprises Limited
➢	Reliance One Enterprises Limited
➢	Reliance Personal Electronics Limited
➢	International Oil Trading Limited
➢	Reliance Review Cinema Limited
➢	Reliance Replay Gaming Limited
➢	Reliance Nutritional Food Processors Limited
➢	Reliance Commercial Land & Infrastructure Private Limited
➢	Reliance Eminent Trading & Commercial Private Limited
➢	Reliance Progressive Traders Private Limited
➢	Reliance Prolific Traders Private Limited
➢	Reliance Universal Traders Private Limited
➢	Reliance Prolific Commercial Private Limited
➢	Reliance Com trade Private Limited
➢	Reliance Ambit Trade Private Limited
➢	Reliance Corporate IT Park Limited
➢	Reliance Petro Marketing Limited
➢	LPG Infrastructure (India) Private Limited
➢	Reliance Infosolution Private Limited
➢	RIL USA Inc.

»	Reliance Corporate Centre Limited
»	Reliance Convention and Exhibition Centre Limited
»	Central Park Enterprises DMCC
»	Reliance International B.V.

◆ **MAJOR ASSOCIATES**:

»	Reliance Industrial Infrastructure Limited
»	Reliance Europe Limited

◆ **CORPORATE GOVERNANCE:**

Corporate Governance at Reliance is based on the following main principles:

- Constitution of a Board of Directors of appropriate composition, size, varied expertise and commitment to discharge its responsibilities and duties.
- Ensuring timely flow of information to the Board and its Committees to enable them to discharge their functions effectively.
- Independent verification and safeguarding integrity of the Company's financial reporting.
- A sound system of risk management and internal control.
- Timely and balanced disclosure of all material information concerning the Company to all stakeholders.
- Transparency and accountability.
- Compliance with all the applicable rules and regulations.
- Fair and equitable treatment of all its stakeholders including employees, customers, shareholders and investors.

6. STERLITE INDUSTRY LIMITED

◆ **INTRODUCTION:**

Sterlite Industries (India) Ltd (SIIL), a leading producer of copper in India came into business track in 8th September of the year 1975 as Rainbow

Investments Limited. Sterlite, a part of Vedanta Resources a London listed metals and mining major with Aluminium, Copper and Zinc operations in India and Australia, continues to seek improvements in its business, having set benchmarks to LME grade A standards in Copper products manufacturing. The notable thing is, SIIL is the first private sector smelter in India and also an ISO 9001:2000, ISO 14001 and OHSAS 18001 Certified Organization. The Company's main products, Copper Cathodes and Copper Rods meet global quality benchmarks. The operations of the company are Mining, Smelting and Refining.

Sterlite is India's largest non-ferrous metals and mining company and is one of the fastest growing private sector companies. Sterlite is listed on BSE, NSE and NYSE. It was the first Indian Metals & Mining Company to list on the New York Stock Exchange.

◆ VISION AND MISSION OF THE COMPANY:

(1) VISION:

To be the world's leading copper producer delivering sustainable value to all stakeholders by leveraging technology and best practices.

(2) MISION:

- To build a knowledge and process driven organization through TPM
- To create sustainable value through safe, clean and green processes
- To sustain leadership position in domestic and global market through market development and customer delight.
- To be the best and most respectable corporate citizen
- To leverage technology to its full potential across the business cycle

- To harness the profitable and growing CCR/value added product from 240KMT to 600 KMT per annum.
- To achieve Zero cost and beyond
- To secure raw material through long term contracts and captive mines

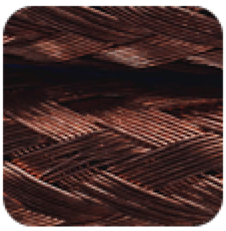
◆ BOARD OF DIRECTORS:

No.	Designation	Name
01	Chairman	Mr. Anil Agarwal
02	Executive Vice Chairman	Mr. Navin Agarwal
03	Managing Director	Mr. Berjis Minoo Desai
04	Non - Executive Director	Mr. Gautam Bhailal Doshi
05	Non - Executive Director	Mr. Sandeep H. Junnarkar
06	Whole Time Director	Mr. DD Jalan
07	Chief Executive Officer	Mr. R. Kishore Kumar
08	Chief Operating Officer	Mr. Ramesh Nair
09	Chief Financial Officer	Mr. Vinod Bhandawat

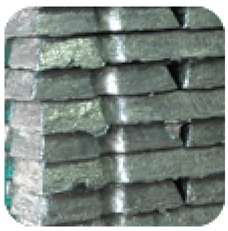
◆ BUSINESS OF THE COMPANY:

We are India's largest non-ferrous metals and mining company based on net sales and market capitalization. In India, one of the fastest growing markets in the world, we have three primary businesses:

Aluminium



Copper



Zinc

◆ PRODUCTS OF THE COMPANY:

(1) Copper Cathodes: "STERLITE" & "STERLITE T" Copper cathodes are produced using state-of-the-art "ISA electro-refining" technology at

Silvassa and "ISA 2000 electro refining" technology at Tuticorin respectively.

Applications:

- Continuous Cast Copper Rods
- Copper Wire Bars, Bus bars, Billets, Ingots, Moulds and Other semis
- Copper based alloys and downstream products
- Copper tubes, strips and foils

(2) Continuous Cast Copper Rods: SIIL continuous cast Copper rods are produced using the Propezi technology. The rods are coiled in an orbital laying form to prevent entanglement while being uncoiled by the customers. Each coil is compacted, strapped and wrapped with polyethylene wraps as well as stretch-wrapped to prevent exposure to dust and ensure a good arrival condition at the receiving end by the customers.

Applications:

- Jelly Filled Telephone Cables
- Magnetic wires & Winding wires
- Power Cables
- Automobile Wire Harness
- Communication Cables
- House wiring
- Conductors (Rounds and Flats)
- Transformer

(3) Precious Metals: Copper concentrate, apart from copper, contains traces of gold & silver. The gold & silver thus present is extracted during electrolysis (final stage of copper extraction cycle) in the form of black powder called Anode Slime. Typical gold & silver content in slime are 2% & 12% respectively. Presently Sterlite Industries (India) Ltd does not have refining facility to treat or refine Anode slime. The slime is being exported to European & other refineries.

(4) Chemical Products:

- Sulphuric Acid
- Phosphoric Acid
- Gypsum

◆ BUSINESS OPERATIONS:

- **Mining:** Sterlite Industries (India) Ltd. (SIIL) operates one copper mine in Australia through its subsidiary. Copper Mines of Tasmania operates the Mount Lyell Mine in Western Tasmania, Australia. This is an underground mine and it has an ore resource of approximately 14.2 million tones of ore at an average grade of 1.3% Copper. The life of the mine is approximately 4 years at the current operating rate.

- **Smelting:** Copper concentrates from Sterlite Industries (India) Ltd. (SIIL)'s copper mine is blended with bought out concentrates from other sources and treated to get optimum results. The Smelter is based on a proven energy efficient and environment friendly technology, viz. IsaProcess™ from MIM, Australia, world leaders in Copper smelting technology. The ISA™ furnace is a vertical shaft type furnace completely lined with refractory into which wet copper is charged along with quartz and limestone into the molten bath. As a result of the chemical reactions that take place in the bath, the Copper Concentrate gets converted into two products-Matte, a mixture of sulphide (containing copper and iron), and Slag. Matte is taken to the Rotary Holding furnace where the slag separates out due to differential density. The Copper Matte is converted into Blister Copper in the Pierce Smith Converter in two stages.

- **Sulphuric Acid Plant**: The sulphur dioxide gases generated in the smelting process is collected and ducted to the Sulphuric Acid Plant. Set up with basic engineering from Kvaerner Chemetics, Canada, the plant is based on the absorption process known as DCDA, and has a designed capacity to produce **1600** tonnes of sulphuric acid per day.

- **Phosphoric Acid Plant:** Sulphuric acid is reacted with rock phosphate in the Phosphoric Acid Plant to produce phosphoric acid. Technology and basic engineering for this plant has been sourced from Hydro Agri International, UK, and the process used is known as Hemi-hydrate Di Hydrate Process. The plant has an installed capacity to produce **180,000** tones of Phosphoric Acid per annum.

- **Refining:** The anode produced by the smelters is processed in the Silvassa and Tuticorin refineries using IsaProcess™ technology sourced from MIM, Australia. The Refineries convert Copper anodes to electrolytic grade Copper cathodes of 99.99% purity. The unique feature of ISA™ refineries is the use of permanent stainless steel cathode plates and its capacity to ensure consistently high operational efficiency and product quality. Electrolysis process deposits pure copper (99.99%) on the stainless steel cathode plates. The impurities and precious metals contained in anodes settle down as anode slimes. Cathodes are then automatically washed, stripped and packed. The material handling equipment is sourced from Wenmec. Continuous monitoring and analysis of refining process through an advanced DCS system ensures close process control. A well-equipped laboratory to test the cathodes for purity and structure of the deposit backs the production facility. A state-of-the-art electrolyte purification plant supplied by Ecotech helps in keeping electrolyte clean and within close limits to get superior quality product and to ensure high operational efficiencies. An acid purification plant contributes to the purification of the electrolyte, significantly enhancing the quality of the cathodes.

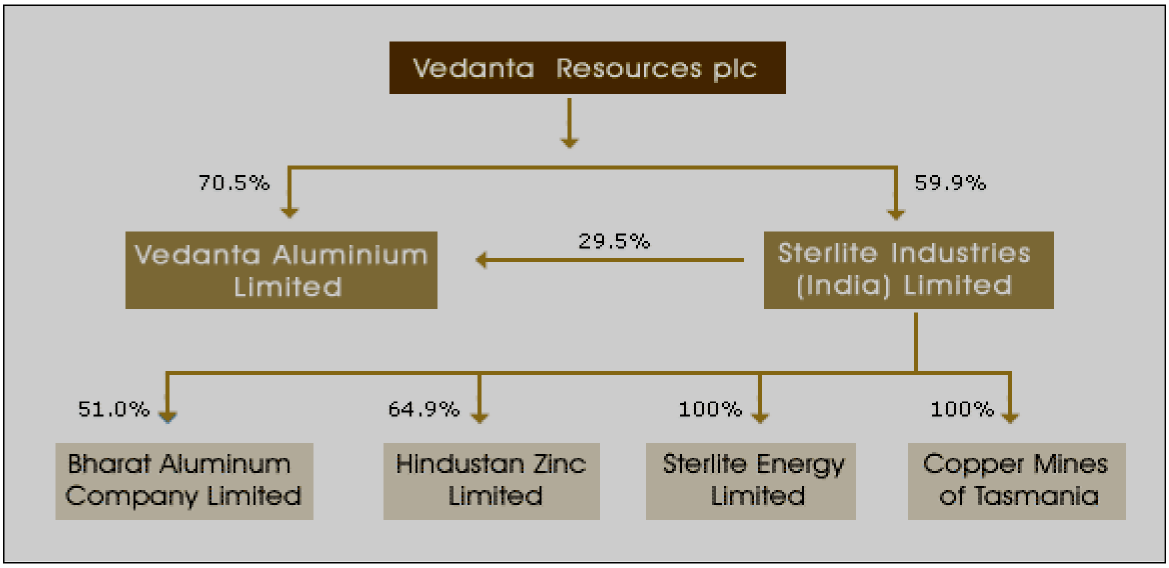
- **Precious Metals Recovery:** During the electro-refining process, precious metals like gold, silver and platinum present in the anode settle down at the bottom of the cells along with other impurities. This collection is known as anode slime and it is subjected to atmospheric leaching for recovery of copper -- filtered, dried and bagged. The leached slime is exported for recovery of precious metals.

- **Continuous Cast Rod (CCR):** Sterlite Industries is one of two custom smelters in India and set up two continuous cast copper The Continuous Cast Copper Rod (CCR) Plants are based on technology and equipment from Continues Properzi, Italy. The plants have total annual capacity of 240,000 tones. Cathodes are melted in a vertical shaft furnace based on technology from ASARCO, USA. The molten copper is transferred to the casting Wheel through a holding Furnace. Highly accurate measurement and control systems, intrinsic to the Properzi technology, are used to maintain optimum level of molten metal, which is cast into the form of a continuous bar. The continuously cast copper bar is fed into the rolling mill consisting of a unique combination of 2-roll and 3-roll configuration designed to produce excellent quality of rods in different sizes. Online pickling, drying and waxing ensure that the rod is free of oxide scales.

◆ GROUP COMPANIES:

Sterlite's principal operating companies comprise Hindustan Zinc Limited (HZL) for its fully integrated zinc and lead operations; Sterlite Industries India Limited (Sterlite) and Copper Mines of Tasmania Pty Limited (CMT) for its copper operations in India/Australia; and Bharat Aluminium Company (BALCO), for its aluminium and alumina operations and Sterlite Energy for its commercial power generation business.

GROUP STRUCTURE:



◆ STRATEGY:

Our goal is to generate strong financial returns and create a world-class metals and mining company. To achieve this goal, we intend to take full advantage of our competitive strengths. Key elements of our strategy include:

- Increasing our capacities through Greenfield and Brownfield projects. We intend to continue the construction of new facilities to capitalize upon the growing demand for metals in India and abroad, particularly in China, Southeast Asia and the Middle East.
- Leveraging our project execution and operating skills and experience in building and operating captive power plants to develop a commercial power generation business. We believe the commercial power generation business represents an attractive growth opportunity in India and that our experience in building and operating captive power plants positions us to develop this as a stand-alone business.
- Continuing to focus on asset optimization and reducing the cost of production. We focus on reducing our cost of production, including maximizing our throughput and plant availability, reducing energy costs and consumption, increasing automation, improving recovery ratios, reducing our raw material costs and seeking better utilization of by-products.

- Seeking further growth and acquisition opportunities that leverage our transactional, project execution and operational skills. We continually seek new growth and acquisition opportunities in the metals and mining and related businesses, primarily in India, including government privatization programs.
- Consolidating our corporate structure and increasing our direct ownership of our underlying businesses to derive additional synergies as an integrated group. We have exercised our option to acquire the Government of India's remaining 49.0% ownership interest in BALCO and are seeking to complete this acquisition.

◆ CORPORATE SOCIAL RESPONSIBILITY:

As an evolved and concerned corporate citizen, we do not see CSR as charity; not even as responsibility; but as an opportunity to impact the nearby communities positively and all our activities are determined by the concept of "Changing Lives": where we constantly endeavor to improve the quality of life of the communities where we operate. Our activities are conceived to bridge gaps in society and help transform communities around our workplace and are concentrated around 25 villages across Tuticorin positively enhancing the quality of life of over one lakh people. Our projects are mainly focused on upliftment of the life of women, children and youth in our field of operations.

7. TATA CHEMICAL LIMITED

◆ INTRODUCTION:

Tata Chemicals Limited (TCL) is a global company with interests in chemicals, crop nutrition and consumer products. It is the world's second largest producer of soda ash. With manufacturing facilities in India, UK, the Netherlands, Kenya and USA, TCL is the world's most geographically diversified soda ash company, with an efficient supply chain that can service customers better and faster across the globe.

Established in 1939 at Mithapur (in Gujarat, India), TCL is a part of the Tata group. The company is a pioneer and market leader in the Indian branded iodized salt segment and India's leading producer of nitrogenous and phosphatic fertilizers.

TCL's global soda ash capacity is around 5.5 million tones per annum, out of which 60 per cent capacity is from natural soda ash deposits at Wyoming, USA and Lake Magadi, Kenya. Along with soda ash (sodium carbonate), the company also manufactures sodium bicarbonate and bulk chemicals such as sulphuric acid, phosphoric acid, and sodium tripoly phosphate (STPP).

The company has extended its operations into the services sector and touches lives through applications in agriculture, animal nutrition, construction, consumer products, glass, metals, pharmaceuticals, soaps and detergents, and textiles and leather industries.

◆ VISION AND MISSION OF THE COMPANY:

(1) MISSION:

- Serving society through science

(2) VISION:

- Leveraging science to deliver new and innovative offerings
- Enhancing value to our customers
- Delivering superior returns to our shareholders
- Leading in corporate sustainability
- Nurturing innovation, learning through diversity and team work amongst employees

(3) VALUES:

- Integrity
- Safety

- Excellence
- Care
- Innovation

◆ BOARD OF DIRECTORS:

No.	Designation	Name
01	Chairman	Ratan N Tata
02	Vice chairman	R Gopalakrishnan
03	Managing director	R Mukundan
04	Executive director	Kapil Mehan
05	Executive director and CFO	PK Ghose
06	Directors	Prasad R Menon
07	Directors	Dr Yoginder K Alagh
08	Directors	Dr Y S P Thorat
09	Directors	Nusli N Wadia
10	Directors	Dr M S Ananth
11	Directors	Nasser Munjee
12	Directors	E A Kshirsagar

◆ PRODUCTS OF THE COMPANY:

Tata Chemicals' products find use in a wide range of pharmaceutical, food processing and industrial applications that touch our lives on a daily basis. From food processing and fresh produce, to detergents and drugs, Tata Chemicals produces high quality chemicals and ingredients that go a long way to improving the quality of our lives.

(1) Soda ash: Tata Chemicals is the world's second largest producer of soda ash with a global capacity of around 5.5 million tones per annum, of which 60 per cent capacity is from natural soda ash deposits at Wyoming, USA and Lake Magadi, Kenya. Soda ash is manufactured synthetically at TCL's Mithapur plant in India and Brunner Mond's plants in the UK and the Netherlands. At Mithapur, TCL uses the conventional Sol way process to produce soda ash. Its product line consists of four categories:

- Soda ash light
- Soda ash dense
- Soda ash medium dense
- Soda ash granular

Apart from TCL, soda ash is also globally manufactured and supplied by General Chemical Industrial Products, Brunner Mond and Magadi Soda Company.

Uses of Soda ash

- This multipurpose chemical is used in a variety of industries, most prominently in the manufacture of glass, where it reduces the melting temperature of the sand used in glass formation and helps in the 'workability' or shaping of glass articles such as tableware and float glass.
- Soda ash is a major ingredient in the making of soaps and detergents. Here it is employed as a builder, or filler, to give a smoother surface in formulations of soaps, detergents and other cleaning compounds.
- This resourceful alkali, the least expensive of soluble alkalis, is widely used in the production of chemicals such as sodium silicate, sodium bicarbonate and pecarbonate, sodium chromate and dichromate, etc.

(2) Sodium bicarbonate (Cooking up new applications): Tata Chemicals' sodium bicarbonate business focuses on global markets and new business applications. The company makes sodium bicarbonate for pharmaceutical and industrial use, and as a food additive. TCL's sodium bicarbonate plant has a capacity of 50,000 tones per annum. Its products sell in India, the Middle East, Africa and Bangladesh. The company produces three varieties of sodium bicarbonate that meet stringent quality standards:

- Sodium bicarbonate technical
- Sodium bicarbonate refined

- Sodium bicarbonate granular

Applications:

(A) **Industrial:** The sodium bicarbonate manufactured by Tata Chemicals meets the high standards required by the pharmaceutical industry. Sodium bicarbonate is a vital ingredient in the production of over-the-counter drugs such as effervescent antacids, analgesic tablets and powders, toothpaste and antacid gel formulations.

(B) **Food additives:** Another wide application of sodium bicarbonate is in the form of cooking soda. TCL manufactures and sells this food additive under the brand name Tata Samunder Cooking Soda. Cooking soda is an ingredient already familiar to Indian consumers but so far, it has only been available in an unbranded form and is purchased either loose or in unmarked plastic pouches. Tata Samunder refined food grade soda bicarbonate ($NaHCO_3$) is pure and unadulterated, and a value-for-money alternative to unbranded products available in the market.

(3) Alkakarb: Alkakarb, the first animal feed grade sodium bicarbonate in India, is TCL's first step towards value-added bicarbonate business. The company desires to use the bicarbonate brands already conceived by Brunner Mond so as to have homogeneity across its business geographies. Alkakarb is specially packed for use in poultry and ruminant diets and for general animal feed use. The use of sodium bicarbonate as a feed additive helps poultry in following:

- Provides high purity source of chloride-free sodium
- Improves growth rate
- Alleviates of heat stress
- Prevents problems caused by poor litter quality
- Increases eggshell strength thereby minimizing breakages

Alkakarb, which contains 27 per cent sodium by weight, can also be used to maintain the natural pH in the saliva of ruminants, such as dairy cattle, enabling micro-organisms to survive in the cattle gut, aiding digestion.

(4) Allied chemicals:

a. **Caustic soda:** TCL is able to deliver low-cost caustic soda to the market due to its adoption of energy-efficient, membrane-cell technology and the captive availability of salt and of power at the Mithapur facility. As a versatile alkali, caustic soda is used in a variety of industries, the major ones being rayon, cellophane, soap, pulp and paper.

b. **Chlorine based products:** TCL produces hydrochloric acid and liquid chlorine at its Mithapur facility.

c. Brunner Mond makes and sells calcium chloride in its UK facilities.

d. **Bromine based products:** TCL manufactures several variants of bromine and bromine-based compounds, such as liquid bromine technical, hydrobromic acid and sodium bromide (photographic grade).

e. Bromine is used primarily in the manufacture of organic and inorganic bromides. It is also used as a crucial reagent in preparing several organic compounds requiring bromination. Other variants are used in the preparation of photographic emulsions, for processing photographic films and paper, in lithography, as an analytical reagent, as a soil fumigant, and in the making of flame retardants, drilling fluids, water treatment, dyes, and brominated pesticides.

f. **Gypsum:** Gypsum, formed in crystalline lumps or powder form, is yet another product from the Tata Chemicals stable.

g. **Phosphoric and sulphuric acids:** TCL's Haldia plant produces industrial grade phosphoric and sulphuric acids; these are inputs to the manufacturing of phosphatic fertilizers at the plant, and are also a part of TCL's product portfolio.

Uses: Phosphoric acid is a key input to the manufacture of phosphatic fertilizers. Sulphuric acid's uses include ore processing, fertilizer manufacturing, oil refining, and wastewater processing and chemical synthesis. The major use of sulphuric acid globally is in the wet process for manufacture of phosphoric acid.

(5) **Sodium tripolyphosphate (Clean sweep):** Sodium tripolyphosphate (STPP), a key product in TCL's product portfolio, is made in two technical grades NTR and HTR. STPP is made at TCL's Haldia complex at West Bengal. The product competes favorably with the only other product available in the segment — zeolite — in terms of cost as well as performance as it is a more effective binder and needs to be used in smaller volumes as compared to zeolite.

Uses:

- STPP is used as a builder in detergents, cleansing agents.
- It is also used as an agent in the manufacturing process for textile processing, etc.

(6) **Cement (Good housekeeping):** Today cement is a major success story for TCL. What makes it interesting is that this product was born out of an environmental initiative. Tata Shudh cement is an example of how the company's philosophy of 'avoid, reduce and recycle' operates. The cement plant at Mithapur was set up solely to consume the solid waste generated during the manufacture of soda ash. The plant has an installed capacity of 1,500 tones per day and manufactures two varieties of cement under the brand name Shudh Cement:

- Ordinary Portland Cement (grade 53)
- Masonry Cement

(7) **Fertilizers (The land of plenty):** Nitrogen, phosphorous and potassium are key agro-nutrients for crops. In India Tata Chemicals is present in all three crop nutrition groups through its fertilizer product base that spans:

- Urea (a nitrogenous fertilizer)
- DAP (contains both nitrogen and phosphorus)
- NPK complexes (contains all three nutrients)
- SSP (phosphorus based).

Additionally, the company imports and sells MOP and DAP and supplies organic materials and other specialty fertilizers such as calcium nitrate and zinc sulphate

Urea

Urea is an important nitrogenous fertilizer. The nature of the soil in many Indian regions is such that nitrogenous fertilizers are an important input for most crops. Tata Chemicals is a major manufacturer of the product in India. The company makes urea at its fertilizer complex in Babrala. The complex has an installed capacity of 8, 64,000 tones per year, which constitutes nearly 12 per cent of the total urea produced by India's private sector. The Babrala facility, among the best of its kind in India and comparable to the best in the world, has set new standards in technology, energy conservation, productivity and safety. It is the only fertilizer plant in the country to use dual feedstock: natural gas or naphtha, or a combination of both.TCL has an established presence in the states of Uttar Pradesh, Punjab, Haryana, Bihar and Uttaranchal, which account for 48 per cent of the total domestic demand for urea. These states account for over 85 per cent of TCL's urea sales.

(8) **CONSUMER PRODUCT:** Tata Chemicals is the market leader in packaged salts in India with more than half the total market consuming Tata brands. The reason: Tata Salt and its fellow brands go far beyond

taste to target health initiatives such as iodine deficiency and low sodium requirements. Tata Salt has won accolades as India's most trusted food brand for several years. New brands I-Shakti and Tata Salt Lite are also creating waves in the market. The company manufactures four varieties of salt: iodized salt, crystalline salt, vacuum salt and pure salt.

◆ PROJECTS AND OPERATIONS: INDIA

Tata Chemicals has manufacturing facilities in India, UK, USA, the Netherlands and Kenya. The company's global capacity for soda ash is around 5.5 MTPA, making it the world's second largest producer of soda ash. Tata Chemicals is also a leading player in the consumer products and crop nutrition and agribusiness segments. Following plants are working in the India:

(1) Mithapur

Company	Tata Chemicals
Location	Mithapur, Gujarat
Products	**Chemicals:** Soda ash, chloro-caustic group, marine chemicals, cement **Consumer products:** Salt, cooking soda
Plant info	Installed capacity of 875,000 tpa – about 34 per cent of the country's capacity. The plant is one of the largest producers of synthetic soda ash in the world and has a 5-star rating from the British Safety Council

(2) Babrala:

Company	Tata Chemicals
Location	Babrala, Uttar Pradesh
Products	**Crop nutrition:** Urea
Plant info	Installed capacity of 8,64,600 Tones per year, which constitutes nearly 12 percent of the total urea produced by

	the country's private sector. Two identical streams, each of 1,310 tones per day capacity of Urea. The complex also houses an ammonia plant with a capacity of 1,520 tones per day. The plant has been awarded the Sword of Honour four times by the British Safety Council. It is the only fertilizer plant in the country that uses dual feedstock: natural gas and naphtha.

(3) Haldia

Company	**Tata Chemicals**
Location	Haldia, West Bengal
Products	Chemicals: Sulphuric acid, phosphoric acid, sodium tripolyphosphate (STPP) Crop nutrition: Di-ammonium phosphate (DAP), NPK complexes, single super phosphate (SSP)
Plant info	Only manufacturing unit for DAP/NPK complexes in West Bengal; Haldia's capacity is over 1.2 MTPA. It is also India's largest producer of STPP.

◆ INTERNATIONAL PROJECTS AND OPERATIONS

(1) USA:

Company	**General Chemical Industrial Product**
Location	Green River Basin, Wyoming
Products	**Chemicals:** Soda ash
Plant info	The site contains the world's largest reserves of trona ore, a unique, naturally occurring deposit of exceptionally pure sodium carbonates, readily convertible to high quality soda ash. The facility has a 2.5 million metric tones capacity and consists of an underground trona mine and a surface refining plant that processes the ore into soda ash.

(2) UK:

Company	Brunner Mond
Location	Northwich West (Winnington) and Northwich East (Lostock) sites
Products	**Chemicals:** Soda ash, sodium bicarbonate, calcium chloride, associated alkaline chemicals
Plant info	A new 50,000 tpa sodium bicarbonate plant, targeted at flue gas treatment applications, is coming up on site

(3) Netherlands:

Company	**Brunner Mond**
Location	Delfzijl, The Netherlands
Products	Chemicals: Soda ash, sodium bicarbonate
Plant info	A new 50,000 tpa sodium bicarbonate plant, targeted at pharmaceutical and food grade applications, is coming up on site

◆THE PRACTICE OF GOOD GOVERNANCE:

As a part of the Tata group, Tata Chemicals has always believed in enhancing shareholder value through good corporate governance, which involves transparency, empowerment, accountability and integrity. Corporate governance is a system encompassing the entire mechanics of the functioning of a company and is about doing the right things, at the right time, in the right manner. Corporate governance envisages a simplified and transparent corporate structure driven solely by business needs and hence is a journey and not a destination. Corporate governance stems from the culture and mindset of the management and is therefore beyond the realm of law. It leads to improved employee morale and higher productivity, thereby providing a competitive advantage in the global marketplace.

The fundamental objective of corporate governance policies is to promote corporate fairness, transparency, accountability and responsiveness. These policies seek to focus on enhancement of stakeholder value with integrity, social responsibility and compliance with the laws, thereby satisfying the law in spirit and not merely in word.

8. TATA STEEL LIMITED

◆ PROFILE OF THE TATA GROUP:

The Tata Group of Companies has always believed strongly in the concept of collaborative growth, and this vision has seen it emerge as one of India's and the world's most respected and successful business conglomerates. The Tata Group has traced a route of growth that spans through six continents and embraces diverse cultures. The combined market capitalization of 27 listed companies, being around $40.84 billion, the Group's present shareholder base is 3.2 million. In the face of trying economic challenges in recent times, the Tata Group has steered India's ascent in the global map through its unwavering focus on sustainable development. Over 350,000 people worldwide are currently employed in the seven business sectors in which the Tata Group Companies operate. It is the largest employer in India in the Private Sector and continues to lead with the same commitment towards social and community responsibilities that it has shown in the past.

The Tata Group of Companies has business operations (114 companies and subsidiaries) in seven defined sectors – Materials, Engineering, Information Technology and Communications, Energy, Services, Consumer Products and Chemicals. Tata Steel with its acquisition of Corus has secured a place among the top ten steel manufacturers in the world and it is the Tata Group's flagship Company. Other Group Companies in the different sectors are – Tata Motors, Tata Consultancy Services (TCS), Tata Communications, Tata Power, Indian Hotels, Tata Tea and Tata Chemicals.

◆ PROFILE OF THE TATA STEEL COMPANY:

Tata Steel was established in 1907, as a materialization of its Founder's dream of a prosperous and independent India. Jamsetji Nusserwanji Tata's vision helped Tata Steel to overcome several periods of adversity and strive to improve against all odds. Completing hundred years in 2007, the Company continues on its journey of growth and globalization through organic and inorganic strategies. Driven as much by its commitment to society as by its performance and profits the Tata Steel Vision today aspires to make the Group the global steel industry benchmark for both value creation and corporate citizenship.

The Tata Steel Group has always believed that mutual benefit of countries, corporations and communities is the most effective route to growth. Tata Steel has not limited its operations and businesses within India but has built an imposing presence around the globe as well. With the acquisition of Corus in 2007 leading to commencement of Tata Steel's European operations, the Company today, is among the top ten steel producers in the world with an existing annual crude steel production capacity of around 30 million tones per annum and employee strength of above 80,000 across five continents. The Group recorded a turnover of Rs.147,329 Crores (US$ 28,962 million) in 2008 - 2009. The Company has always had significant impact on the economic development in India and now seeks to strengthen its position of pre-eminence in international domain by continuing to lead by example of responsibility and trust. Tata Steel's overseas ventures and investments in global companies have helped the Company create a manufacturing and marketing network in Europe, South East Asia and the Pacific-rim countries. The Group's South East Asian operations comprise Tata Steel Thailand, in which it has 67.1% equity and Nat

Steel Holdings, which is one of the largest steel producers in the Asia Pacific with presence across seven countries.

◆ VISION AND MISSION OF THE COMPANY:

(1) VISION:

We make the difference through:

- Our **people**, by fostering team work, nurturing talent, enhancing leadership capability and acting with pace, pride and passion.
- Our **offer**, by becoming the supplier of choice, delivering premium products and services, and creating value for our customers.
- Our **innovative approach**, by developing leading edge solutions in technology, processes and products.
- Our **conduct**, by providing a safe working place, respecting the environment, caring for our communities and demonstrating high ethical standards.

(2) MISSION:

- Consistent with the vision and values of the founder Jamsetji Tata, Tata Steel strives to strengthen India's industrial base through the effective utilization of staff and materials. The means envisaged to achieve this are high technology and productivity, consistent with modern management practices.
- Tata Steel recognizes that while honesty and integrity are the essential ingredients of a strong and stable enterprise, profitability provides the main spark for economic activity.
- Overall, the Company seeks to scale the heights of excellence in all that it does in an atmosphere free from fear, and thereby reaffirms its faith in democratic values.

◆ BOARD OF DIRECTORS:

No.	Designation	Name
01	Chairman	Mr. Ratan Tata
02	Vice Chairman	Mr. B. Muthuraman
03	Managing Director	Mr. H.M. Nerurkar
04	Independent, Non - Executive Director	Mr. Nusli Neville Wadia
05	Independent, Non - Executive Director	Mr. Suresh Krishna
06	Independent, Non - Executive Director	Mr. Ishaat Hussain
07	Independent, Non - Executive Director	Dr. Jamshed J. Irani
08	Independent, Non - Executive Director	Mr. Subodh Bhargava
09	Independent, Non - Executive Director	Mr. Jacobus Schraven
10	Independent, Non - Executive Director	Mr. Andrew Robb
11	Independent, Non - Executive Director	Mr. Kirby Adams

◆ PRODUCTS OF THE COMPANY:

Tata Steel`s Jamshedpur Works produces hot and cold rolled coils and sheets, galvanised sheets, tubes, wire rods, construction rebars and bearings. In an attempt to 'decommoditise' steel, Tata Steel has introduced brands like Tata Steelium (the world's first branded Cold Rolled Steel), Tata Shaktee (Galvanised Corrugated Sheets), Tata Tiscon (re-bars), Tata Bearings, Tata Agrico (hand tools and implements), Tata Wiron (galvanised wire products), Tata Pipes (pipes for construction) and Tata Structura (contemporary construction material). Apart from these product brands, the company also has in its folds a service brand called “steeljunction” – the world’s largest retail marketplace for steel. Corus’ main operating divisions comprise Strip Products, Long Products and Distribution and Building Systems Division. The NatSteel group produces construction grade steel such as rebars, ‘cut-and-bend’ cages for construction, mesh, precage bore pile, PC wires and PC strand. Tata Steel Thailand produces round bars and de-formed bars for the construction industry. The various products of the company are as under:

(1) **Raw Materials**: A pioneer in prospecting, discovering and mining iron ore, coal and other minerals, Tata Steel has nearly a century of experience in scientific and sustainable mining; mine planning, development and research. Company-owned and operated mines and collieries have since its inception, met most of the raw material needs of the Company's Steel Works. The Raw Materials Division of Tata Steel raises over 14 million tones of ores from its captive collieries, iron ore mines and quarries spread over the states of Jharkhand and Orissa. The Company's Raw Materials operations in India are mainly spread in three broad areas – iron-ore, chromite and coal. The chromite and manganese mines and their operations have been amalgamated under the 'Ferro Alloys & Minerals Division' that acts as a separate profit centre. Iron-ore and coal being the two key raw materials for steel making, efficient and scientific mining operations give the Company a competitive edge in steel production.

(2) **Flat Products:** World class steel products are manufactured at the Flat Products Division of Tata Steel under three basic categories - Hot Rolled Products, Cold Rolled Products and Galvanised products. With commanding brands like Tata Shaktee and Tata Steelium under its umbrella, the Company is continuously surging ahead in its commitment to re-define the future of Indian Steel. Integrated supply chain starting with self-sufficiency in raw materials procurement, futuristic technology, continuous pursuit for innovation and improvement and an exhaustive pool of highly skilled manpower are some of the factors that have resulted in impressive performance records for this group.

(3) **Long Products:** The Long Products Division of Tata Steel operates as a separate profit centre and was the first to introduce the Thermo Mechanically Treated (TMT) rebar under the brand name Tata Tiscon in the country. Controlled processes, supervision by expert metallurgists and engineers coupled with highly advanced processes make Tata Tiscon the leading rebar in the country. Tata Tiscon is available for both residential and project applications. The residential segment is catered to by the Company’s extensive dealer / distributor network and the project applications segment is handled by the Division's sales offices.

(4) **Bearings:** Over the years, a highly performance-driven approach has helped Tata Bearings achieve an influential and crucial position in its target industry segment. Tata Bearings Division of Tata Steel Limited is one of India's largest quality bearing manufacturers, with a production capacity of 30 million bearing numbers. It is the only bearings manufacturer in India to win the TPM Award (2004) from Japan Institute of Plant Maintenance, Tokyo. The company is foremost in the manufacturing of a wide variety of bearings and auto assemblies and the product range includes:

- Self - Aligning Clutch Release Bearings
- Double Row Self - Aligning Ball Bearings
- Hub Unit Bearings,Tapered Roller Bearings
- Magneto Bearings
- Double - Row Angular Contact Ball Bearings
- Clutch Release Bearings
- Special Purpose Ball Bearings
- Non Standard Ball Bearings

Tata Bearings is supported by Tata Steel’s wide network of offices in India and abroad. It has technical collaboration with NACHI Fujikoshi Corp., of Japan for development and testing of new generation automotive bearings and special application bearings. Tata Steel's bearings and auto components happen to be the preferred choice for key players of the Indian Industry. With more than 20 consignment agency points (warehouses) and 170 stockists spread all over India, the division is geared to serve the ever-increasing needs of both the OEM and the replacement market. Tata Bearings was one of the first to start the concepts of ship to line and JIT delivery and it is presently extending such facilities to customers in different segments.

(5) Wires: To bring about a greater focus to the steel wires business, Tata Steel has brought all its wire manufacturing under the scope of the Global Wires Business. It is one of the top wire manufacturing companies in the world. Tata Steel Wires is the first choice for key players in the wire industry and it services the discerning needs of its customers across global markets. It has a 30% market share of the organized wire market in India. Tata Steel Wires meets the most exacting specifications and requirements of customers and is manufactured with the latest technology coupled with a wealth of experience and expertise in the wire industry. A wide range of wires cater to the needs of various industry segments such as automobile, infrastructure, power and general engineering. The products are well established across the markets of Europe, USA, Middle East Asia, Australasia, South Asia and Asia - Far East.

Tata Steel's Global Wires Business has manufacturing facilities spread across the geographies of India, China, Thailand and Sri Lanka. The products are manufactured in fully integrated manufacturing cycles, from sourcing of raw materials to in-house steel making and wire rod rolling facilities. All the units of operation adhere to strict quality parameters and are ISO certified.

(6) Tubes: The Tubes-SBU promotes three lines of businesses - (i) The Standard Tubes Business under the Tata Pipes brand, (ii) The Precision Tubes Business and (iii) The Steel Hollow Sections Business under the Tata Structura brand. Tata Tubes - a Strategic Business Unit (SBU) of Tata Steel, is the largest domestic manufacturer of steel tubes today. Tata Tubes is presently the leading "Welded Steel" Tube Company in India with a manufacturing capacity of 400,000 tonnes.

Its main works is situated at Jamshedpur and the marketing head office in Kolkata

(7) Plants and Equipment: Tata Steel Growth Shop (TGS), a division of Tata Steel Ltd. is one of the largest designers and manufacturers of plants and equipment in India. Spread over an expanse of more than 350 acres of land at Gamharia, Dist - Seraikela, about 16 Kms from steel city Jamshedpur, TGS has a massive and advanced manufacturing unit accredited with ISO: 9001 and ISO: 14001 certifications. The Company is at par with the finest international companies supplying heavy engineering plant facilities and equipment and has also been certified with the ASME U-Stamp certification.

(8) Agricultural Implements: Superior quality agricultural implements are manufactured at Tata Agrico, a division of Tata Steel that happens to be the pioneer in this segment in the country. The product range includes Hoes, Sickles, Crowbars, Shovels, Pick Axes, Hammers, TP Series Hoes (Powrah), Garden Tools and Files. These implements cater to the needs of the Agricultural sector, Horticulture Industry, Maintenance of Roads, Dams, Railway- Tracks, Collieries etc. in India and abroad. The product offerings have been recently enhanced with the launch of three new products (axe, rotavator blade, chaff cutter) and 21 variants in the existing product category.

PRODUCTION CAPACITY OF THE COMPANY:

Backed by 100 glorious years of experience in steel making, Tata Steel is the world’s 6th largest steel company with an existing annual crude steel production capacity of 30 Million Tonnes Per Annum (MTPA). Established in 1907, it is the first integrated steel plant in Asia and is now the world`s second most geographically diversified steel producer and a Fortune 500 Company. Tata Steel has a balanced global presence in over 50 developed European and fast growing Asian markets, with manufacturing units in 26 countries. Tata

Steel`s Jamshedpur (India) Works has a crude steel production capacity of 6.8 MTPA which is slated to increase to 10 MTPA by 2010. The Company also has proposed three Greenfield steel projects in the states of Jharkhand, Orissa and Chhattisgarh in India with additional capacity of 23 MTPA and a Greenfield project in Vietnam. Through investments in Corus, Millennium Steel (renamed Tata Steel Thailand) and NatSteel Holdings, Singapore, Tata Steel has created a manufacturing and marketing network in Europe, South East Asia and the pacific-rim countries. Corus, which manufactured over 20 MTPA of steel in 2008, has operations in the UK, the Netherlands, Germany, France, Norway and Belgium. Tata Steel Thailand is the largest producer of long steel products in Thailand, with a manufacturing capacity of 1.7 MTPA. Tata Steel has proposed a 0.5 MTPA mini blast furnace project in Thailand. NatSteel Holdings produces about 2 MTPA of steel products across its regional operations in seven countries. Tata Steel, through its joint venture with Tata BlueScope Steel Limited, has also entered the steel building and construction applications market. Tata Steel's vision is to be the global steel industry benchmark for Value Creation and Corporate Citizenship. Tata Steel India is the first integrated steel company in the world, outside Japan, to be awarded the Deming Application Prize 2008 for excellence in Total Quality Management.

(1) JARKHAND PROJECT:

- Setting up a 12 million tones per annum Greenfield integrated steel plant in the state.
- The Greenfield project is to be set up in two phases. The first phase of 6 mtpa is likely to be set up within 36 months to 54 months from the date of obtaining all statutory clearances.
- **Capacity:** 12 mtpa integrated steel plant.

(2) JAMSHEDPUR PLANT:

- Expansion of Tata Steel's existing plant at Jamshedpur from 5 mtpa to 10 mtpa.

- Co-operation in the area of Human Resource Development through Industrial Training Institutes.
- The project includes the development of iron ore mines and other raw materials sources including coal and logistic linkages for this plant.
- Project Update: The first phase which entails reaching a crude steel capacity of 6.8 mtpa has essentially been completed. The capacity of the Jamshedpur plant is expected to become 10 mtpa by December 2011.

(3) CHHATISGADH PLANT:

- MoU with the Chattisgarh government was signed on June 04, 2005.
- The integrated steel plant will have an ultimate capacity of 5 mtpa of steel with 2 mtpa in the first phase.
- The project also includes development of captive iron ore mines to meet the iron ore requirements of this plant.
- **Capacity:** 5 mtpa Greenfield integrated steel plant.
- **Project Updates:** The process of acquiring land is under progress. The Company has also applied for environmental clearances and other licenses.

(4) ORISSA PLANT:

- **Project Update:** Preliminary work focusing on land acquisition, rehabilitation and resettlement work is in progress. The order for equipment and services has been placed in accordance to the stipulations in the MoU signed with the Orissa State Government. A grant for the mining lease of iron ore has been sought.
- **Capacity:** Greenfield Steel Plant of capacity 6mtpa.

(5) WEST BENGAL PLANT:

- Hoogly Met Coke and Power Company Ltd. (incorporated in 2005), is a 100% subsidiary of Tata Steel. The Company was set up to produce low ash metallurgical coke primarily to meet Tata Steel's requirement at its

Jamshedpur plant and also to supply hot gases to Tata Power for electricity generation by adopting heat recovery route.

- **Capacity:** 1.2 mpta of coke.
- **Project Update:** Capacity of plant likely to be increased to 1.6 mtpa in 2009.

(6) TAMIL NADU PLANTS:

- MoU with the Government of Tamil Nadu signed on June 27, 2002.
- Titania project involves mining, mineral separation and value addition i.e. pigments production in phases subject to techno- economic viability.
- Prospecting license over 80 sq.km area granted by the Government of Tamil Nadu in the districts of Tirunelveli and Tuticorin with due approval from Government of India.
- The feasibility study conducted with the help of Consortium Partners comprising Outokumpu Finland's physical separation division based in USA, Outokumpu-Lurgi, Germany, Pincock Allen and Holt, USA, a resource and mining consulting company and L&T.
- Environmental Impact Assessment of the project carried out and Environmental Management Plan drawn with the assistance of MIN-MEC Consultancy.
- Capacity: 60,000 tones per annum of titanium di-oxide.

◆ INTERNATIONAL PROJECTS AND OPERATIONS

(1) AUSTRALIA:

- **Location:** Bowen Basin in Central Queensland.
- **Project Highlights**
    - ➢ Tata Steel has a joint venture with Vale in Australia for a Coking Coal Mine.
    - ➢ Tata Steel on December 14, 2005 signed agreements to buy a 5% interest in the Carborough Downs Coal Project located in Queensland, Australia.

- Tata Steel and Vale, along with other joint venture partners (Nippon steel, JFE and Posco) have undertaken a large scale expansion of the Carborough Downs Coal Mine near Moranbah in Central Queensland in Australia.
- The Carborough Downs coal project is majority owned and operated by a subsidiary of AMCI Holdings Australia Pty Ltd.
- The project life is currently estimated to be 14 years and approximately 58 million tonnes of raw coal is expected to be mined during this period.
- There is a further potential resource of 100 million tonnes of raw coal in the unexplored areas and deeper seams.
- The clean coal envisaged to be produced would be low-ash coking coal and PCI coal, highly suitable for steel making.

- **Capacity:** Mining capacity of 58 million tones of raw coal for 14 years.
- **Project Updates**
  - Commissioning of the large scale and new mining equipment (Longwall), which will be one of the largest in Australia, is expected by mid 2009.
  - The second phase of expansion has been undertaken, at the end of which the company is expected to produce 3.7mtpa of coking coal and PCI coal.

(2) CANADA:

- **Location:** Northern Quebec, Labrador and Newfoundland provinces.
- **Project highlights:**
  - Tata Steel, through its subsidiaries, signed a Heads of Agreement memorandum with New Millennium Capital Corporation, Canada.
  - The aim was to develop iron ore projects in the region.
  - Tata Steel holds a 19.9% stake in NML with an option to acquire an 80% equity interest in NML's Direct Shipping Ore project.

- The agreement also provides exclusivity to Tata Steel in the Labmag taconite iron ore property.
- Tata Steel will have 100% off take rights to the produce of the mine at the time of production commencement.
- The iron ore from this project will serve Tata Steel's European facilities.

- **Capacity:** The DSO resource is estimated to be approximately 100 million tones. The LabMag deposit consists of 3.5 billion tones of proven and potential mineral reserves. These reserves are contained in the 4.6 billion tones of measured and indicated resources and 1.2 billion tones of inferred resources.

- **Project Update:** Tata Steel, along with NML is trying to work out an economically viable solution to advance the project. The feasibility study for the DSO project is progressing and production is expected to commence in 2011.

(3) NETHERLANDS:

- **Operations:** The IJmuiden Steelworks is Corus' largest and most cost-efficient steel making facility, with a production capacity of 7.6mtpa.
- **Projects:** A number of capital expenditure schemes are in progress at IJmuiden. Among them is a €20m pilot plant that is being jointly funded with ULCOS, the European Commission and the Dutch government. The 60,000tpa pilot plant is intended to prove the commercial and technical viability of a new iron making process called Hisarna. If successful, the project will considerably reduce the carbon dioxide emissions of the existing integrated steelmaking process. Hisarna would also be more energy efficient than existing technology and use cheaper and more abundant raw materials.

(4) SOUTH AFRICA:

- **Project Highlights**

➢ The ground-breaking ceremony of Ferro Chrome Project was held at Richards Bay on August 21, 2006.

➢ A Ferro Chrome Plant was commissioned at Richards Bay in 2008 to produce High Carbon Ferro Chrome, for global consumers.

➢ The business model of the plant includes taking high quality Chrome Ore from India and elsewhere, converting it into Ferro Chrome in Richards Bay, and exporting the finished product to various customer destinations.

➢ The proposed plant in South Africa will manufacture High Carbon Ferro Chrome with a Chrome content of +64%, and the annual production capacity will be 134,500 Metric Tones Per Annum (mtpa) in Phase I.

➢ The briquette technology being used by the company is environment friendly and relatively new to South Africa. TSKZN is one of the most environment compliant plants globally.

➢ TSKZN commenced commercial production on 1st July, 2008 and in the first year it has achieved a production of 63,479 mt of saleable grade Charge Chrome.

- **Capacity:** 1,51,000 tones per annum.

- **Project Update:** The Ferro Chrome used in the manufacture of stainless steel will be exported to Tata Steel's customers in Asia, Europe, the USA and in other parts of the world.

(5) THAILAND:

- Tata Steel Group's equity in Tata Steel Thailand is 67.1%. Headquartered in Bangkok, its three main subsidiaries are SISCO, NTS and SCSC. In the year 2008, Tata Steel Thailand registered sales of 1.4 million tones. The Company's predominant market is in Thailand and its market share in 2008 was 31% in the long products business. The Company also has been improving continuously in the past few years with its various initiatives focused on reducing cost, improving productivity and quality. Production during FY 09 was at 1.07 million tones while sales at 1.1 million tones.

- Tata Steel Thailand is committed to moving forward in the journey for excellence and social accountability. The Company continuously improves its business processes and systems in accordance with its commitment to environmental responsibilities.

(6) UNITED KINGDOM:

- **Corus:** Corus, the European arm of the Tata Steel Group, is headquartered in London in the United Kingdom. Corus' crude steel capacity in the UK is in the region of 13mtpa.

- **Operations:** Corus produces carbon steel by the basic oxygen steel making method at three integrated steelworks in the UK at Port Talbot, Scunthorpe and Teesside (currently mothballed), and special and alloy steels through the electric arc furnace method in Rotherham. In addition, there are a number of downstream rolling, coating and processing facilities.

- **Performance**: Liquid steel production in 2008-09 at 16 million tones was 20% lower than that of 2007-08. Turnover for the period was Rs.1,09,570 crore (US$ 21,539m).

- **Projects:** A number of capital expenditure schemes are in progress in the UK. Among them is the £60m BOS gas recovery plant at Port Talbot, which is expected to significantly reduce natural gas and electricity purchases and materially reduce carbon dioxide emissions at the site through the utilization of gas generated inside the Basic Oxygen Steel plant.

◆ BUSINESS ETHICS:

"We do not claim to be more unselfish, more generous or more philanthropic than others, but we think, we started on sound and straightforward business principles considering the interest of the shareholders, our own health and welfare of our employees... the sure foundation of our prosperity" – J.N. Tata

The Tata Steel Group is proudly represented by people who act with integrity and passion. The strong focus on Value Creation and Corporate Citizenship has helped the group build an enviable corporate reputation founded in honest and transparent approaches.

The values and principles, which have Governed Tata Steel's business for a century, have been deployed through the implementation of the Tata Code of Conduct (TCOC), which was first formally articulated in 1998. This Code was intended to serve as a guide to each employee on the values, ethics and business principles expected of him or her in personal and professional conduct. The Management of Business Ethics is effectively instituted today in Tata Steel through its four pillars concept.

- Leadership
- System and Processes
- Training and awareness
- Measurement

9. VOLTAS LIMITED

◆ INTRODUCTION:

Voltas is one of the world's premier engineering solutions providers and project specialists. Founded in India in 1954, Voltas Limited offers engineering solutions for a wide spectrum of industries in areas such as heating, ventilation and air conditioning, refrigeration, electro-mechanical projects, textile machinery, mining and construction equipment, materials handling equipment, water management & treatment, cold chain solutions, building management systems, and indoor air quality.

The Company's strengths lie principally in:

- Management and execution of electro-mechanical projects, including air conditioning and refrigeration
- The design and manufacture of industrial equipment, cooling appliances and materials handling equipment
- Sourcing, installation and servicing of diverse technology-based systems serving Indian industry through representation of global technology leaders

◆ BOARD OF DIRECTORS:

No.	Designation	Name
01	Chairman	Ishaat Hussain
02	Managing Director	A Soni
03	Director	Nasser Munjee
04	Director	N J Jhaveri
05	Director	Ravi Kant
06	Director	N D Khurody
07	Director	N N Tata
08	Director	Jimmy Bilimoria
09	Director	S N Menon
10	Director	Nani Javeri

◆ MANUFACTURING AT VOLTAS:

Voltas has modern manufacturing plants spread over an area of over 35,000 square meters, located in Thane (Maharashtra), Dadra (Union Territory) and Pantnagar (Uttaranchal) respectively. With a total workforce in excess of 800, Voltas' plants manufacture:

- Room ACs
- Commercial refrigerators
- Water coolers
- Air conditioning equipment for central plant projects
- Forklift trucks, cranes and warehousing equipment

◆ **PRODUCT AND EQUIPMENT ENGINEERING:**

Voltas' engineering skills and knowledge base are seen in advanced design and development, as well as adaptation and improvement, of products and equipment. The Voltas approach of intelligent innovation and customized problem-solving is given full play through use of advanced design software. These include the RR programme for coil designing, and AutoCAD Mechanical Series 6 with Solid Modeling package ('Inventor') for alternative designs and quick evaluations. State-of-the-art shop floor equipment and manufacturing processes yield products, components and assemblies of high precision and complexity, validated through a rigorous QA cycle.

◆ **MANUFACTURING VALUES:**

Voltas' manufacturing plants have all been certified for ISO 9001:2000 by TUV of India. Emphasis is placed not just on product quality and consistency, but on economies and efficiencies which deliver greater customer value for less outlay. The highest priority is given to protection of the environment, with effluent treatment plants which operate continuously around the clock. The statutory norms of Directorate of Industrial Safety & Health (DISH) are strictly complied with.

◆ **PRODUCT OF THE COMPANY:**

(1) **Air Conditioners:** Superior Features, Unbeatable performance, Stylish ACs, that not only cool, but save for you. Presenting Voltas range of Energy Efficient Star Rated Split and Window ACs. Our ACs have energy efficient compressors that ensure perfect cooling at minimal cost. So, go ahead and choose the AC that cares for your money as much as you do.

(2) **Commercial Refrigeration:** Sturdiness, efficiency and superior design, featuring state-of-the-art technology, Voltas Freezers and Coolers not only consume less power but also withstand long power cuts. Add to this the trust of TATA, and you have the freezers that set the benchmark for

the industry. Backed by a quick and friendly Customer service, Voltas products know the worth of every rupee.

(3) **Water Cooler:** The success of every office, institute and establishment depends on the efficiency of its most valuable assets. These assets are none other than its employees. And to keep them going, they need to be recharged. That's what the Tushar range of Water Coolers have been doing since 1964. They hold a prominent place in thousands of establishments across the Country, for they provide cool water round the clock. No Wonder, we call them the official thirst quenchers of India.

(4) **Water Dispenser:** A perfect blend of beauty and brains, the new mini magic is what every office, home and shop need. Experience the versatility of water. Hot enough to stimulate you with a cup of tea or coffee and cold enough to refresh you with a glass of pure water or with a soft drink concentrate. An ode to nature's most marvelous gift.

◆ **SUBSIDIARIES, JVS & ASSOCIATES**:

Subsidiaries (India):

- Rohini Industrial Electricals
- Universal Comfort Products Ltd.

Subsidiaries (overseas):

- Weathermaker Limited
- Saudi Ensas Company for Engineering Services WLL
- Metrovol FZE
- VIL Overseas Enterprises B.V

JVs

- Lalbuksh Voltas Engineering Services & Trading Company LLC
- Universal Weathermaker Factory LLC
- Universal Voltas LLC

Associates

- Terrot GmbH
- Electro-mechanical & refrigeration projects (India)

◆ BUSINESS EXCELLENCE:

Whether it be product quality, people, business systems or knowledge or customer satisfaction, whether it be in contributing to the development of society or protecting the environment, Voltas sets - and is driven by - new values in all these areas. To institute excellence at work and to achieve a competitive edge in the marketplace, Voltas has made the ***Tata Business Excellence Model (TBEM)*** a way of life in all activities. TBEM offers the best way to improve business performance, bringing about a common platform for people to share their knowledge, follow the best business practices and pursue excellence across all functions.

In addition, TBEM enables a continuous and measurable assessment of improvement in several internal processes that leads to better financial performance, and greater customer and stakeholder satisfaction. It lays a strong emphasis on leadership, strategic planning, customer and market focus, process management, information and analysis.

◆ CORPORATE SUSTAINABILITY:

As a concept that goes far beyond mere philanthropy, 'giving back to the community' is a significant pillar of Voltas' engagement with Society. Whether as individual volunteers offering their time and efforts, or as an organization generating benefits on many fronts, Voltas through the years has stood for Corporate Sustainability – essentially the creed so dear to the heart of Jamsetji Tata, which set its stamp on the entire Group which he founded. It is fitting that sustainable value-creation occurs at Voltas in the spheres of both people and technologies. Today's increasing 'Green' concerns find an echo in Voltas culture, and in the hearts of Voltasites. They are the focus of initiatives which are yielding valuable returns, in an increasing quantum. Community service too takes a technological turn, in which our 'know-how' is used to build entrepreneurial self-reliance within the community.

The current growth of our economy and the confidence with which we face the world provide a compelling context in which corporate need to engage with the larger social and ecological habitat. In the coming years, it will more and more be necessary for Voltas – as for all corporate – to encourage and generate internal passion for volunteering and community service, as well as to focus the organization's efforts into sustainable community benefit.

Voltasites are blessed with the legacy of the parent ***Tata Group***, of being able to return benefits to society while serving the community and nation. It's an opportunity to spread joy and happiness, while enhancing one's competitive advantage as well as corporate reputation.

10. ZEE ENTERTAINMENT ENTERPRISES LIMITED

◆ INTRODUCTION:

Zee Entertainment Enterprises was formerly known as `Zee Telefilms`, which got demerged into 4 companies in the year 2006. It was founded in October 1992 to carry on as a content supplier for Zee TV. Zee is a pioneer in the content aggregation and distribution, through satellite, cable and Internet. The company`s operations span the entire media spectrum including, television programming, satellite broadcasting, cable distribution, production and distribution of films, music publishing, long distance education and the creation of animation software. Zee serves more than 120 countries and reaches more than 300 million viewers across the globe in seven different languages. Zee is also India`s largest cable distributor through its wholly owned subsidiary, `Siticable`. The company also holds controlling stake in ETC Networks, the market leader in music and Punjabi language programming. The company has commenced providing content services to Dish TV, India`s first DTH service with 350,000 subscribers at present. It has also launched Zee Smile, Zee Sports and expanded regional language portfolio through Zee Telugu. Zee Arabia, a new youth music and lifestyle channel, was recently launched in the Middle-East. A Malay channel is also being planned for Malaysia.

Zee Entertainment Enterprises Limited is one of India's leading television, media and entertainment companies. It is amongst the largest producers and aggregators of Hindi programming in the world, with an extensive library housing over 80,000 hours of television content. With rights to more than 3,000 movie titles from foremost studios and of iconic film stars, Zee houses the world's largest Hindi film library. Through its strong presence worldwide, Zee entertains over 500 million viewers across 167 countries.

◆ VISION AND MISSION OF THE COMPANY:

(1) VISION:

- To be the leading round the clock airtime properties provider and delight the viewers not only through our general entertainment and infotainment channels, but also through quality cinema from our movie banners.
- As a Corporation, we will be profitable, productive, creative, and trendsetting and financially sound with care and concern for all our viewers and stakeholders namely advertisers, cable operators, producers and production houses.

(2) VALUES*:*

- **Customer Focus:** Our Company's strategies are driven by the needs of the customer. Our success can be measured by the satisfaction achieved by our customer.
- **Excellence:** We accord a high premium to maintaining superlative standards throughout our Company. We encourage our employees to come up with smarter ideas within the fastest possible time.
- **Creativity:** Key to our value system is innovation and originality. We recognize and have a high regard for individual expression and creative freedom in our quest to provide customer satisfaction.

- **Integrity:** We observe strict ethical standards through editorial independence and creative expression, in order to earn the trust of our viewers and subscribers.
- **Growth Driven:** We are committed to delivering consistent revenue and cash flow growth in order to provide our shareholders a good return. Our objective is to grow our people, market and businesses around the world.

◆ BOARD OF DIRECTORS:

No.	Designation	Name
01	Chairman	Subhash Chandra
02	Director	Laxmi Narain Goel
03	Director	Ashok Kurien
04	Director	Brijendra K Syngal
05	Director	Nemichand S Jain
06	Director	Rajan Jetley
07	Director	Sir Gulam K Noon
08	Director	Mohammed Y Khan
09	Director	R Vaidyanathan
10	Whole Time Director & CEO	Punit Goenka
11	Company Secretary	M Lakshminarayanan

◆ BUSINESS:

Zee has given birth to multitudinous benchmarks. With its programming, it has created revolution after revolution. In more ways than one it has paved the way for new age television to gain acceptance and following. Zee started with delivering hits like 'Tara', 'Antakshari', 'Sa Re Ga Ma Pa', 'Hasratein', 'Amaanat' and 'India's Most Wanted'. These soaps, serials and contests created cults in themselves aggregating audiences from all classes and regions. It was almost like a strong wave that took the country in its wake and unified it in so many ways.

From being India's first satellite broadcast network, Zee has spread its wings to being an international media enterprise. Today, Zee owns and operates more than 20 channels that cater to different audiences and belong to different genres of entertainment. Zee is credited with being the prime mover in regional markets with regional programming. It started with the northern markets and has since extended its service to 4 other markets.

The Zee television group has been a profitable enterprise since its inception. In 2002, Zee acquired a majority stake in ETC Network, the market leader in music and Punjabi language programming.

◆ STRENGTHS & STRATEGIES OF THE COMPANY:

(1) STRENGTHS:

- Leading broadcaster in India and overseas for South East Asian content
- First mover advantage across genres
- Widest offering of channels by a single broadcaster in the country
- Across genres, our channels are either leaders or strong contenders for the leadership Position
- Diversified revenue streams: advertising and subscription
- Diversified customer base:across167 countries
- Operating the largest pay TV distribution platform in the country, Zee Turner
- Large network gives tremendous leverage with advertisers
- Cost conscious approach towards business
- Affiliate companies have leading presence across the media value chain cable and distribution, direct-to-home satellite services, digital media amongst others

(2) STRATEGIES:

- Inspire creativity
- Continue to run our business as best in class, with viewer satisfaction as the ultimate goal.
- Enhance our leadership position in the genres we compete.

- Continuous innovation to stay ahead of the curve and seize growth opportunities
- Invest in the business in a focused, disciplined way and achieve superior financial performance.
- To use the strong cash flows of our business to improve returns to shareholders
- Reaffirm our commitment to highest level of integrity and professionalism throughout our business.

◆ ALLIANCES & PARTNERSHIPS

Zee's mission of continued sustainable growth has brought it thus far in the annals of the media and television history and looks to guide its sails towards a fine future too. An important aspect of keeping an eye on the future was to foster external acquisitions and alliances to gain access to quality content and technology. With the home-grown measures of revenue generation in place and functioning well, this move of external affiliations with parties that complemented Zee; in philosophy and in business brought in profits and goodwill alike.

- **ETC Network:** ETC Networks Limited (ETC.BO) is a media company listed on the Bombay stock exchange operating two television channels, ETC Music and ETC Punjabi in India. Zee acquired a 51% stake in June 2002. Zee acquired a 51% stake in June.

- **Ten Sports:** Ten Sports and Zee Sports combine, have give the viewers a lot of action in the past years and have become a force to reckon with in the sports entertainment business. Popular events like WWE, UEFA Champions and League Football have made inroads into the Indian market. Tennis fans enjoy the grand slams with a series of ATP 500 and a multitude of other events. For indoor sports fan, the channel has showcased the world poker tour and darting events. Cricket being nothing less than a religion in India, Ten Sports has acquired the rights to of the ten cricket boards, giving it over 100 days of cricket a year. This is the maximum number of days of cricket across sports channels. The right to these 5 boards; Sri Lanka, Pakistan, South Africa, West Indie and Zimbabwe are with Ten Sports for the next 4 years.

◆ COMPANY'S GOVERNANCE PHILOSOPHY:

Corporate Governance, which assumes great deal of importance at Zee Entertainment Enterprises Limited (ZEEL), is intended to ensure value creation for all its stakeholders. ZEEL believes that the governance process must ensure adherence and enforcement of the principles of sound Corporate Governance with the objectives of fairness, transparency, professionalism, trusteeship and accountability, while facilitating effective management of the businesses and efficiency in operations. The Company is committed to achieve and maintain highest standards of Corporate Governance on an ongoing basis. In its Endeavour to improve in all aspects of Corporate Governance, ZEEL's Board has approved and implemented a comprehensive Corporate Governance Manual during the year which contains guidelines covering decision making authority levels, the policies and processes which provide an effective and flexible governance framework in the Company realizing the need to ensure an effective mechanism of checks and balances with transparency and accountability as the hallmark.

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CHAPTER – 4

ANALYSIS AND INTERPRETATION OF DATA

Ratio Analysis

- Meaning of Ratio

(A) Return on Investment Ratios

- Concept of Return on Investment
- Advantages of ROI
- Limitations of ROI
- Evaluation of ROI

(a) Return on Gross Capital Employed

(b) Return of Net Capital Employed

(c) Return on Share Holder's Fund

(d) Return on Long-term Funds

(e) Earning Per Share (EPS)

(B) Profitability Ratios

(a) Gross Profit Ratio

(b) Net Profit Ratio

(c) Operating Profit Ratio

(C) Liquidity and Leverage Ratios:

(a) Current Ratio

(b) Current Ratio (including short term loan)

(c) Quick Ratio

(d) Inventory Turnover Ratio

(e) Debtor Ratio

(f) Fixed Assets Turnover Ratio

(g) Total Debt to Equity Ratio

(h) Long-term Debt to Equity Ratio

(i) Owners Funds Ratio

(j) Working Capital Turnover Ratio

CHAPTER – 4

ANALYSIS AND INTERPRETATION OF DATA

Ratio analysis is one of the most powerful tools of financial analysis. It is most important techniques of financial analysis where ratios are used as a yardstick for evaluating the financial condition and performance of the firm. Analysis and interpretation of various accounting ratios gives a skilled and experienced analyst a better understanding of the financial condition and performance of the firm than what it could have obtained only through a perusal of financial statements. It has been described here under:

◆ RATIO ANALYSIS

→ Meaning of Ratio: -

"Ratio is relationships expressed in mathematical terms between figures which are connected with each other in some manner."[1] Obviously, no purpose will be served by comparing two sets of figures which are not at all connected with each other. Ratio can be expressed in two ways.

1. Times :-

When one value is divided by another, the unit used to express the quotient is termed as "Times". For example if out of 100 students in a class, 80 are present; the attendance ratio can be expressed as follows:

$$= \frac{80}{100} = 0.8 \text{ times}$$

2. Percentage :-

If the quotient obtained is multiplied by 100, the unit of expression is termed as "percentage". For instance, in the above example the attendance ratio as a percentage of the total number of student is as follows:

$$= 0.8 \text{ X } 100 = 80\%$$

Accounting ratios are, therefore, mathematical relationships expressed between inter-connected accounting figures. The following three ratios have been used to measure financial performance of the selected units:

(A) Profitability in Relation to Investments Ratio

(B) Profitability Ratio

(C) Liquidity and Leverage Ratio

(A) RETURN ON INVESTMENT:

◆ CONCEPT OF RETURN ON INVESTMENT:-

The return on investment (ROI) is a very useful technique to measure the profitability of all financial resources employed in the business enterprises assets. ROI reveals a vital indication of the profitability in terms of employment of capital in the business. In other words this ratio measure the earning power profit output with the capital input. “This rate is the end profit of a series of quantitative variables representing different interconnected and interdependent factor’s of business operations.”[2] ROI is computed by multiplying profit margin ratio and assets turn over ratio. ROI is totally free from all the weakness that contained as assets turn over ignores the profitability of the business on sales while profit margin does not consider the utilization of the assets of the business. Thus, ROI represent the relationship between net profit and assets of the business.

◆ADVANTAGES OF ROI:-

Return on investment may help:

(1) To measure the operation effectiveness,

(2) To measure the profit achievement,

(3) To assess the merits and demerits of new projects.

(4) In setting up profit targets. It measures the over all financial performance of the business firm. It is also useful in comparing the firm’s efficiency with that of similar firms with the industry. The various advantages of ROI are represented in the below chart :

ADVANTAGES OF ROI

Evaluation of Operating Performance Of Top Management

(1) Return on gross capital employed
(2) Return on net capital employed
(3) Return on gross assets
(4) Return on net assets
(5) Return on operating assets
(6) Return on average capital employed

Evaluation of Owner's Funds Performance

(1) Return on share holders equity capital
(2) Return on total owners fund
(3) Earnings per share
(4) Dividend payout ratio

Decision Process and Profit Planning

(1) New project decision
(2) Product mix decision
(3) Profit budgeting
(4) Marginal decisions
(5) Capital structure and planning
(6) Pricing decisions

◆ LIMITATIONS OF ROI:

ROI is one of the very important measures for judging the overall financial performance of a firm. However it suffers from certain important limitations are as follows:

(I) MANIPULATION POSSIBLE :-

ROI is based on earnings and investments. Both these figures can be manipulated by management by adopting varying accounting policies regarding depreciation, inventory valuation, treatment of provisions etc. the decision in respect of most of these matters is arbitrary and subject to whims of the management.

(II) DIFFERENT BASES FOR COMPUTATION OF PROFIT AND INVESTMENT:-

There are different bases for calculating both profit and investment as explained in the preceding pages. For example, fixed assets may be taken at gross or net values, earning may be taken before or after tax, etc.

(III) EMPHASIS ON SHORT – TERM PROFITS:-

ROI emphasizes the generation of short-term profits. The firm may achieve this objective by cutting down cost such as those on research and development or sales promotion. Cutting down of such costs without any justification may adversely affected the profitability of the firm in the long run, though ROI may indicate better performance in the short run.

(IV) POOR MEASURE:-

ROI is a poor measure of a firm's performance since it is also affected by many extraneous and non controllable factors. Often the present return is the result of the past management. And the present management cannot take credit or be held responsible for the doings of their predecessor.

(V) CHANCE FACTOR:-

Sometimes high or low profits may be due to chance. ROI, in such cases, for judging the financial performance will be more or less irrelevant.

◆ EVALUATION OF ROI:-

ROI is a yardstick which measures the overall performance of management and profitability of business firm. If determines whether a certain goal has been justified or not. It is an indicator of the measure of success of a business from the owner's points of view. The ultimate test of any business is the rate of return on invested capital. For the use of various purpose and various parties return on investment can be evaluated as under:

(1) Return on Investment,

(2) Return on Gross Capital Employed

(3) Return on Net Capital Employed

(4) Return on Share Holder's Funds

(5) Return on Long-term Funds

(6) Earning Per Share (EPS)

(7) Dividend Policy

(8) Fixed Charges Cover Ratio

The researcher has used the following ratios to evaluate the profitability in relation to investments of the selected units under the study.

1) Return on Gross Capital Employed:

Return on gross capital employed ratio provides a test of profitability related to the sources of long term funds. It indicates the relationship of the effectiveness of management of the business firm.[3] It also reveals the overall efficiency of the industry working. In other words this ratio will indicate the earning capacity. This ratio will be helpful in inter-firm comparison within the same industry. The term gross capital employed means the total of fixed assets and the current assets employed in the business. The return on gross capital employed has been computed by dividing the profit before interest and taxes by the gross capital employed. The return on gross capital employed shows that, to what extent management have employed all the resources, which is provided by owner's and creditor's to earn appreciable profit for the business firm. Return on gross capital employed is calculated on the basis of the following formula,

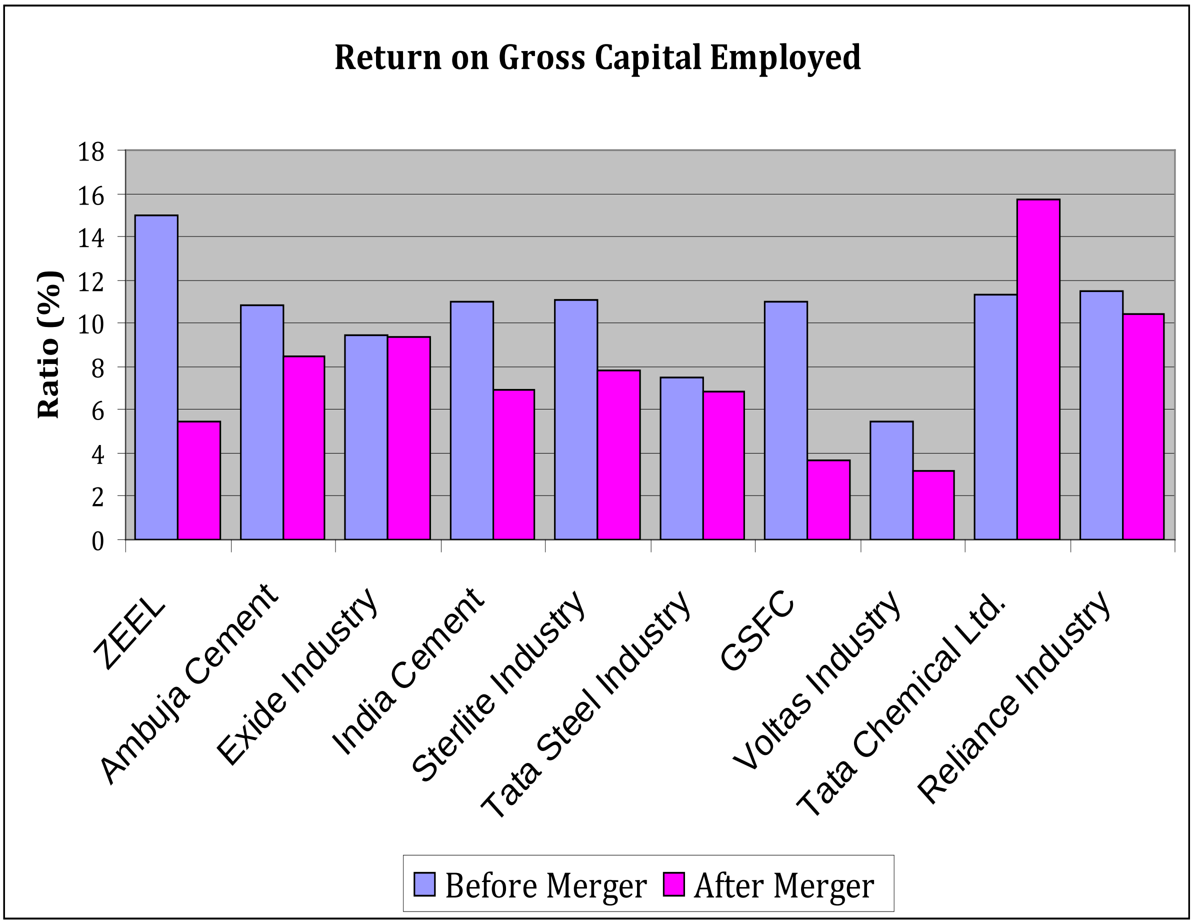
$$\textbf{Return on Gross Capital Employed} = \frac{\textbf{Operating Profit (EBIT)}}{\textbf{Gross Capital Employed}} \textbf{ X 100}$$

TABLE 4.1
Return on Gross Capital Employed Ratio in selected units
(Before 5 years and after 5 years of M & A)

Name of Company	Before Merger (X)	After Merger (Y)	Difference (D = X – Y)	Difference Squared (D^2)
ZEEL	14.95	5.48	(9.47)	89.681
Ambuja Cement	10.86	8.45	(2.41)	5.808
Exide Industry	9.44	9.35	(0.09)	0.008
India Cement	11.02	6.90	(4.12)	16.974
Sterlite Industry	11.11	7.82	(3.29)	10.824
Tata Steel Industry	7.52	6.81	(0.71)	0.504
GSFC	10.97	3.64	(7.33)	53.729
Voltas Industry	5.49	3.19	(2.3)	5.290
Tata Chemical Ltd.	11.34	15.73	4.39	19.272
Reliance Industry	11.48	10.44	(1.04)	1.082
			$\sum D = -26.37$	$\sum D^2 = 203.172$

(**Source:** Annual reports of the selected units and EMIS database website.)

Chart:



◆ **Analysis**:

The above table no.4.1 indicate the data regarding return on gross capital employed ratio in selected units, before and after merger and acquisition. A table indicates, 10 units have been selected by the researcher and ratio has been calculated. Before merger and acquisition out of 10 units ZEEL Co. shows the highest % 14.95 and India Cement, Sterlite Industries Ltd., Tata Chemical Ltd. and Reliance Industry show on an average 11% return on gross capital employed. Where as Voltas Ltd. shows least % of gross capital employed ratio by 5.49%. Besides this after merger and acquisition the performance of Tata Chemical Ltd. has been increased by 4.39%. However almost all sample units except Tata Chemical Ltd. show decline growth rate of return on gross capital employed ratio after merger and acquisition. So, researcher can conclude that after merger and acquisition the financial performance of selected units was not improved.

◆ **Calculation of T – Test:-**

Table 4.1 (a)

Analysis of T - Test in Selected Units under the Study Period

Return on Gross Capital Ratio

n	Mean $(\overline{D})$	S.D.(σ)	d.f.	t_c	t_t	Result
10	2.637	3.85	= n – 1 = 10 – 1 = 9	2.168	2.262	H_0

H_0 = *There would be no significant difference in mean score of Return on Gross Capital Employed ratio in selected units, before and after merger and acquisition.*

H_1 = *There would be significant difference in mean score of Return on Gross Capital Employed ratio in selected units, before and after merger and acquisition.*

$H_0 = u_1 = u_2$

$H_1 = u_1 \neq u_2$

5% level of significance table value = 2.262

The calculated value of T is 2.168 and table value of T is 2.262(at 5% level of significance). Hence,

$T_C < T_T$

The calculated value of 't' is less than the table value. The Null Hypothesis is accepted. The results are as per the expectation.

(2) RETURN ON NET CAPITAL EMPLOYED:

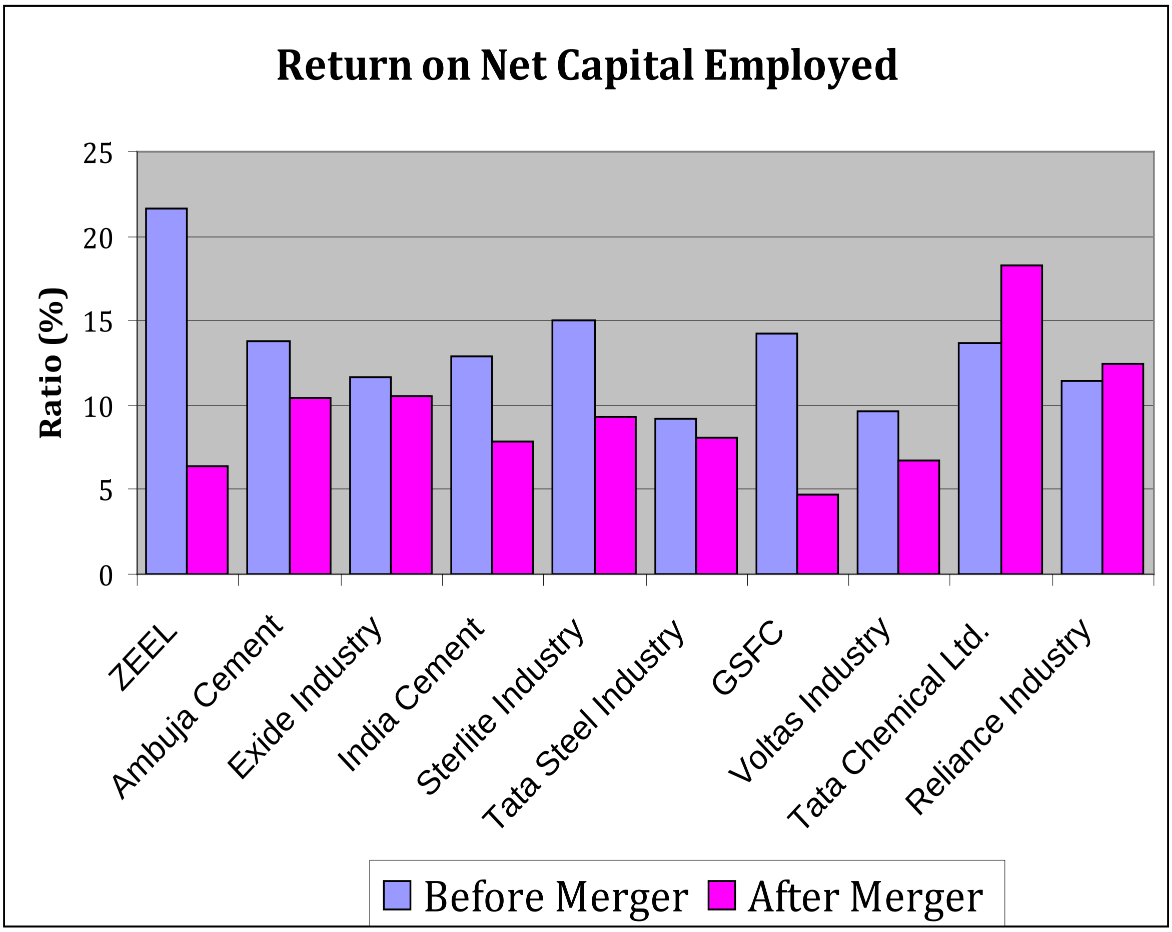
The return on net capital employed is a guide to compare the profitability of business. It is also an indication of proper utilization of net capital employed towards achieving desirable profits. Net capital employed is the total of fixed assets plus current assets minus current liability. The only differences between the gross capital employed and net capital employed is that current liabilities are deducted from the gross capital employed. Return on net capital employed has been computed by dividing the net profit before interest and taxes by the net capital employed.[4] Return on net capital employed is calculated on the basis of following formula,

$$\text{Return on net capital employed} = \frac{\text{Operating Profit (EBIT)}}{\text{Net Capital Employed}}$$

TABLE 4.2
Return on Net Capital Employed in selected units
(Before 5 years and after 5 years of M & A)

Name of Company	Before Merger (X)	After Merger (Y)	Difference (D = X – Y)	Difference Squared (D^2)
ZEEL	21.63	6.44	(15.19)	230.74
Ambuja Cement	13.80	10.38	(3.42)	11.70
Exide Industry	11.64	10.58	(1.06)	1.12
India Cement	12.88	7.80	(5.08)	25.81
Sterlite Industry	14.99	9.35	(5.64)	31.81
Tata Steel Industry	9.16	8.09	(1.07)	1.14
GSFC	14.22	4.76	(9.46)	89.49
Voltas Industry	9.69	6.68	(3.01)	9.06
Tata Chemical Ltd.	13.68	18.25	4.57	20.88
Reliance Industry	11.48	12.49	1.01	1.02
			$\sum D =$ -38.35	$\sum D^2 =$ 422.77

(**Source:** Annual reports of the selected units and EMIS database website.)
Chart:



◆ **Analysis**:

The above table no. 4.2 indicates the return on net capital employed ratio in selected units, before and after merger and acquisitions. Moreover, ZEEL shows the highest % 21.63 and Ambuja Cement, Exide Industry, India Cement, Sterlite Industry and Reliance Industry shows on an average 13% return on net capital employed and Tata Steel Industry shows the least % of return on net capital employed by 9.16% before mergers and acquisitions. Besides this, after mergers and acquisitions the performance of Tata Chemical Ltd. and Reliance Industry Limited has been increased by 4.57% and 1.01% respectively. However almost all sample units except Tata Chemical Ltd. And Reliance Industry Ltd. Show decline growth rate on return on net capital employed. So, the researcher can conclude that after mergers and acquisitions the financial performance of sample units was not improved.

◆ **Calculation of T – Test:-**

Table 4.2 (a)
Analysis of T - Test in Selected Units under the Study
Return on Net Capital Employed

n	Mean $(\overline{D})$	S.D.(σ)	d.f.	t_c	t_t	Result
10	-3.835	5.53	= n – 1 = 10 – 1 = 9	2.268	2.262	H_1

H_0 = *There would be no significant difference in means score of Return on Net Capital Employed ratio in selected units, before and after merger and acquisition.*

H_1 = *There would be significant difference means score of Return on Net Capital Employed ratio in selected units, before and after merger and acquisition.*

$H_0 = u_1 = u_2$

$H_1 = u_1 \neq u_2$

5% level of significance table value = 2.262

The calculated value of T is 2.268 while table value of T is 2.262. Thus,

$T_C > T_T$

The calculated value of 't' is greater than the table value of t. The Null Hypothesis is rejected. The results are not as per the expectation.

(3) RETURN ON SHARE HOLDER'S FUNDS RATIO:

Return on share holder's fund is known as 'RETURN ON NET WORTH'. The return on net worth indicates the profitability of the owner's Investment. As we know that every business is established with a view to getting return in the form of profit on the amount invested. So, there should be a minimum of return on investment. The term net worth or share holder's funds includes (a) Equity Share Capital (b) preference share capital and (c) Reserve and Surplus less accumulated losses. It is useful in the sense it measures the residue income which really belongs to the owner's who bear the business fists and financial risks. "This ratio is thus of great interest to the present as well as prospective share holders and also of great concern of management"[5]. A higher ratio indicates the better utilization of owner's funds higher productivity, favorable business conditions and proper use on trading on equity or vice versa. The return on net worth can be improved by making best use of borrowed funds as the outside financiers are paid interest at a fixed rate only and it also reduces the tax liability. Whenever earning realized by making use of borrowed fund's are at a higher rate then, the cost of these funds and savings thus affected the profit or the business will invariably increase which will result increase of the return on net worth. The return on share holder's fund is calculated on the basis of following formula.

$$\text{Return on share holder's fund} = \frac{\text{Net profit after tax}}{\text{Total share holder's fund}} \times 100$$

TABLE 4.3

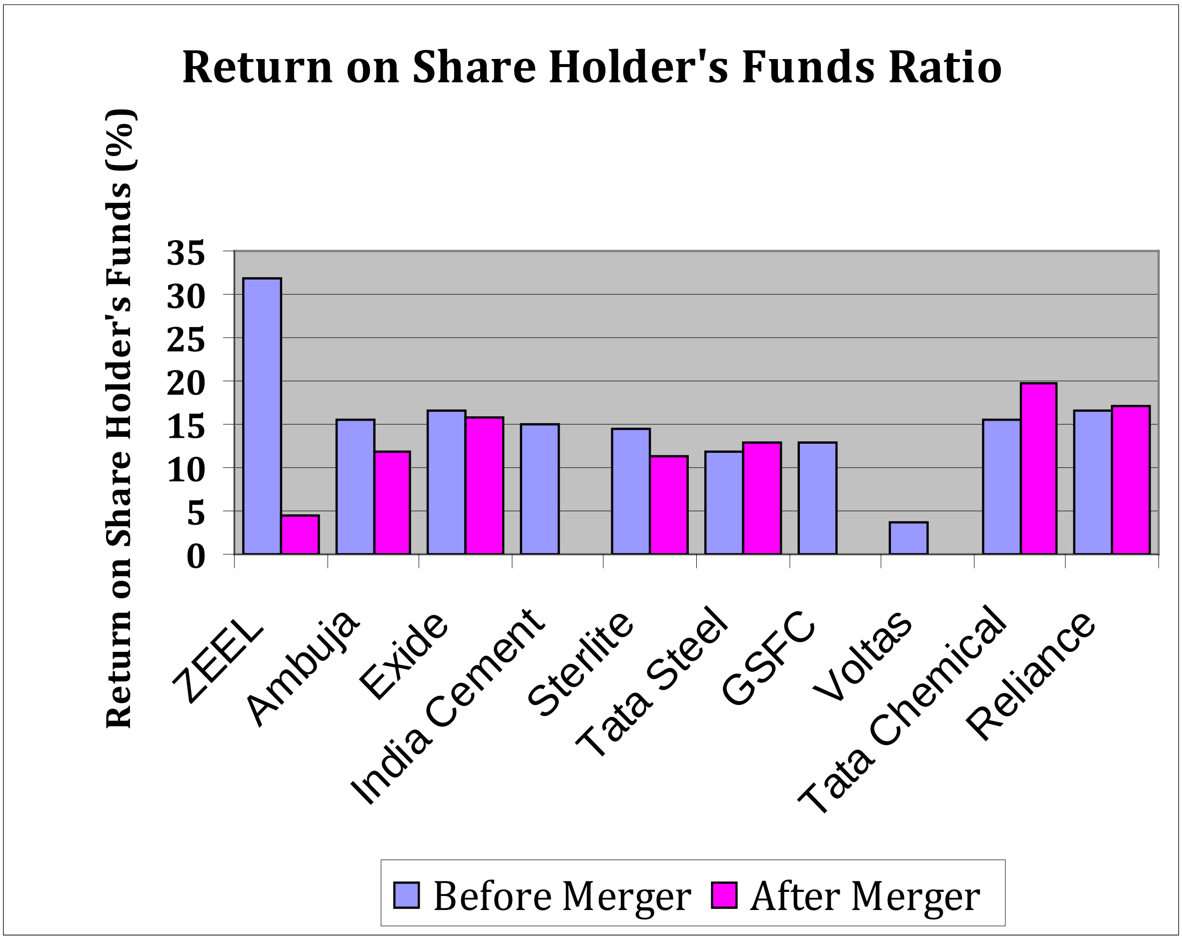
Return on Share Holder's funds Ratio in selected units

(Before 5 years and after 5 years of M & A)

Name of Company	Before Merger X	After Merger Y	Difference (D = X – Y)	Difference Squared (D^2)
ZEEL	31.88	4.35	(27.53)	757.9009
Ambuja Cement	15.40	11.75	(3.65)	13.3225
Exide Industry	16.54	15.84	(0.70)	0.49
India Cement	14.87	0	(14.87)	221.1169
Sterlite Industry	14.56	11.40	(3.16)	9.9856
Tata Steel Industry	11.90	12.83	0.93	0.8649
GSFC	12.79	0	(12.79)	163.5841
Voltas Industry	3.69	0	(3.69)	13.6161
Tata Chemical Ltd.	15.41	19.62	4.21	17.7241
Reliance Industry	16.58	17.14	0.56	0.3136
			$\sum D = -60.69$	$\sum D^2 = 1198.919$

(**Source:** Annual reports of the selected units and EMIS database website.)

Chart:



◆ Analysis:

The table no. 4.3 shows the data regarding return on share holders' funds ratio in selected 10 units during before and after mergers and acquisitions. The ZEEL shows the highest % 31.88 and the Voltas Ltd. Shows the lowest % 3.69 before mergers and acquisitions. And remaining units like Ambuja Cement, Exide Industry, India Cement, Tata Steel, Tata Chemical and Reliance Industry show on an average 15% return on share holders' funds during before mergers and acquisitions. After mergers and acquisitions Tata Chemical Ltd. Shows the highest return by 19.62%. After mergers and acquisitions the performance of Tata Steel Ltd., Tata Chemical Ltd. and Reliance Industry Ltd. has been increased by 0.93%, 4.21% and 0.56% respectively. All the samples units except these three units show decline growth rate on share holders' funds ratio. So, the researcher can conclude that, after mergers and acquisitions the financial performance of sample units was decreased.

◆ Calculation of T – Test:-

Table 4.3(a)
Analysis of T - Test in Selected Units under the Study
Return on Share Holder's funds Ratio

n	Mean ($\overline{D}$)	S.D.(σ)	d.f.	t_c	t_t	Result
10	-6.069	9.60	= n – 1 = 10 – 1 = 9	1.999	2.262	H_0

H_0 = *There would be no significant difference in* means score of *Return on Share Holder's funds ratio in selected units, before and after merger and acquisition.*

H_1 = *There would be significant difference in* means score of *Return on Share Holder's funds ratio in selected units, before and after merger and acquisition.*

$H_0 = u_1 = u_2$

$H_1 = u_1 \neq u_2$

5% level of significance table value = 2.262

The calculated value of T is 1.999 and table value of T is 2.262(at 5% level of significance). Hence,

TC < TT

The calculated value of ‘t’ is less than the table value. The Null Hypothesis is accepted. The results are as per the expectation.

(4) RETURN ON LONG TERM FUNDS RATIO:-

This ratio establishes the relationship between net profit and the long term funds. The term long-term funds refer to the total investment made in business for long term. It is calculated by dividing Earnings before Interest & Tax (EBIT) by the total long-term funds. Return on long-term funds is calculated on the basis of following formula,

$$\text{Return on Long} - \text{term funds} = \frac{\text{Operating Profit (EBIT)}}{\text{Long} - \text{term funds}} \text{ X } 100$$

TABLE 4.4

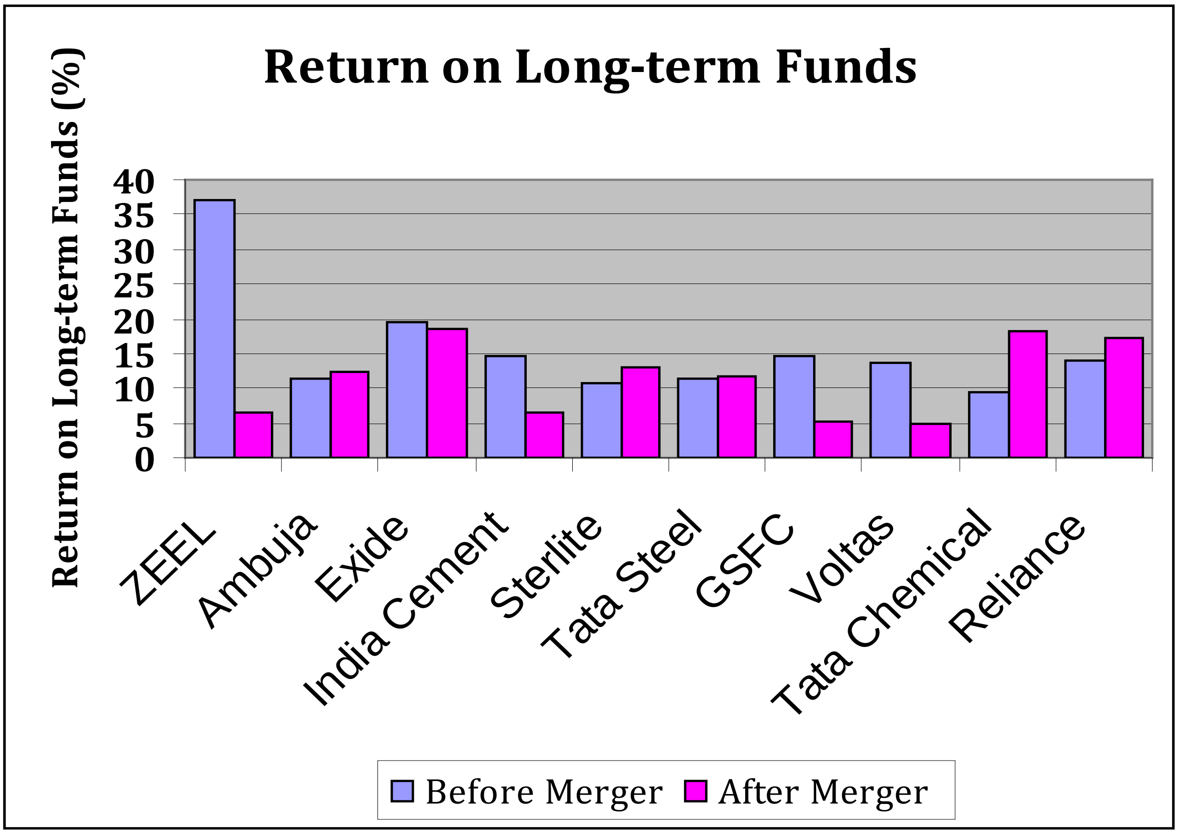
Return on Long-term funds Ratio in selected units

(Before 5 years and after 5 years of M & A)

Name of Company	Before Merger (X)	After Merger (Y)	Difference (D = X – Y)	Difference Squared (D^2)
ZEEL	37.17	6.54	(30.63)	938.1969
Ambuja Cement	11.49	12.24	0.74	0.5476
Exide Industry	19.64	18.60	(1.04)	1.0816
India Cement	14.73	6.43	(8.30)	68.89
Sterlite Industry	10.75	12.91	2.16	4.6656
Tata Steel Industry	11.30	11.59	0.29	0.0841
GSFC	14.49	5.32	(9.17)	84.0889
Voltas Industry	13.78	4.90	(8.88)	78.8544
Tata Chemical Ltd.	9.29	18.32	9.07	82.2649
Reliance Industry	13.90	17.13	3.23	10.4329
			$\sum D = -42.53$	$\sum D^2 = 1269.107$

(**Source:** Annual reports of the selected units and EMIS database website.)

Chart:



◆ **Analysis:**

The above table no.4.4 shows the return on long-term funds ratio in selected 10 units, before and after mergers and acquisitions. The highest return on long-term funds is in the ZEEL by 37.17% and Tata Chemical Ltd. shows the lowest % 9.29, before mergers and acquisitions. Moreover, Ambuja Cement, India Cement, Sterlite Industry, Tata Steel and Reliance Industry show on an average 12% return on long-term funds during pre mergers and acquisitions. But after mergers and acquisitions, Exide Industry shows the highest % 18.60 of return on long-term funds. After mergers and acquisitions the performance of 5 units Ambuja Cement, Sterlite Industry, Tata Steel, Tata Chemical and Reliance industry has been increased by 0.74%, 2.16%, 0.29%, 9.07% and 3.23% respectively. And the remaining 5 units show the decline growth rate on return on long-term funds ratio after mergers and acquisitions including sharp decline in ZEEL by 30.63%. So, the researcher can conclude that, the profitability of 5 units is increased and 5 units is decreased after mergers and acquisitions.

◆ **Calculation of T – Test:-**

Table 4.4(a)

Analysis of T - Test in Selected Units under the Study

Return on Long-term funds Ratio

n	Mean $(\overline{D})$	S.D.(σ)	d.f.	t_c	t_t	Result
10	-4.253	10.99	= n – 1 = 10 – 1 = 9	1.224	2.262	H_0

H_0 = *There would be no significant difference in means score of Return on long term funds ratio in selected units, before and after merger and acquisition.*

H_1 = *There would be significant difference in means score of Return on long term funds ratio in selected units, before and after merger and acquisition.*

$H_0 = u_1 = u_2$

$H_1 = u_1 \neq u_2$

5% level of significance table value = 2.262

The calculated value of T is 1.224 and table value of T is 2.262(at 5% level of significance). Hence,

TC < TT

The calculated value of 't' is less than the table value. The Null Hypothesis is accepted. The results are as per the expectation.

(5) EARNINGS PER SHARE RATIO:

The earning per share (EPS) is one of the important measures of economic performance of a corporate entity. The flow of capital to the companies under the present imperfect capital market conditions would be made on the evaluation of EPS.

A higher EPS means better capital productivity. EPS is one of the most important ratio which measure the net profit earned per share. EPS is one of the measure factors affecting the dividend policy of the firm and the market prices of the company. A steady growth in EPS year after year indicates a good track of profitability[6]. EPS is computed by dividing the net profit after tax and dividend to preference share holders by the total number of shares outstanding. This avoids confusion and indicates the profit available to the ordinary share holders on a "per share basis". This is computed as follows:

$$\textbf{EPS} = \frac{\text{Profit after tax - Preference Share Dividend}}{\text{No. of Equity Shares}}$$

TABLE 4.5

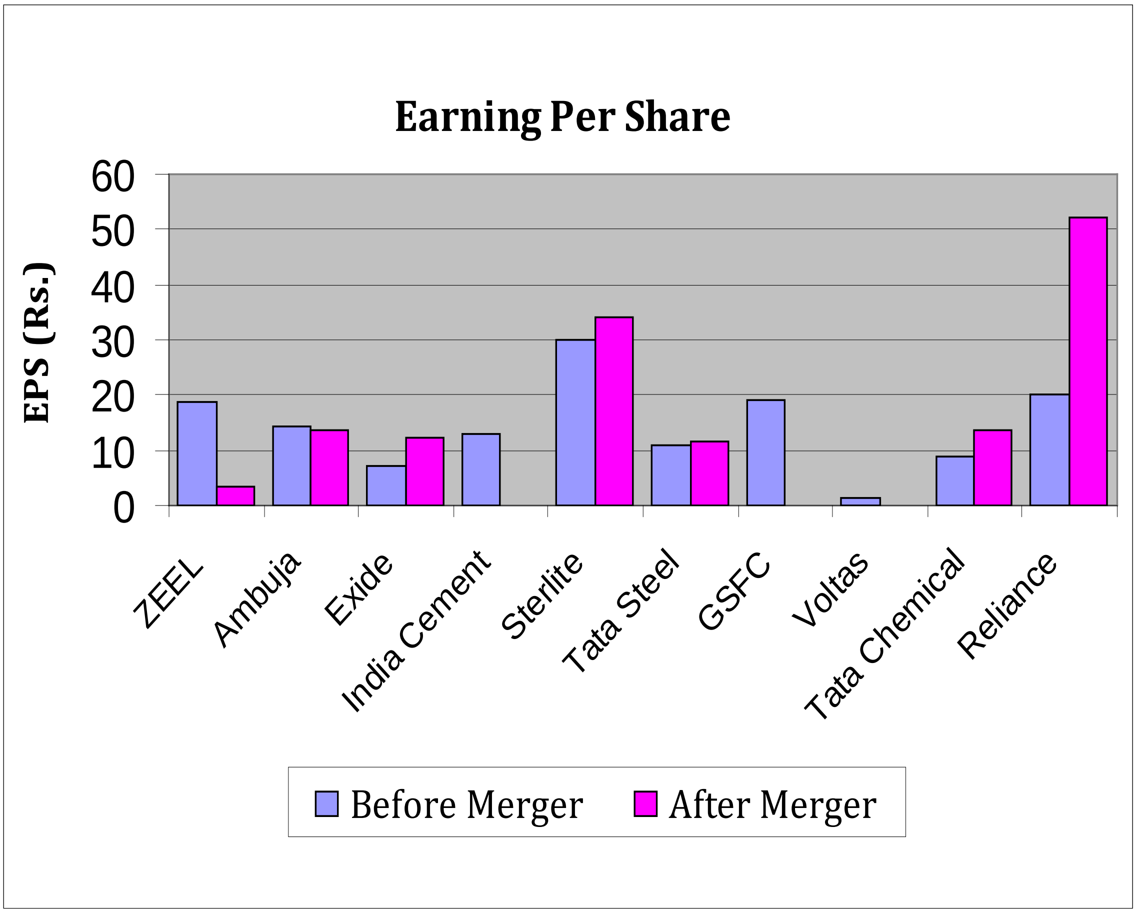
Earning per Share Ratio in selected units

(Before 5 years and after 5 years of M & A)

Name of Company	Before Merger X	After Merger Y	Difference (D = X – Y)	Difference Squared (D^2)
ZEEL	18.72	3.50	(15.22)	231.6484
Ambuja Cement	14.19	13.69	(0.50)	0.25
Exide Industry	7.25	12.39	5.14	26.4196
India Cement	12.86	0	(12.86)	165.3796
Sterlite Industry	30.13	34.24	4.11	16.8921
Tata Steel Industry	11.03	11.68	0.65	0.4225
GSFC	19.20	0	(19.20)	368.64
Voltas Industry	1.33	0	(1.33)	1.7689
Tata Chemical Ltd.	8.83	13.49	4.66	21.7156
Reliance Industry	20.26	52.26	32	1024
			$\sum D = -2.55$	$\sum D^2 = 1857.137$

(**Source:** Annual reports of the selected units and EMIS database website.)

Chart:



◆ **Analysis:**

The table no. 4.5 shows the data regarding earning per share ratio in selected 10 units during before and after mergers and acquisitions. The Sterlite Industry shows the highest EPS of Rs.30.13 and the Voltas Ltd. Shows the lowest EPS of Rs.1.33 before mergers and acquisitions. And remaining units like Ambuja Cement, Exide Industry, India Cement, Tata Steel, Tata Chemical and Reliance Industry show on an average EPS of Rs.13 during before mergers and acquisitions. After mergers and acquisitions Reliance Industry Ltd. Shows the highest EPS of Rs.52.26. After mergers and acquisitions the performance of 5 units Exide Industry, Sterlite Industry, Tata Steel, Tata Chemical and Reliance industry has been increased. And the remaining 5 units show the decline growth rate on EPS ratio after mergers and acquisitions. So, the researcher can conclude that, the EPS of 5 units is increased and 5 units is decreased after mergers and acquisitions.

◆ **Calculation of T – Test:-**

Table 4.5(a)

Analysis of T - Test in Selected Units under the Study

Earning per Share Ratio

n	Mean $(\overline{D})$	S.D.(σ)	d.f.	t_c	t_t	Result
10	-0.255	14.34	= n – 1 = 10 – 1 = 9	0.056	2.262	H_0

H_0 = *There would be no significant difference in means score* of *Earning per share ratio in selected units, before and after merger and acquisition.*

H_1 = *There would be significant difference in means score of* Earning *per share ratio in selected units, before and after merger and acquisition.*

$H_0 = u_1 = u_2$

$H_1 = u_1 \neq u_2$

5% level of significance table value = 2.262

The calculated value of T is 0.056 and table value of T is 2.262(at 5% level of significance). Hence,

TC < TT

The calculated value of 't' is less than the table value. The Null Hypothesis is accepted. The results are as per the expectation.

(B) Profitability Ratios:-

The word profitability is a modulation of two word's "profit" and "ability". It means the profit making ability of the organization. Profits are the soul of the business without which it can not survive longer period. Profitability indicates the capacity of managements to generate surplus in the process of business operations. A lower profitability may arise due to the lack of control over expenses.

The purpose of the study and analysis of profitability ratios are helping to assess the adequacy of profit earned by the company and also to discover whether profitability is increasing or declining. The profitability of the firm is the net result of a large number of policies and decisions. The profitability ratio is shows the combined effects of liquidity, asset management and debt management on operating result. The major profitability ratios are as follow:

1) Gross Profit Ratio
2) Net Profit Ratio
3) Operating Profit Ratio

(1) GROSS PROFIT RATIO:

Gross profit ratio shows relationship of gross profit to net sales. Gross profit is arrived at by deducting cost of goods sold from net sales. Expenses generally charged to profit and loss account are not included in the cost of goods sold.

This is obtained by dividing the amount of gross profit by sales and is expressed as a percentage. Gross profit ratio is expressed as follows:

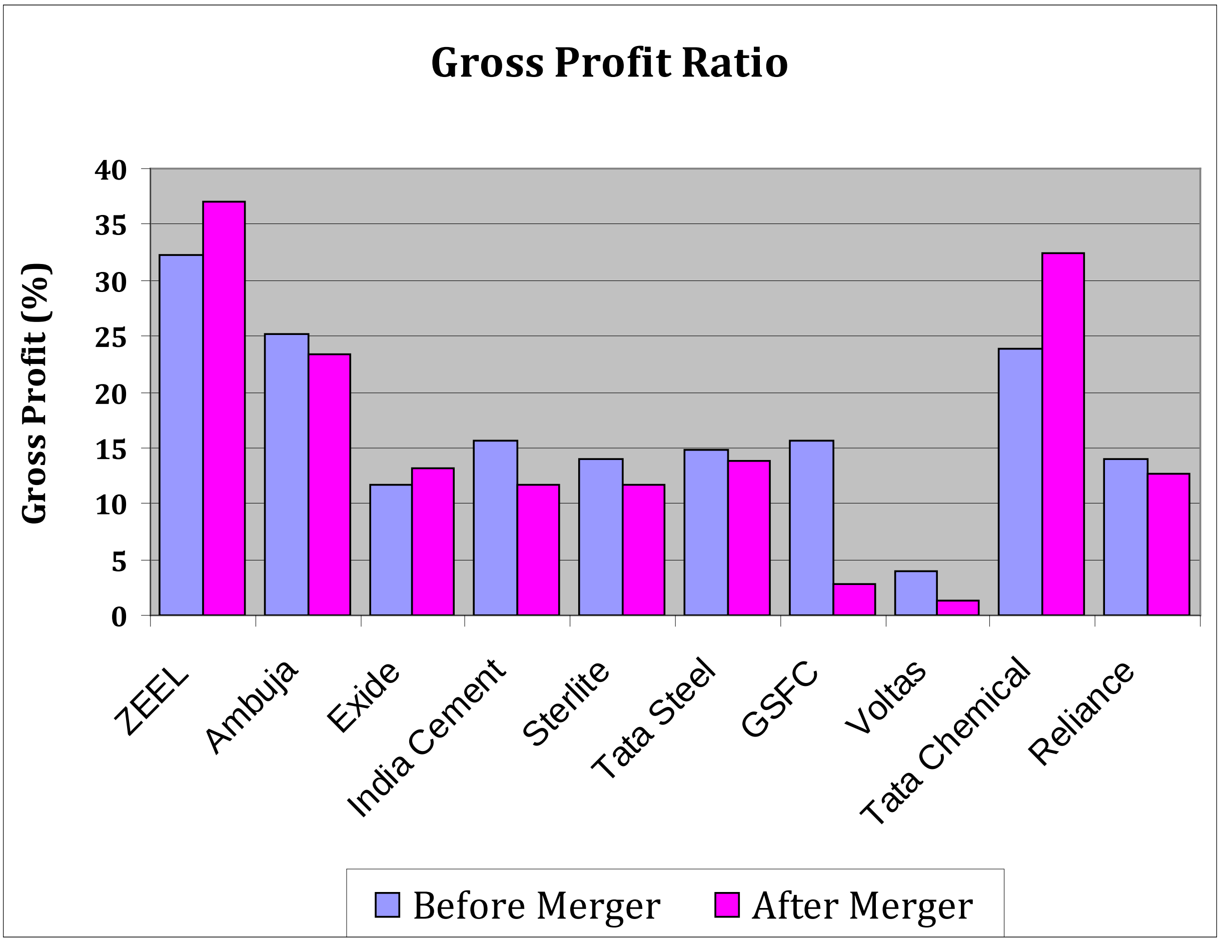
$$\text{Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Net Sales}} \text{ X } 100$$

TABLE 4.6
Gross Profit Ratio in selected units
(Before 5 years and after 5 years of M & A)

Name of Company	Before Merger X	After Merger Y	Difference (D = X – Y)	Difference Squared (D^2)
ZEEL	32.32	37.07	4.75	22.5625
Ambuja Cement	25.18	23.42	(1.76)	3.0976
Exide Industry	11.70	13.20	1.50	2.25
India Cement	15.67	11.63	(4.04)	16.3216
Sterlite Industry	14.02	11.65	(2.37)	5.6169
Tata Steel Industry	14.86	13.87	(0.99)	0.9801
GSFC	15.61	2.78	(12.83)	164.6089
Voltas Industry	3.97	1.36	(2.61)	6.8121
Tata Chemical Ltd.	23.88	32.45	8.57	73.4449
Reliance Industry	14.07	12.75	(1.32)	1.7424
			$\sum D = -11.11$	$\sum D^2 = 297.437$

(**Source:** Annual reports of the selected units and EMIS database website.)

Chart:



◆ Analysis:

The above table no.4.6 shows the gross profit ratio in selected units, before and after mergers and acquisitions. The highest gross profit ratio is in the ZEEL by 32.32% and Voltas Ltd. shows the lowest % 3.97, before mergers and acquisitions. Moreover, Ambuja Cement, India Cement, Sterlite Industry, Tata Steel, Tata Chemical Ltd. and Reliance Industry show on an average 15% Gross Profit Ratio during pre mergers and acquisitions. After mergers and acquisitions, ZEEL shows the highest % 37.07 of gross profit ratio. Besides this, after mergers and acquisitions the performance of ZEEL, Exide Industry and Tata Chemical Ltd. has been increased by 4.57%, 1.50% and 8.57% respectively. However almost all sample units except ZEEL, Exide Industry and Tata Chemical Ltd. Show decline growth rate of gross profit ratio. So, the researcher can conclude that after mergers and acquisitions the financial performance of sample units was not improved.

◆ Calculation of T – Test :-

Table 4.6(a)

Analysis of T - Test in Selected Units under the Study

Gross Profit Ratio

n	Mean $(\overline{D})$	S.D.(σ)	d.f.	t_c	t_t	Result
10	-1.111	5.63	= n – 1 = 10 – 1 = 9	0.624	2.262	H_0

H_0 = *There would be no significant difference in means score of Gross Profit ratio in selected units, before and after merger and acquisition.*

H_1 = *There would be significant difference in means score of Gross Profit ratio in selected units, before and after merger and acquisition.*

$H_0 = u_1 = u_2$

$H_1 = u_1 \neq u_2$

5% level of significance table value = 2.262

The calculated value of T is 0.624 and table value of T is 2.262(at 5% level of significance). Hence,

TC < TT

The calculated value of ‘t’ is less than the table value. The Null Hypothesis is accepted. The results are as per the expectation.

(2) NET PROFIT RATIO:-

This ratio indicates the portion of sales which is left to the proprietor after all costs, charges and expenses have been deducted. This is ratio of net income or profit after taxes to sales. The ratio is very used a measure of over all profitability. Net profit ratio focuses on the non-operating activities. Net profit ratio is calculated on the basis of following formula,

$$\text{Net Profit Ratio} = \frac{\text{Net Profit}}{\text{Sales}} \text{ X } 100$$

TABLE 4.7

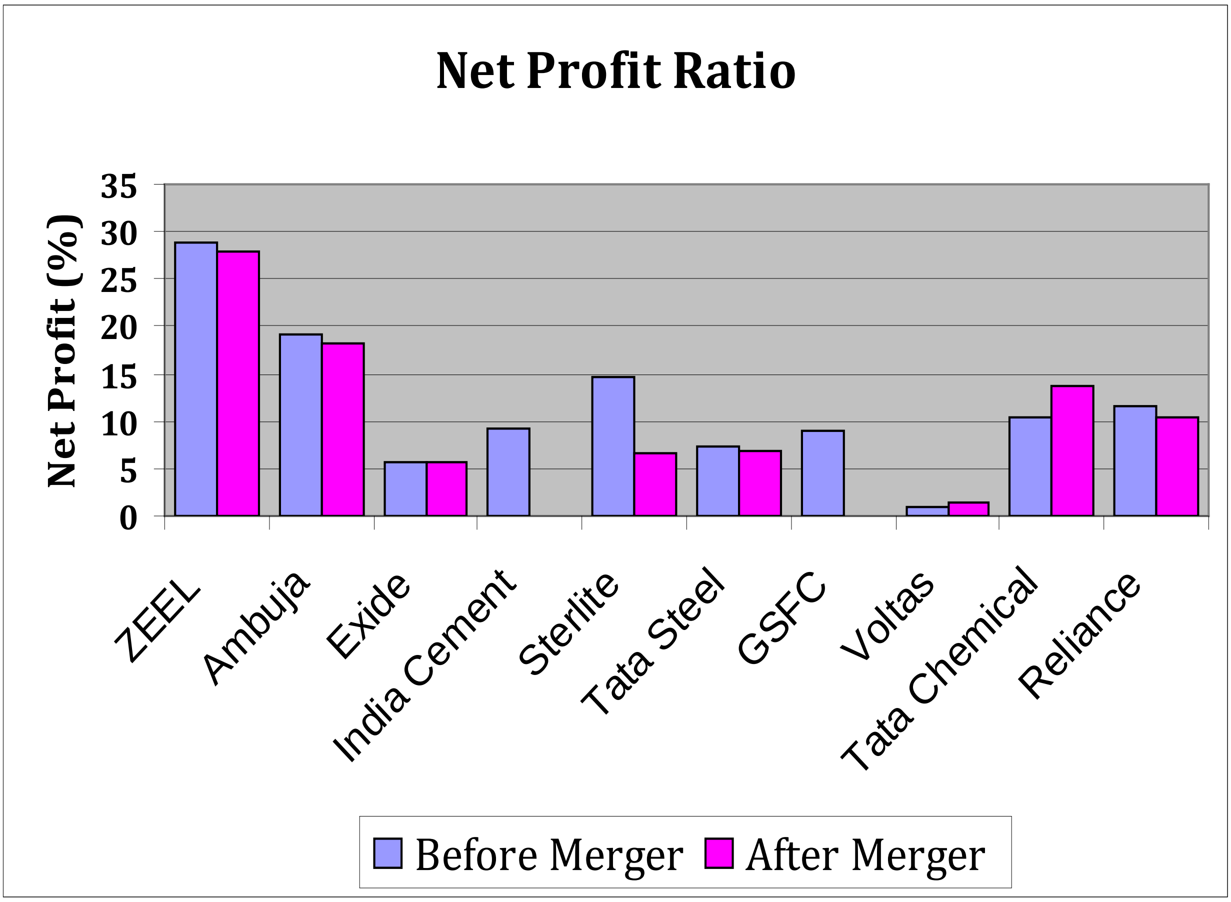
Net Profit Ratio in selected units

(Before 5 years and after 5 years of M & A)

Name of Company	Before Merger (X)	After Merger (Y)	Difference (D = X – Y)	Difference Squared (D^2)
ZEEL	28.75	28.02	(0.75)	0.5625
Ambuja Cement	19.08	18.21	(0.87)	0.7569
Exide Industry	5.62	5.57	(0.05)	0.0025
India Cement	9.23	0	(9.23)	85.1929
Sterlite Industry	14.63	6.52	(8.11)	65.7721
Tata Steel Industry	7.44	6.83	(0.61)	0.3721
GSFC	9.10	0	(9.10)	82.81
Voltas Industry	1.04	1.42	0.38	0.1444
Tata Chemical Ltd.	10.51	13.62	3.11	9.6721
Reliance Industry	11.53	10.32	(1.21)	1.4641
			$\sum D = -26.44$	$\sum D^2 = 246.7496$

(**Source:** Annual reports of the selected units and EMIS database website.)

Chart:



◆ **Analysis:**

The table no. 4.7 shows the data regarding net profit ratio in selected 10 units during before and after mergers and acquisitions. The ZEEL shows the highest % 28.75 and the Voltas Ltd. Shows the lowest % 1.04 before mergers and acquisitions. And remaining units like Sterlite Industry, Ambuja Cement, Exide Industry, India Cement, Tata Steel, Tata Chemical and Reliance Industry show on an average 9% net profit ratio, before mergers and acquisitions. After mergers and acquisitions ZEEL shows the highest % 28.02. After mergers and acquisitions the financial performance of Voltas Ltd. and Tata Chemical Ltd. has been increased by 0.38% and 3.11% respectively. However almost all sample units except Voltas Ltd. and Tata Chemical Ltd. show the decline growth rate of net profit ratio. So, the researcher can conclude that after mergers and acquisitions the financial performance of sample units was not improved.

◆ Calculation of T – Test:-

Table 4.7(a)

Analysis of T - Test in Selected Units under the Study

Net Profit Ratio

n	Mean $(\overline{D})$	S.D.(σ)	d.f.	t_c	t_t	Result
10	-2.644	4.43	= n – 1 = 10 – 1 = 9	1.889	2.262	H_0

H_0 = *There would be no significant difference in means score of* Net *Profit ratio in selected units, before and after merger and acquisition.*

H_1 = *There would be significant difference in means score of Net Profit ratio in selected units, before and after merger and acquisition.*

$H_0 = u_1 = u_2$

$H_1 = u_1 \neq u_2$

5% level of significance table value = 2.262

The calculated value of T is 1.889 and table value of T is 2.262(at 5% level of significance). Hence,

TC < TT

The calculated value of 't' is less than the table value. The Null Hypothesis is accepted. The results are as per the expectation.

(3) OPERATING PROFIT RATIO:

This ratio indicates the relationship between operating profit and net sales. Operating cost is the total cost of goods sold and all other operating expenses. i.e. administrative expenses and selling and distribution expenses. Operating profit ratio is calculated on the basis of following formula:

$$\text{Operating Profit Ratio} = \frac{\text{Operating profit (EBIT)}}{\text{Net Sales}} \text{ X } 100$$

TABLE 4.8

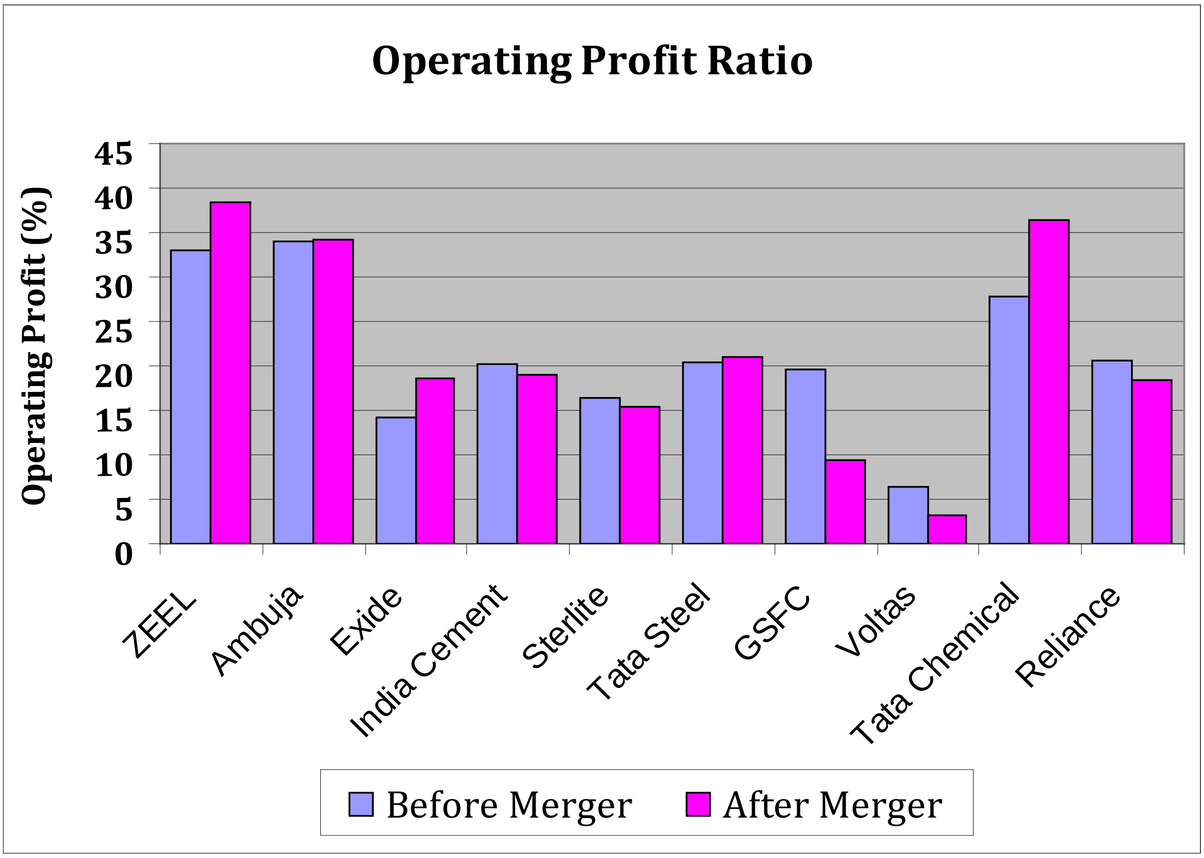
Operating Profit Ratio in selected units

(Before 5 years and after 5 years of M & A)

Name of Company	Before Merger (X)	After Merger (Y)	Difference (D = X – Y)	Difference Squared (D^2)
ZEEL	33.06	38.48	5.42	29.3764
Ambuja Cement	33.97	34.19	0.22	0.0484
Exide Industry	14.25	18.60	4.35	18.9225
India Cement	20.19	19.01	(1.18)	1.3924
Sterlite Industry	16.42	15.40	(1.02)	1.0404
Tata Steel Industry	20.50	20.93	0.43	0.1849
GSFC	19.56	9.39	(10.17)	103.4289
Voltas Industry	6.48	3.18	(3.30)	10.89
Tata Chemical Ltd.	27.84	36.38	8.54	72.9316
Reliance Industry	20.58	18.4	(2.18)	4.7524
			$\sum D = 1.11$	$\sum D^2 = 242.9679$

(**Source:** Annual reports of the selected units and EMIS database website.)

Chart:



◆ **Analysis:**

The table no. 4.8 shows the operating profit ratio in selected units before and after mergers and acquisitions. The Ambuja Cement shows the highest % 33.97 and the Voltas Ltd. Shows the lowest % 6.48 before mergers and acquisitions. And remaining units like Sterlite Industry, Ambuja Cement, Exide Industry, India Cement, Tata Steel, Tata Chemical and Reliance Industry show on an average 16% operating profit ratio, before mergers and acquisitions. After mergers and acquisitions ZEEL shows the highest % 38.48 and again Voltas Ltd. shows the lowest %3.18. After mergers and acquisitions the performance of 5 units ZEEL, Ambuja Cement, Exide Industry, Tata Steel, and Tata Chemical Ltd. has been increased by 5.42%, 0.22%, 4.35%, 0.43% and 8.54% respectively. And the remaining 5 units show the decline growth rate on return for operating profit ratio. So, the researcher can conclude that, the profitability of 5 units is increased and 5 units is decreased after mergers and acquisitions.

◆ **Calculation of T – Test:-**

Table 4.8(a)

Analysis of T - Test in Selected Units under the Study

Operating Ratio

n	Mean $(\overline{D})$	S.D.(σ)	d.f.	t_c	t_t	Result
10	0.11	5.19	= n – 1 = 10 – 1 = 9	0.068	2.262	H_0

H_0 = *There would be no significant difference in means score of Operating Profit ratio in selected units, before and after merger and acquisition.*

H_1 = *There would be significant difference in means score of Operating Profit ratio in selected units, before and after merger and acquisition.*

$H_0 = u_1 = u_2$

$H_1 = u_1 \neq u_2$

5% level of significance table value = 2.262

The calculated value of T is 0.068 and table value of T is 2.262(at 5% level of significance). Hence,

TC < TT

The calculated value of 't' is less than the table value. The Null Hypothesis is accepted. The results are as per the expectation.

(C) LIQUIDITY AND LEVERAGE RATIOS:-

A firm's ability to pay its debts can be measure partly through the use of liquidity ratio. Short term liquidity involves the relationship between current assets and current liabilities. Through the liquidity ratio can be examined whether the organization is liquid enough to meet its current liabilities.

Liquidity ratio is calculated to determine the short-term solvency of the business. It is extremely essential for a firm to be able to meet its obligations as they become due. Liquidity ratios measure the ability of the firm to meet its current obligation. In fact analysis of liquidity needs the preparation of cash budgets and cash and fund flow statements but liquidity ratios, by establishing a relationship between cash and other current assets to current obligations, provide a quick measure of liquidity. A firm should ensure that it does not suffer from lack of liquidity and also that it does not have excess liquidity. The failure of a company to met its obligation due to lack of sufficient liquidity , will result in a poor credit worthiness, loss of creditors confidence or even in legal tangles resulting in the closure of the business unit. A very high degree of liquidity is also bad; idle assets earn nothing. The firm's funds will be unnecessarily tied up in current assets[7]. Therefore it is necessary to strike a proper balance between high liquidity and lack of liquidity.

Following ratios have been selected by the researcher for the study of liquidity and leverage:

1. Current Ratio
2. Current Ratio (Including Short Term Loan)
3. Quick Ratio
4. Inventory Turnover Ratio
5. Debtors Ratio
6. Long – Term Debt to Equity Ratio
7. Total Debt to Equity Ratio
8. Fixed Assets Turnover Ratio

9. Owners Funds Ratio
10. Working Capital Turnover Ratio

(1) CURRENT RATIO:

This ratio is an indication of the firm's commitment to meet its short-term liabilities. Current ratio is a ratio of the firm's total current assets and its total current liabilities. Current assets include inventory, sundry debtors, cash and bank, loan and advances. Current liability includes creditors, bills payable, accrued expenses, tax liability but not short term bank loans and other loans.

A low ratio indicates that a firm may not be able to pay its future obligations in time, particularly if condition change causing a slow down in cash collection. A high ratio may indicate an excessive amount of current assets and management's failure to utilize the firm's resources properly. Current ratio is calculated on the basis of following formula for the present study:

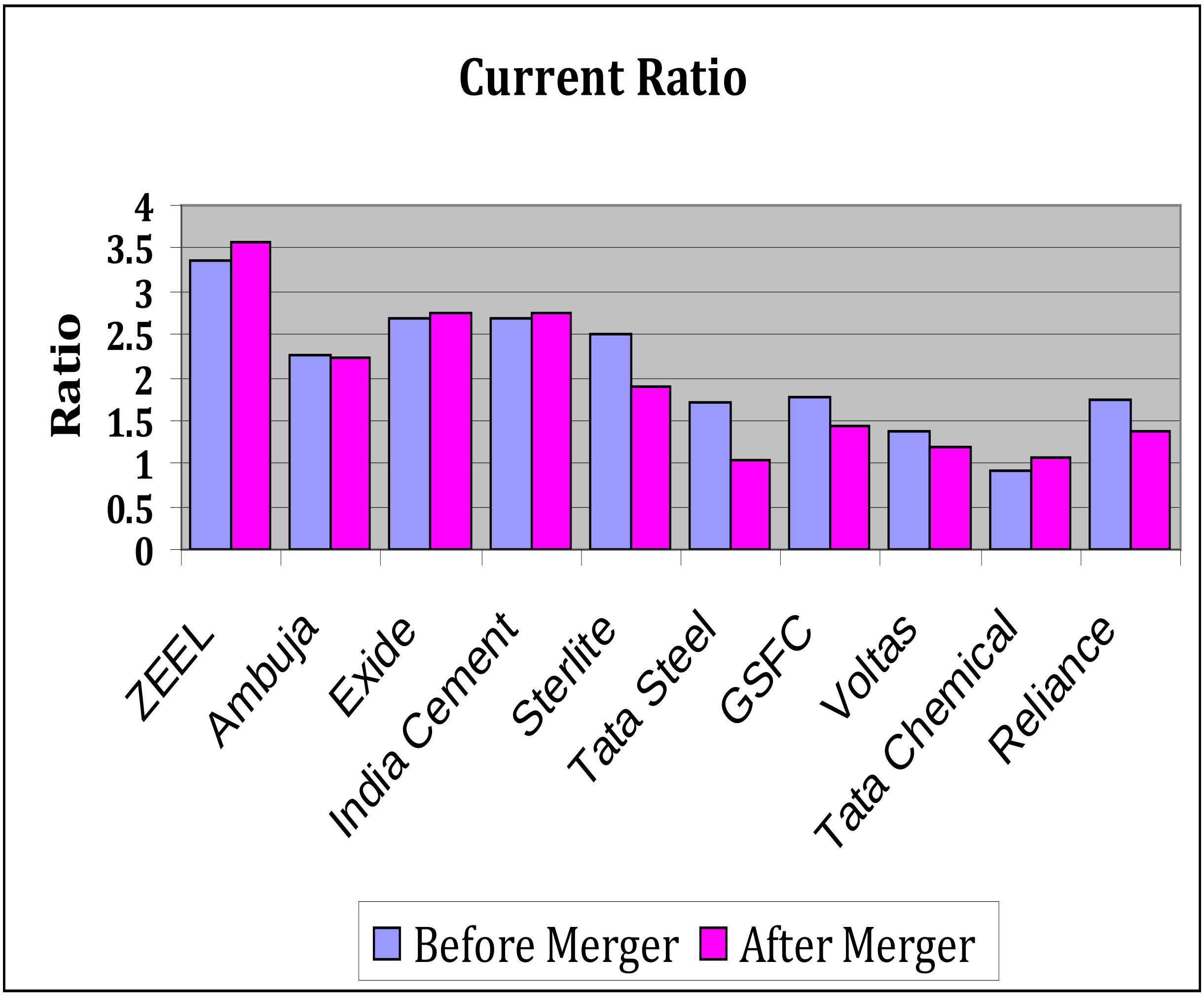
$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

TABLE 4.9
Current Ratio in selected units
(Before 5 years and after 5 years of M & A)

Name of Company	Before Merger (X)	After Merger (Y)	Difference (D = X – Y)	Difference Squared (D^2)
ZEEL	3.36	3.58	0.22	0.0484
Ambuja Cement	2.25	2.23	(0.02)	0.0004
Exide Industry	2.69	2.75	0.06	0.0036
India Cement	2.69	2.75	0.06	0.0036
Sterlite Industry	2.49	1.89	(0.60)	0.36
Tata Steel Industry	1.71	1.03	(0.68)	0.4624
GSFC	1.78	1.42	(0.36)	0.1296
Voltas Industry	1.38	1.19	(0.19)	0.0361
Tata Chemical Ltd.	0.92	1.06	0.14	0.0196
Reliance Industry	1.74	1.37	(0.37)	0.1369
			$\sum D = -1.74$	$\sum D^2 = 1.2006$

(**Source:** Annual reports of the selected units and EMIS database website.)

Chart:



◆ **Analysis:**

The above table no.4.9 shows the current ratio in selected units, before and after mergers and acquisitions. The highest current ratio is in the ZEEL by 3.36 and the lowest is in the Tata Chemical Ltd. by 0.92, before mergers and acquisitions. Moreover, Ambuja Cement, India Cement, Sterlite Industry, Tata Steel, Tata Chemical Ltd. and Reliance Industry show on an average 2.00 current Ratio during pre mergers and acquisitions. After mergers and acquisitions, ZEEL shows the highest current ratio with 3.58. Besides this, after mergers and acquisitions the current ratio is decreased except ZEEL, Exide industry, India Cement and Tata Chemical Ltd. So, the researcher can conclude that after mergers and acquisitions the liquidity position of sample units is not improved.

◆ Calculation of T – Test:-

Table 4.9(a)

Analysis of T - Test in Selected Units under the Study

Current Ratio

n	Mean ($\overline{D}$)	S.D.(σ)	d.f.	t_c	t_t	Result
10	-0.174	0.316	= n – 1 = 10 – 1 = 9	1.742	2.262	H_0

H_0 = *There would be no significant difference in means score of Current ratio in selected units, before and after merger and acquisition.*

H_1 = *There would be significant difference in means score of Current ratio in selected units, before and after merger and acquisition.*

$H_0 = u_1 = u_2$

$H_1 = u_1 \neq u_2$

5% level of significance table value = 2.262

The calculated value of T is 1.742 and table value of T is 2.262(at 5% level of significance). Hence,

TC < TT

The calculated value of ‘t’ is less than the table value. The Null Hypothesis is accepted. The results are as per the expectation.

(2) CURRENT RATIO (INCLUDING SHORT TERM LOAN):-

This ratio is an indication of the firm's commitment to meet its short-term liabilities. Current ratio is a ratio of the firm's total current assets and its total current liabilities. Current assets include inventory, sundry debtors, cash and bank, loan and advances. Current liabilities include creditors, bills payable, accrued expenses, short term bank loan and tax liability.

A low ratio indicates that a firm may not be able to pay its future obligations in time, particularly if condition change causing a slow down in cash collection. A high ratio may indicate an excessive amount of current assets and management's failure to utilize the firm's resources properly. Current ratio is calculated on the basis of following formula for the present study:

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

TABLE 4.10

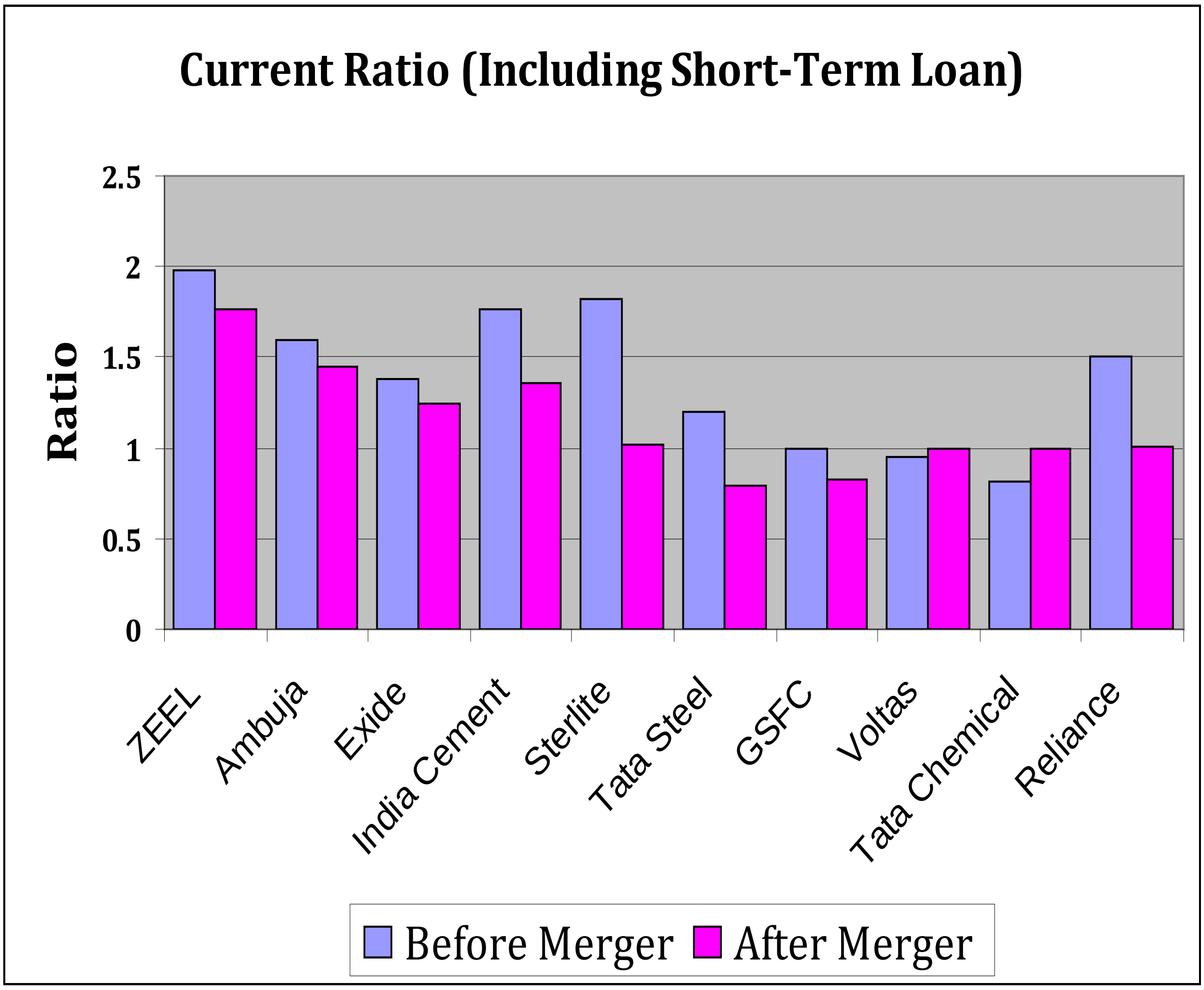
Current Ratio (including short term loan) in selected units

(Before 5 years and after 5 years of M & A)

Name of Company	Before Merger (X)	After Merger (Y)	Difference (D = X – Y)	Difference Squared
ZEEL	1.98	1.77	(0.21)	0.0441
Ambuja Cement	1.60	1.45	(0.15)	0.0225
Exide Industry	1.38	1.24	(0.14)	0.0196
India Cement	1.77	1.36	(0.41)	0.1681
Sterlite Industry	1.82	1.02	(0.80)	0.64
Tata Steel Industry	1.20	0.79	(0.41)	0.1681
GSFC	0.99	0.83	(0.16)	0.0256
Voltas Industry	0.95	0.99	0.03	0.0009
Tata Chemical Ltd.	0.81	0.99	0.18	0.0324
Reliance Industry	1.51	1.01	(0.50)	0.25
			$\sum D = -2.57$	$\sum D^2 = 1.3713$

(**Source:** Annual reports of the selected units and EMIS database website.)

Chart:



Analysis:

The above table no.4.10 shows the data regarding current ratio (including short-term loan) in selected units, before and after mergers and acquisitions. The ZEEL shows the highest ratio by 1.98 and the Voltas Ltd. shows the lowest ratio by 0.95, before mergers and acquisitions. Moreover, Ambuja Cement, India Cement, Sterlite Industry, Tata Steel, Tata Chemical Ltd. and Reliance Industry show on an average 1.3 current Ratio including short-term loan before mergers and acquisitions. After mergers and acquisitions, ZEEL shows the highest current ratio including short-term loan with 1.77. Besides this, after mergers and acquisitions this ratio is decreased except Voltas Ltd., and Tata Chemical Ltd. So, the researcher can conclude that after mergers and acquisitions the liquidity position of sample units is decreased and became very poor.

◆ **Calculation of T – Test:-**

Table 4.10(a)

Analysis of T - Test in Selected Units under the Study

Current Ratio (including short term loan)

n	Mean ($\bar{D}$)	S.D.(σ)	d.f.	t_c	t_t	Result
10	-2.57	0.281	= n – 1 = 10 – 1 = 9	2.891	2.262	H_1

H_0 = *There would be no significant difference in means score of Current Ratio (including short term loan) in selected units, before and after merger and acquisition.*

H_1 = *There would be significant difference in means score of Current Ratio (including short term loan) in selected units, before and after merger and acquisition.*

$H_0 = u_1 = u_2$

$H_1 = u_1 \neq u_2$

5% level of significance table value = 2.262

The calculated value of T is 1.403 and table value of T is 2.262(at 5% level of significance). Hence,

$T_C > T_T$

The calculated value of 't' is greater than the table value of t. The Null Hypothesis is rejected. The results are not as per the expectation.

(3) QUICK RATIO:

Liquid ratio or quick ratio, it is more rigorous test of liquidity than current ratio. Two determinant of current ratio, as a measure of liquidity, are current assets and current liabilities. Current assets include inventory which is not easily convertible into cash within a short period. Liquid ratio may define as the relationship between liquid assets and current liabilities.

Usually a high liquid ratio is an indication that the firm has liquidity and ability to meet current or liquid liabilities in time and on the other hands a low quick or liquid ratio represents that the firm liquidity position is not good. Liquid ratio is calculated on the basis of following formula:

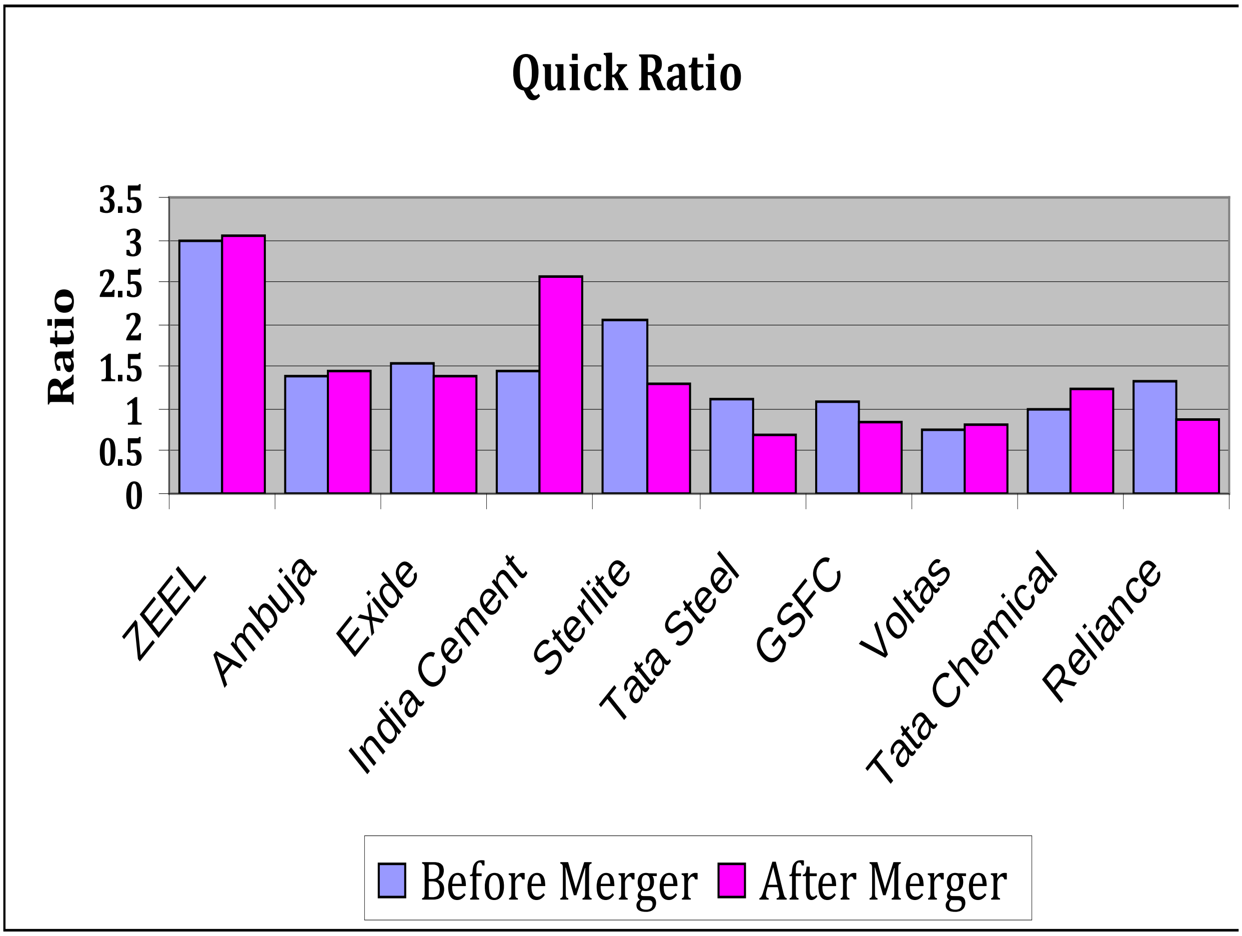
$$\text{Quick Ratio} = \frac{\textbf{Quick (Liquide)Assets}}{\textbf{Current Liabilities}}$$

TABLE 4.11
Quick Ratio in selected units
(Before 5 years and after 5 years of M & A)

Name of Company	Before Merger X	After Merger Y	Difference (D = X – Y)	Difference Squared (D^2)
ZEEL	2.99	3.04	0.05	0.0025
Ambuja Cement	1.39	1.46	0.07	0.0049
Exide Industry	1.53	1.40	(0.13)	0.0169
India Cement	1.46	2.57	1.11	1.2321
Sterlite Industry	2.06	1.29	(0.77)	0.5929
Tata Steel Industry	1.13	0.68	(0.45)	0.2025
GSFC	1.08	0.83	(0.25)	0.0625
Voltas Industry	0.76	0.82	0.06	0.0036
Tata Chemical Ltd.	1.01	1.24	0.23	0.0529
Reliance Industry	1.33	0.87	(0.46)	0.2116
			$\sum D = -0.54$	$\sum D^2 = 2.3824$

(**Source:** Annual reports of the selected units and EMIS database website.)

Chart:



◆ **Analysis:**

The above table no.4.11 shows the quick ratio in selected units, before and after mergers and acquisitions. The highest quick ratio is in the ZEEL by 2.99 and the lowest is in the Voltas Ltd. by 0.76, before mergers and acquisitions. Moreover, Exide Industry, Ambuja Cement, India Cement, Sterlite Industry, Tata Steel, Tata Chemical Ltd. and Reliance Industry show on an average 1.5 quick ratio during pre mergers and acquisitions. After mergers and acquisitions, ZEEL shows the highest quick ratio with 3.04. Besides this, after mergers and acquisitions the quick ratio is decreased in 5 sample units (Exide industry, Sterlite industry, Tata Steel Ltd., GSFC and Reliance Industry Ltd.) and increased in remaining 5 units. So, the researcher can conclude that after mergers and acquisitions the liquidity position of sample units is improved in 5units and decreased in 5 units.

◆ **Calculation of T – Test:-**

Table 4.11 (a)

Analysis of T - Test in Selected Units under the Study

Quick Ratio

n	Mean $(\bar{D})$	S.D.(σ)	d.f.	t_c	t_t	Result
10	-0.054	0.511	= n – 1 = 10 – 1 = 9	0.3333	2.262	H_0

H_0 = *There would be no significant difference in means score of Quick ratio in selected units, before and after merger and acquisition.*

H_1 = *There would be significant difference in means score of Quick ratio in selected units, before and after merger and acquisition.*

$H_0 = u_1 = u_2$

$H_1 = u_1 \neq u_2$

5% level of significance table value = 2.262

The calculated value of T is 0.3333 and table value of T is 2.262(at 5% level of significance). Hence,

TC < TT

The calculated value of 't' is less than the table value. The Null Hypothesis is accepted. The results are as per the expectation.

(4) INVENTORY TURN OVER RATIO:

A considerable amount of a company's capital may be tied up in the financing of raw materials, work-in-progress and finished goods. It is important to ensure that the level of stocks is kept as low as possible, consistent with the need to fulfill customer's orders in time[8]. Inventory turnover ratio measure the relative size of the inventory and influences the amount of cash available to pay liabilities and how many times a company's inventory has been sold during the year. If the inventory turnover ratio decreased from past, it means that either inventory is growing or sales are dropping. Inventory turnover ratio is calculated with the help of following formula:

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of goods sold}}{\text{Average Stock}}$$

$$\text{Where, Average Stock} = \frac{\text{Opening stock + closing stock}}{2}$$

TABLE 4.12

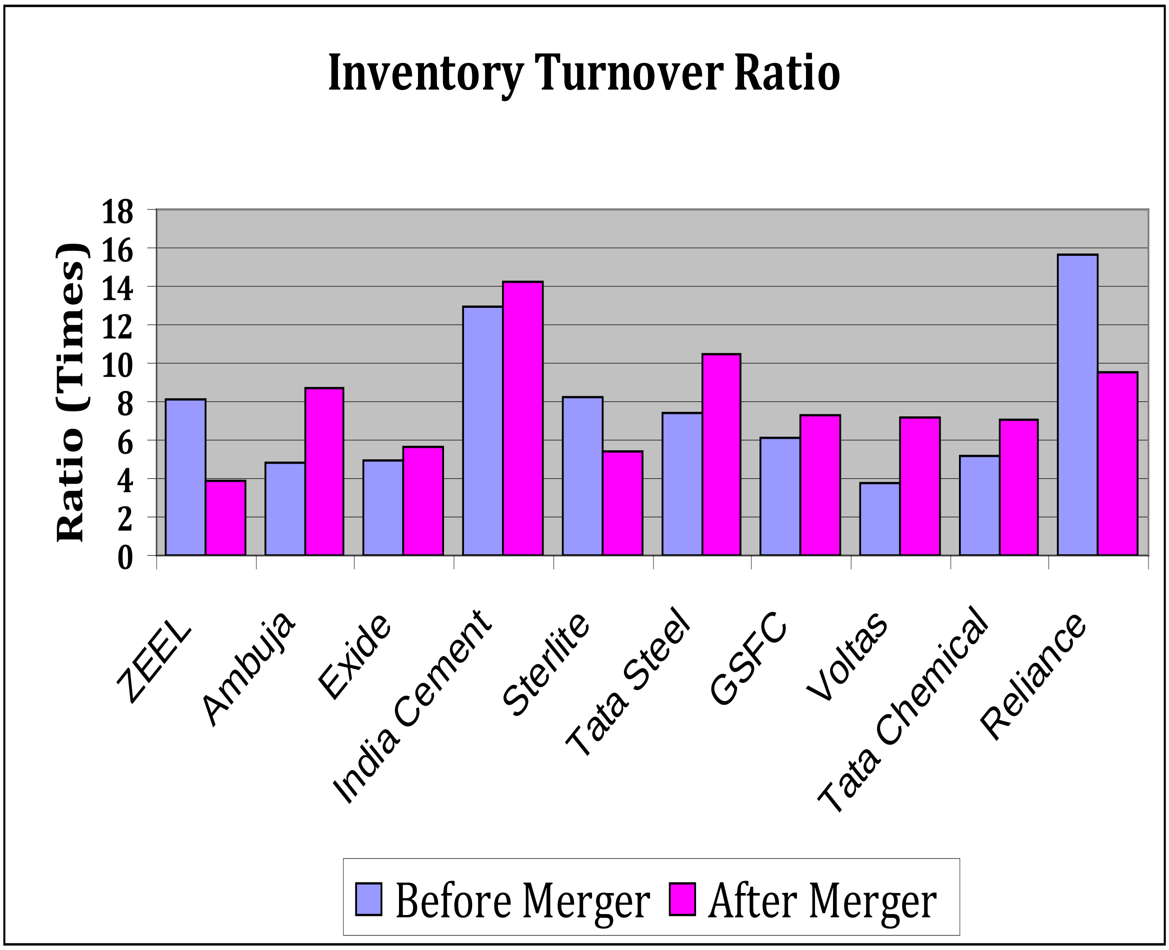
Inventory Turnover Ratio in selected units

(Before 5 years and after 5 years of M & A)

Name of Company	Before Merger (X)	After Merger (Y)	Difference (D = X – Y)	Difference Squared (D^2)
ZEEL	8.07	3.87	(4.20)	17.64
Ambuja Cement	4.85	8.76	3.91	15.2881
Exide Industry	4.93	5.69	0.76	0.5776
India Cement	12.93	14.20	1.27	1.6129
Sterlite Industry	8.27	5.4	(2.84)	8.0656
Tata Steel Industry	7.37	10.43	3.06	9.3636
GSFC	6.14	7.32	1.18	1.3924
Voltas Industry	3.82	7.15	3.33	11.0889
Tata Chemical Ltd.	5.21	7.07	1.86	3.4596
Reliance Industry	15.65	9.52	(6.123)	37.49113
			$\sum D = 2.207$	$\sum D^2 = 105.9798$

(**Source:** Annual reports of the selected units and EMIS database website.)

Chart:



Analysis:

The above table no. 4.12 indicates the inventory turnover ratio in selected units, before and after merger and acquisitions. Moreover, Reliance Industry Limited shows the highest turnover 15.65 times and Voltas Limited shows the lowest turnover 3.82 times before mergers and acquisitions. And Ambuja Cement, Exide Industry, India Cement, Sterlite Industry and Reliance Industry shows on an average turnover rate by 8 times during pre mergers and acquisitions. After mergers and acquisitions India Cement shows the highest turnover rate by 14.20 times and ZEEL shows the lowest turnover rate by 3.87 times. However almost all sample units except ZEEL, Sterlite and Reliance Industry Ltd. Show increasing growth rate for inventory turnover rate. So, the researcher can conclude that after mergers and acquisitions the inventory turnover rate is increased.

◆ **Calculation of T – Test:-**

Table 4.12 (a)

Analysis of T - Test in Selected Units under the Study

Inventory Turnover Ratio

n	Mean ($\overline{D}$)	S.D.(σ)	d.f.	t_c	t_t	Result
10	0.2207	3.425	= n – 1 = 10 – 1 = 9	0.1911	2.262	H_0

H_0 = *There would be no significant difference in means score of Inventory Turnover ratio in selected units, before and after merger and acquisition.*

H_1 = *There would be significant difference in means score of Inventory Turnover ratio in selected units, before and after merger and acquisition.*

$H_0 = u_1 = u_2$

$H_1 = u_1 \neq u_2$

5% level of significance table value = 2.262

The calculated value of T is 0.1911 and table value of T is 2.262(at 5% level of significance). Hence,

TC < TT

The calculated value of 't' is less than the table value. The Null Hypothesis is accepted. The results are as per the expectation.

(13) DEBTORS RATIO:

"This ratio gives an indication of the efficiency of the credit and collection policy of the firm and it will directly effect the liquidity position of the company. It is a test of speed in which debtors are converted into cash."[9] Thus, debtor ratio is an important tool of analyzing the efficiency of liquidity management of a company. The liquidity position of the firm depends on the quality of debtor to a great extent. Debtor ratio is calculated on the basis of following formula,

$$\text{Debtor Ratio} = \frac{\text{Debtors}}{\text{Sales}} \text{ X } 365 \text{ days}$$

TABLE 4.13

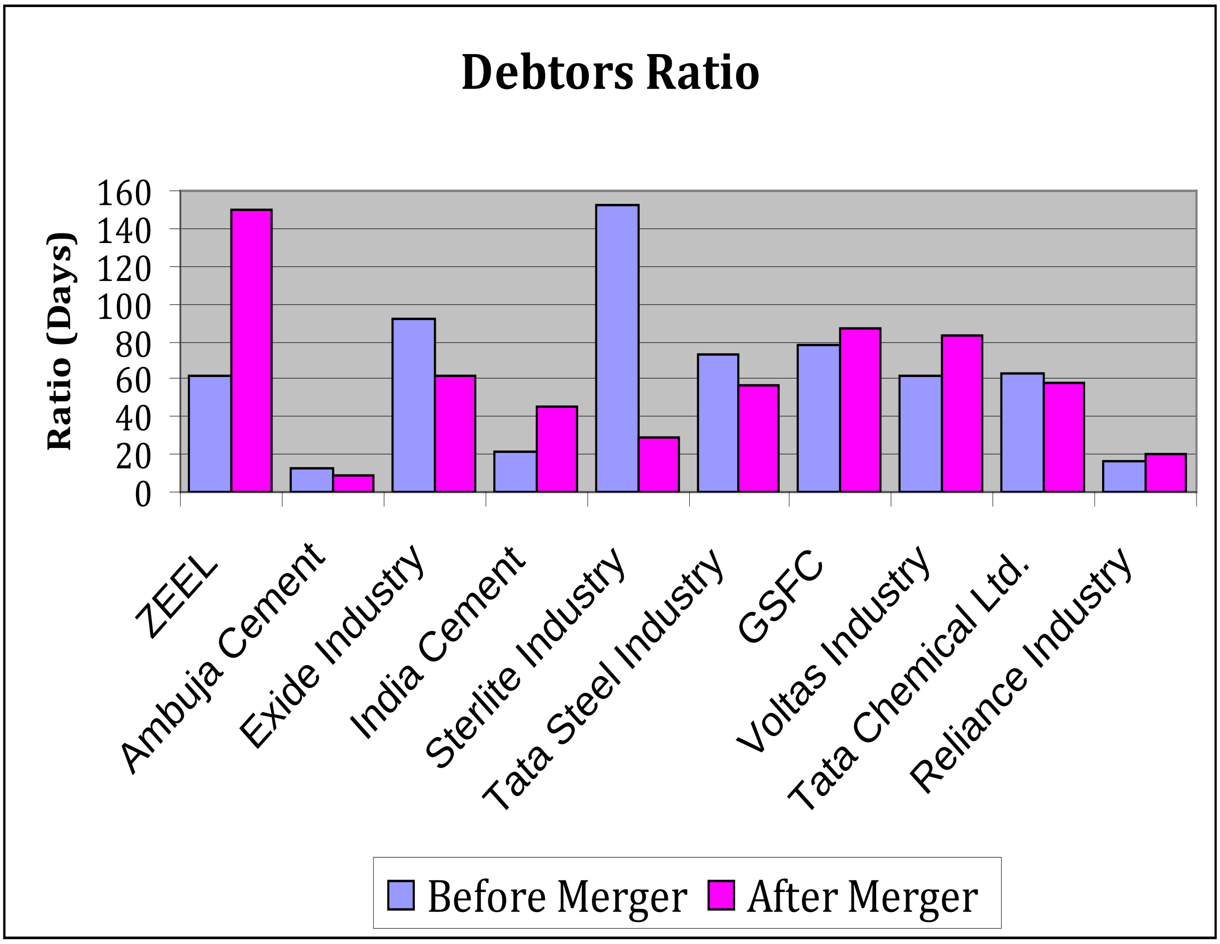
Debtors Ratio in selected units

(Before 5 years and after 5 years of M & A)

Name of Company	Before Merger (X)	After Merger (Y)	Difference (D = X – Y)	Difference Squared (D^2)
ZEEL	62	150	88	7744
Ambuja Cement	12	09	(3)	9
Exide Industry	92	62	(30)	900
India Cement	21	45	24	576
Sterlite Industry	152	29	(123)	15129
Tata Steel Industry	73	57	(16)	256
GSFC	78	87	9	81
Voltas Industry	62	83	21	441
Tata Chemical Ltd.	63	58	(5)	25
Reliance Industry	17	20	3	9
			$\sum D = -32$	$\sum D^2 = 25170$

(**Source:** Annual reports of the selected units and EMIS database website.)

Chart:



◆ **Analysis:**

The above table no.4.13 indicates the data regarding debtors ratio in selected 10 units for before and after mergers and acquisitions. The Sterlite Industry shows the highest ratio with 152 days and the Ambuja Cement Ltd. shows the lowest ratio with only 12 days and ZEEL, Exide Industry, Tata Steel Ltd., GSFC, Voltas Ltd. and Tata Chemical Ltd. show on an average collection period by 70 days before merger and acquisitions. After mergers and acquisitions the ZEEL shows the highest collection period by 152 days and Ambuja Cement shows the lowest collection period by only 9 days. Moreover after mergers and acquisitions the collection period is decreased in all the sample units except ZEEL, India Cement, GSFC and Voltas Ltd. So, the researcher can conclude that, the liquidity position of selected units is increased after merger and acquisition in relation to debtors ratio.

◆ **Calculation of T – Test:-**

Table 4.13 (a)

Analysis of T - Test in Selected Units under the Study

Debtors Ratio

n	Mean ($\bar{D}$)	S.D.(σ)	d.f.	t_c	t_t	Result
10	-3.2	52.78	= n – 1 = 10 – 1 = 9	0.192	2.262	H_0

H_0 = There would be no significant difference in means score of Debtors ratio in selected units, before and after merger and acquisition.

H_1 = There would be significant difference in means score of Debtors ratio in selected units, before and after merger and acquisition.

$H_0 = u_1 = u_2$

$H_1 = u_1 \neq u_2$

5% level of significance table value = 2.262

The calculated value of T is 0.192 and table value of T is 2.262(at 5% level of significance). Hence,

$T_C < T_T$

The calculated value of 't' is less than the table value. The Null Hypothesis is accepted. The results are as per the expectation.

(14) LONG – TERM DEBT TO EQUITY RATIO:

The debt-equity ratio is determined to ascertain to soundness of the long-term financial policies of the company. It is also known as "external-Internal" equity ratios. It may be calculated as follows.

$$\text{Long - term Debt to Equity Ratio} = \frac{\text{Long - term Debt}}{\text{Equity}}$$

It indicates the proportion between shareholder funds and the total long term borrowed funds. This ratio may be taken as ideal if it is 1. In other words the investor may take debt-equity ratio as quite satisfactory if shareholder's funds are equal to borrowed funds.

TABLE 4.14

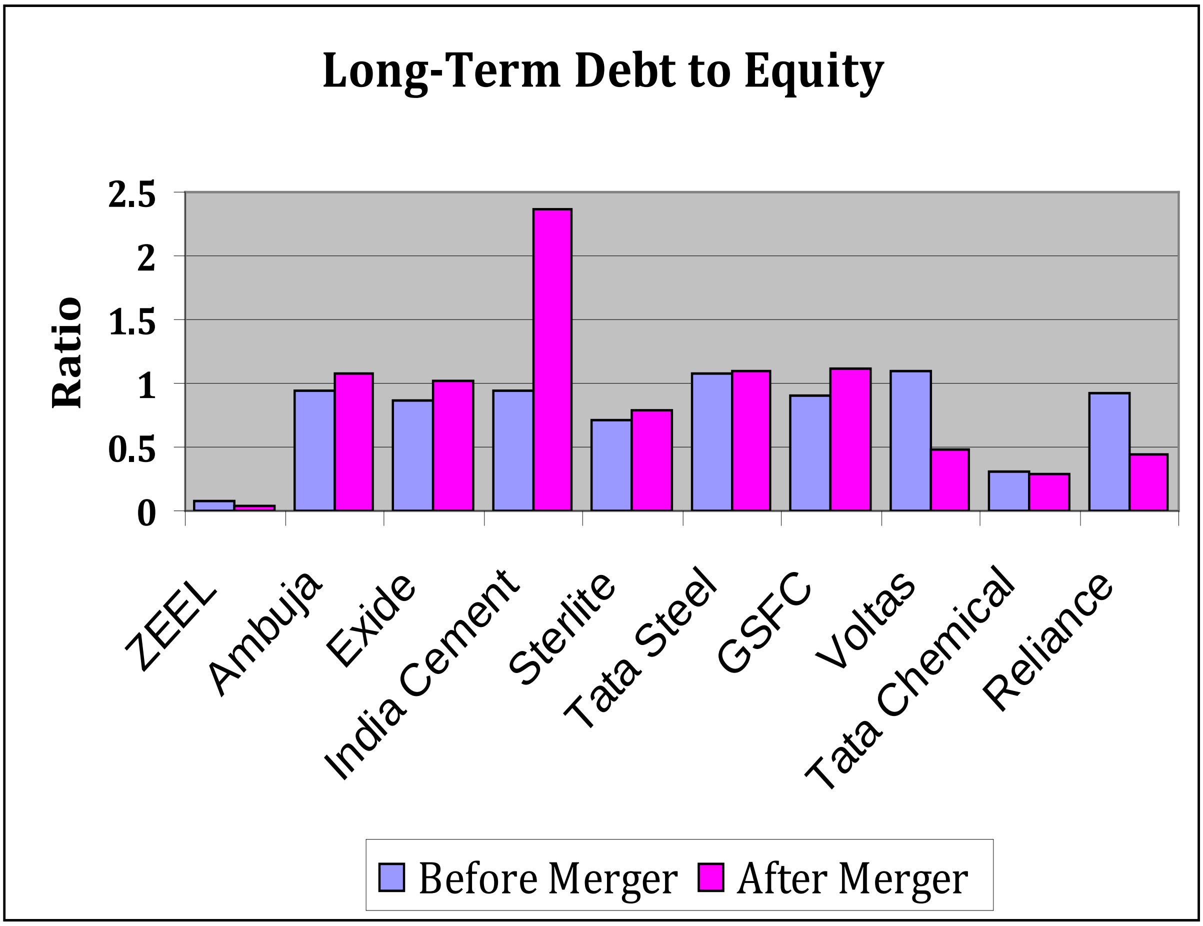
Long Term Debt to Equity Ratio in selected units

(Before 5 years and after 5 years of M & A)

Name of Company	Before Merger (X)	After Merger (Y)	Difference (D = X – Y)	Difference Squared (D^2)
ZEEL	0.08	0.04	(0.04)	0.0016
Ambuja Cement	0.95	1.08	0.13	0.0169
Exide Industry	0.87	1.02	0.15	0.0225
India Cement	0.95	2.37	1.42	2.0164
Sterlite Industry	0.72	0.78	0.06	0.0036
Tata Steel Industry	1.08	1.10	0.02	0.0004
GSFC	0.91	1.11	0.20	0.04
Voltas Industry	1.10	0.49	(0.61)	0.3721
Tata Chemical Ltd.	0.30	0.29	(0.01)	0.0001
Reliance Industry	0.92	0.45	0.47	0.2209
			$\sum D = 1.79$	$\sum D^2 = 2.6945$

(**Source:** Annual reports of the selected units and EMIS database website.)

Chart:



◆ **Analysis:**

The above table no.4.14 shows the data regarding long-term debt to equity ratio in selected 10 units, before and after mergers and acquisitions. It shows that Voltas Ltd. shows the highest ratio by 1.10 and ZEEL shows the lowest ratio by 0.08 before mergers and acquisitions. While Ambuja Cement, India Cement, GSFC, Exide Industry and Reliance Industry show on an average ratio by 0.80 during pre mergers and acquisitions. After mergers and acquisitions India Cement shows the highest ratio by 2.37 and ZEEL shows the lowest ratio by 0.04. After mergers and acquisitions long-term funds is increased in all the sample units except ZEEL, Voltas Ltd. and Tata Chemical Ltd. So, the researcher can conclude that after mergers and acquisitions the long-term funds is increased in compare to equity share capital.

◆ **Calculation of T – Test:-**

Table 4.14 (a)

Analysis of T - Test in Selected Units under the Study

Long Term Debt to Equity Ratio

n	Mean ($\overline{D}$)	S.D.(σ)	d.f.	t_c	t_t	Result
10	0.179	0.514	= n – 1 = 10 – 1 = 9	1.098	2.262	H_0

H_0 = *There would be no significant difference in means score of Long term Debt to Equity ratio in selected units, before and after merger and acquisition.*

H_1 = *There would be significant difference in means score of Long term Debt to Equity ratio in selected units, before and after merger and acquisition.*

$H_0 = u_1 = u_2$

$H_1 = u_1 \neq u_2$

5% level of significance table value = 2.262

The calculated value of T is 1.098 and table value of T is 2.262(at 5% level of significance). Hence,

TC < TT

The calculated value of 't' is less than the table value. The Null Hypothesis is accepted. The results are as per the expectation.

(15) TOTAL DEBT TO EQUITY RATIO:

Several debt ratios may be used to analysis the long term solvency of a firm. The firm may be interested in knowing the proportion of the interest bearing debt in capital structure. It may therefore compute debt ratio by dividing total debt by equity.

Total debt will include short and long term borrowings firm financial institutions bonds, debentures, deferred payment arrangements for buying capital equipments and bank borrowings public deposits and any other interest-bearing loan. Equity includes equity share capital & surplus.

A low debt-equity ratio implies a greater claim of owners than creditors from the point of view of creditors. It represents satisfactory situations since a high proportion of equity provides a larger margin of safety for them. The higher debt equity ratio, the larger the share holder's earning when the cost of debt is less that the firm's overall ratio of return on investment thus, there is need to strike a proper balance between the use of debt and equity. The ratio has been computed as follows:

$$\text{Total Debt to Equity Ratio} = \frac{\text{Total Debt}}{\text{Equity Funds}}$$

TABLE 4.15

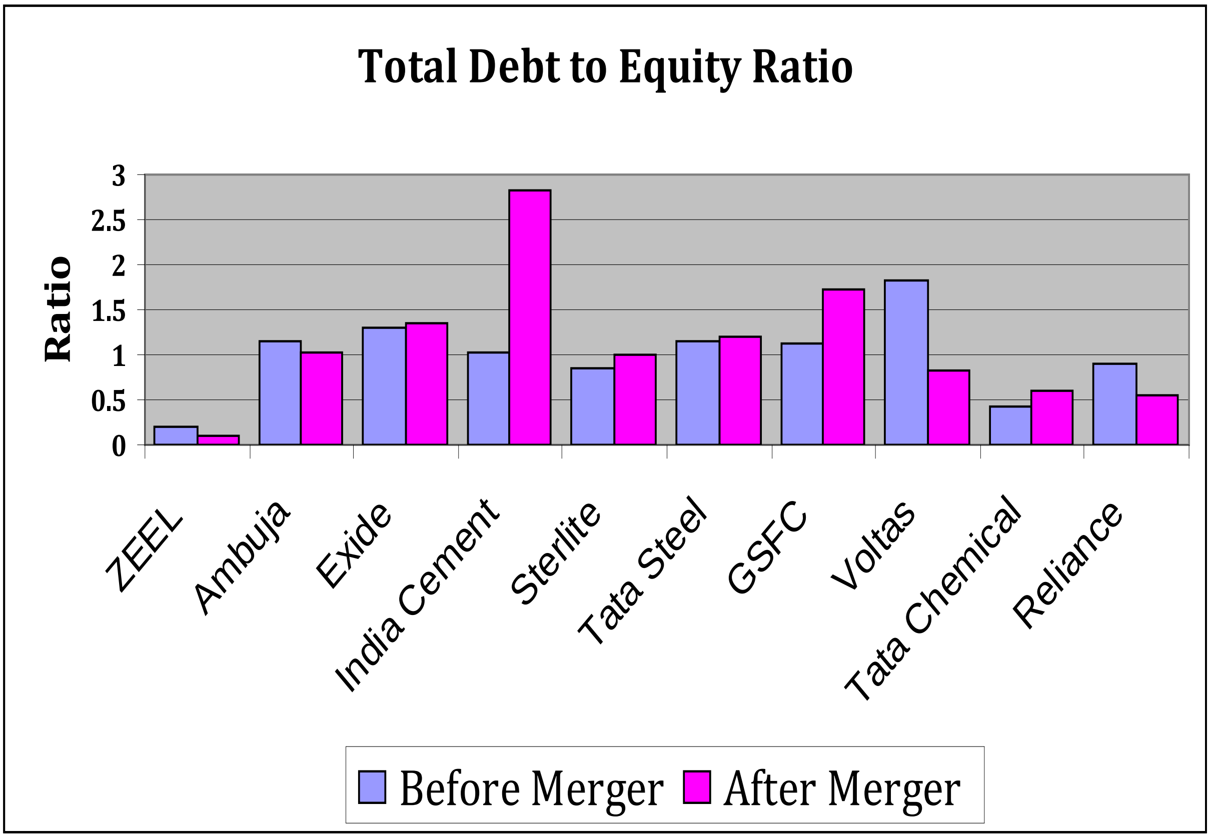
Total Debt to Equity Ratio in selected units

(Before 5 years and after 5 years of M & A)

Name of Company	Before Merger (X)	After Merger (Y)	Difference (D = X – Y)	Difference Squared (D^2)
ZEEL	0.21	0.09	(0.12)	0.0144
Ambuja Cement	1.14	1.03	(0.11)	0.0121
Exide Industry	1.31	1.34	0.03	0.0009
India Cement	1.03	2.83	1.80	3.24
Sterlite Industry	0.84	0.99	0.15	0.0225
Tata Steel Industry	1.15	1.21	0.06	0.0036
GSFC	1.13	1.72	0.59	0.3481
Voltas Industry	1.82	0.82	(1.00)	1
Tata Chemical Ltd.	0.43	0.61	0.18	0.0324
Reliance Industry	0.91	0.56	(0.35)	0.1225
			$\sum D = 1.23$	$\sum D^2 = 4.7965$

(**Source:** Annual reports of the selected units and EMIS database website.)

Chart:



◆ **Analysis:**

The above table no.4.15 shows the data regarding total debt to equity ratio in selected 10 units, before and after mergers and acquisitions. It shows that Voltas Ltd. shows the highest ratio by 1.82 and ZEEL shows the lowest ratio by 0.21 before mergers and acquisitions. While Ambuja Cement, India Cement, GSFC, Exide Industry and Reliance Industry show on an average ratio by 1.00 during pre mergers and acquisitions. After mergers and acquisitions India Cement shows the highest ratio by 2.83 and ZEEL shows the lowest ratio by 0.049. After mergers and acquisitions total debts is increased in all the sample units except ZEEL, Ambuja Cement, Voltas Ltd. and Reliance Industry Ltd. So, the researcher can conclude that after mergers and acquisitions the total debt funds is increased in compare to equity share capital.

◆ **Calculation of T – Test:-**

Table 4.15 (a)

Analysis of T - Test in Selected Units under the Study

Total Debt to Equity Ratio

n	Mean ($\overline{D}$)	S.D.(σ)	d.f.	t_c	t_t	Result
10	0.123	0.718	= n – 1 = 10 – 1 = 9	0.542	2.262	H_0

H_0 = *There would be no significant difference means score of Total Debt to Equity ratio in selected units, before and after merger and acquisition.*

H_1 = *There would be significant difference in means score of Total Debt to Equity ratio in selected units, before and after merger and acquisition.*

$H_0 = u_1 = u_2$

$H_1 = u_1 \neq u_2$

5% level of significance table value = 2.262

The calculated value of T is 0.542 and table value of T is 2.262(at 5% level of significance). Hence,

TC < TT

The calculated value of 't' is less than the table value. The Null Hypothesis is accepted. The results are as per the expectation.

(16) FIXED ASSETS TURNOVER RATIO:

Fixed asset turnover is the ratio of sales (on the Profit and loss account) to the value of fixed assets (on the balance sheet). It indicates how well the business is using its fixed assets to generate sales.

$$\text{Fixed Assets Turnover Ratio} = \frac{\text{Total Sales}}{\text{Total net Fixed Assets}}$$

Generally speaking, the higher the ratio, the better, because a high ratio indicates the business has less money tied up in fixed assets for each dollar of sales revenue. A declining ratio may indicate that the business is over-invested in plant, equipment, or other fixed assets[10].

However, financial analysts claim that such a ratio is inconclusive: companies do not generally cite or reference these figures. This new trend of informality in business has called for the accounting curriculum across the nation to start to refrain from teaching the fixed asset turnover ratio.

TABLE 4.16

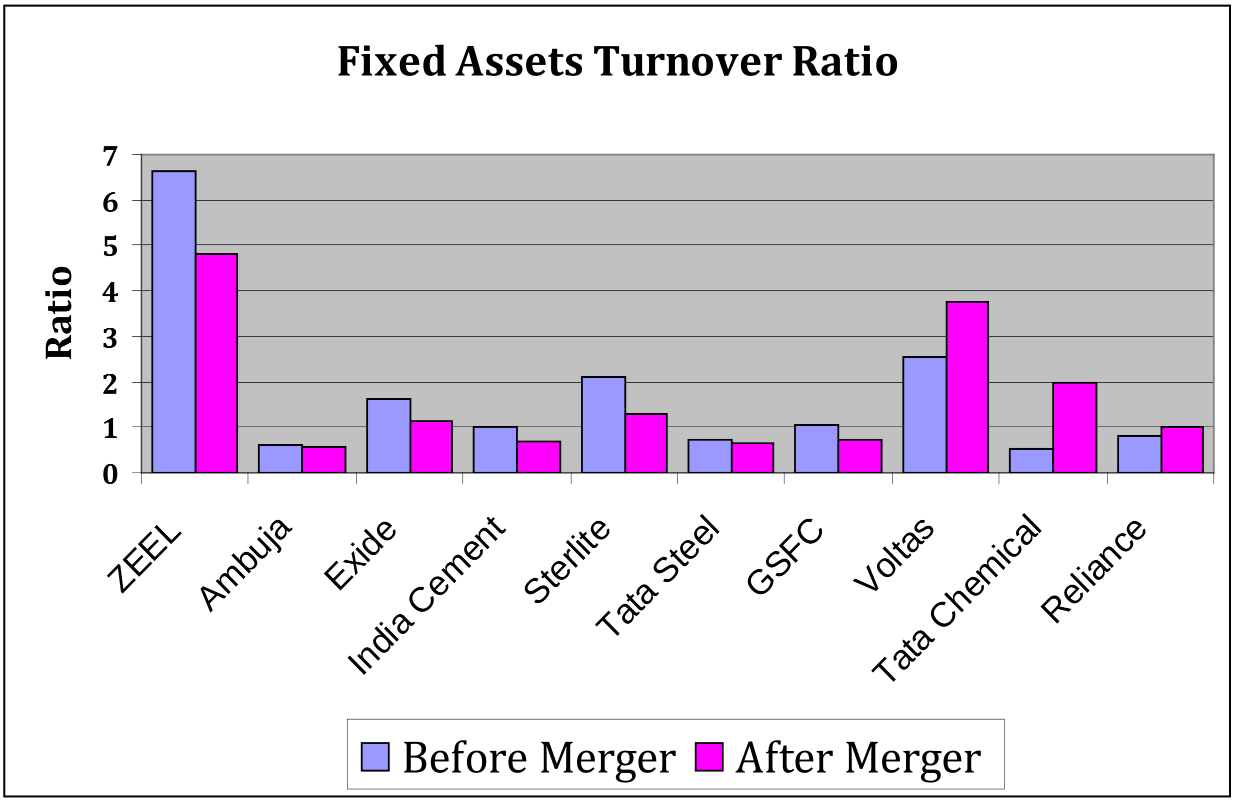
Fixed Assets Turnover Ratio in selected units

(Before 5 years and after 5 years of M & A)

Name of Company	Before Merger (X)	After Merger (Y)	Difference (D = X – Y)	Difference Squared (D^2)
ZEEL	6.65	4.80	(1.85)	3.4225
Ambuja Cement	0.59	0.55	(0.04)	0.0016
Exide Industry	1.60	1.14	(0.46)	0.2116
India Cement	1.01	0.67	(0.34)	0.1156
Sterlite Industry	2.12	1.28	(0.84)	0.7056
Tata Steel Industry	0.73	0.66	(0.07)	0.0049
GSFC	1.05	0.72	(0.33)	0.1089
Voltas Industry	2.54	3.78	1.24	1.5376
Tata Chemical Ltd.	0.53	1.97	1.44	2.0736
Reliance Industry	0.81	1.03	0.22	0.0484
			$\sum D = -1.03$	$\sum D^2 = 8.2303$

(**Source:** Annual reports of the selected units and EMIS database website.)

Chart:



◆ **Analysis:**

The above table no.4.16 indicates the data regarding fixed assets turnover ratio in selected units for before and after mergers and acquisitions. Moreover, the table indicates that the highest fixed assets turnover ratio is in the ZEEL by 6.65 and the lowest ratio is in the Tata Chemical Ltd. by 0.53 before mergers and acquisitions. The remaining units like Exide Ltd., India Cement, Sterlite Industry and Voltas Ltd. show on an average fixed assets turnover ratio by 1.5. Besides this after mergers and acquisitions the ZEEL shows the highest ratio by 4.80 and Ambuja Cement Shows the lowest ratio by 0.55. After mergers and acquisition the fixed assets turnover ratio is increased in Voltas Ltd., Tata Chemical Ltd. and Reliance Industry Ltd. by 1.24, 1.44 and 0.22 respectively. However almost all sample units except Voltas Ltd., Tata Chemical Ltd. and Reliance Industry Ltd. show decline growth rate of fixed assets turnover ratio after merger and acquisition. So, researcher can conclude that after merger and acquisition the use of fixed assets for operating incomes of selected units is not improved.

◆ Calculation of T – Test:-

Table 4.16 (a)

Analysis of T - Test in Selected Units under the Study

Fixed Assets Turnover Ratio

n	Mean ($\overline{D}$)	S.D.(σ)	d.f.	t_c	t_t	Result
10	-0.103	0.950	= n – 1 = 10 – 1 = 9	0.343	2.262	H_0

H_0 = *There would be no significant difference in means score of Fixed Assets Turnover ratio in selected units, before and after merger and acquisition.*

H_1 = *There would be significant difference in means score of Fixed Assets Turnover ratio in selected units, before and after merger and acquisition.*

$H_0 = u_1 = u_2$

$H_1 = u_1 \neq u_2$

5% level of significance table value = 2.262

The calculated value of T is 0.343 and table value of T is 2.262(at 5% level of significance). Hence,

$T_C < T_T$

The calculated value of 't' is less than the table value. The Null Hypothesis is accepted. The results are as per the expectation.

(17) OWNERS FUNDS RATIO / PROPRIETARY RATIO:

It express the relationship between share holder's net worth and total assets as follows.

$$\text{Proprietary Ratio} = \frac{\text{Share holders Funds}}{\text{Total Assets}}$$

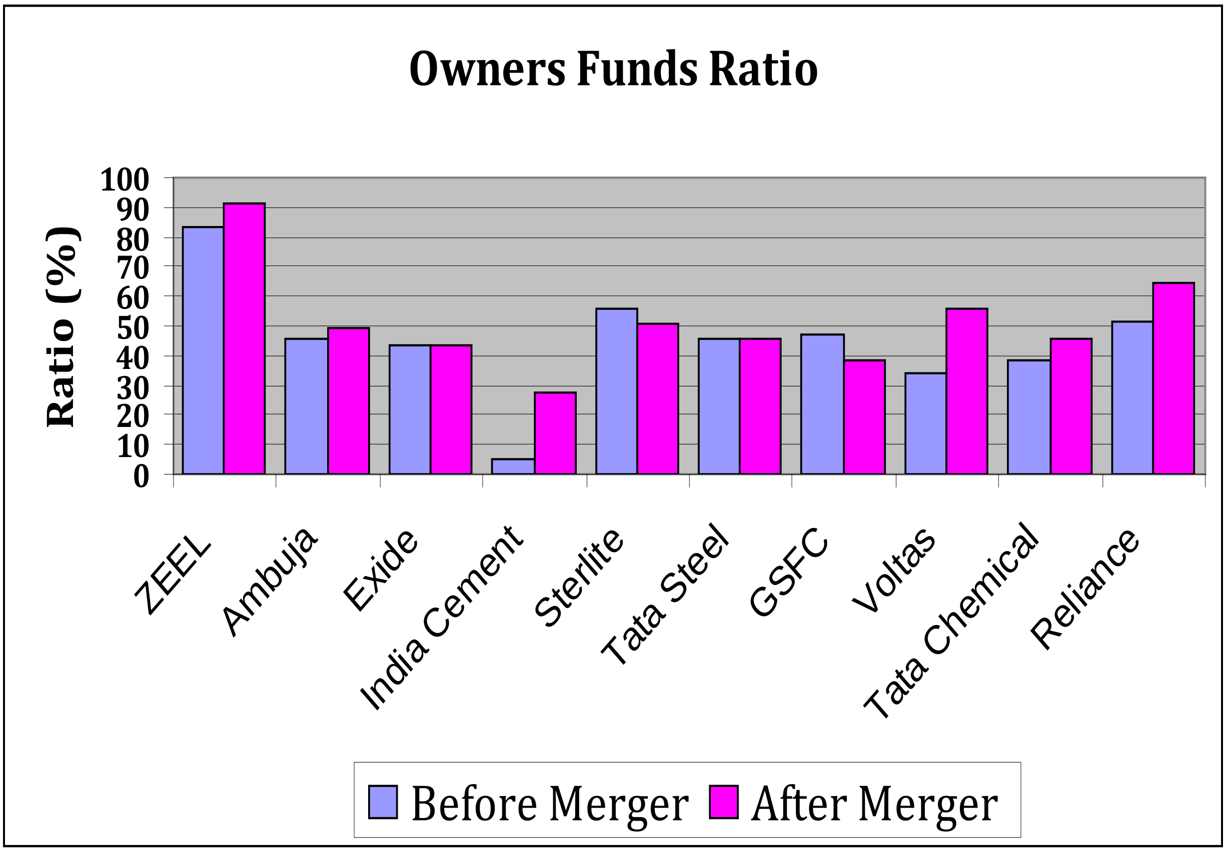
Reserve remarked specifically for a particular purpose should not be included in the calculation of net worth. A high proprietary ratio is indicative of strong financial position of the company. Owners' funds mean the sum of the paid up equity share capital plus preference share capital plus reserves and surplus account. From the sum of this amount fictitious assets may be deducted. If the ratio equals unity, it implies that all uses of finance are supported by the owners. It also shows the relationship between own funds and borrowed funds.

TABLE 4.17
Owners Funds Ratio in selected units
(Before 5 years and after 5 years of M & A)

Name of Company	Before Merger (X)	After Merger (Y)	Difference (D = X – Y)	Difference Squared (D^2)
ZEEL	83.18	91.64	8.46	71.5716
Ambuja Cement	45.46	49.44	3.98	15.8404
Exide Industry	43.21	43.18	(0.03)	0.0009
India Cement	5.00	27.45	22.45	504.0025
Sterlite Industry	55.66	50.79	(4.87)	23.7169
Tata Steel Industry	45.89	45.44	(0.45)	0.2025
GSFC	47.14	38.55	(8.59)	73.7881
Voltas Industry	34.32	56.06	21.74	472.6276
Tata Chemical Ltd.	38.32	45.36	7.04	49.5616
Reliance Industry	51.45	64.28	12.83	164.6089
			$\sum D = 62.56$	$\sum D^2 = 1375.921$

(**Source:** Annual reports of the selected units and EMIS database website.)

Chart:



◆ **Analysis:**

The above table no.4.17 shows the owner's funds ratio Proprietary ratio) in selected 10 units, before and after mergers and acquisitions. The highest owner's fund is in the ZEEL by 83.18% and India Cement Ltd. shows the lowest % 5, before mergers and acquisitions. Moreover, Ambuja Cement, Exide Industry, Sterlite Industry, GSFC and Reliance Industry show on an average 42% owner's funds during pre mergers and acquisitions. But after mergers and acquisitions, ZEEL shows the highest % 91.64 of owner's funds and India Cement Ltd. shows the lowest % 27.45. After mergers and acquisitions the owners funds of ZEEL, Ambuja Cement, India Cement, Voltas Ltd., Tata Chemical Ltd. and Reliance Industry Ltd. is increased by 8.46%, 3.98%, 22.45%, 21.74%, 7.04% and12.83% respectively. So, the Researcher can conclude that the owner's fund of the selected units is increased after mergers and acquisitions.

◆ Calculation of T – Test:-

Table 4.17 (a)

Analysis of T - Test in Selected Units under the Study

Owners Funds Ratio

n	Mean ($\overline{D}$)	S.D.(σ)	d.f.	t_c	t_t	Result
10	6.256	10.46	= n – 1 = 10 – 1 = 9	1.891	2.262	H_0

H_0 = *There would be no significant difference in means score of Owners Funds ratio in selected units, before and after merger and acquisition.*

H_1 = *There would be significant difference means score of Owners Funds ratio in selected units, before and after merger and acquisition.*

$H_0 = u_1 = u_2$

$H_1 = u_1 \neq u_2$

5% level of significance table value = 2.262

The calculated value of T is 1.891 and table value of T is 2.262(at 5% level of significance). Hence,

TC < TT

The calculated value of 't' is less than the table value. The Null Hypothesis is accepted. The results are as per the expectation.

(18) WORKING CAPITAL TURNOVER RATIO:

Working capital turnover ratio indicates the velocity of the utilization of the net working capital. This ratio indicates the number of times the working capital is turned over in the course of a year. The working capital turnover ratio is also referred to as net sales to working capital. It indicates a company's effectiveness in using its working capital[11]. A higher ratio indicates the efficient utilization of working capital in the process of doing business. However, a very high turnover indicates a sign of over-trading and puts the firm in financial difficulties. A low working capital turnover ratio indicates that the working capital has not been used efficiently.

$$\text{Working Capital Turnover Ratio} = \frac{\text{Total Sales}}{\text{Working Capital}}$$

TABLE 4.18

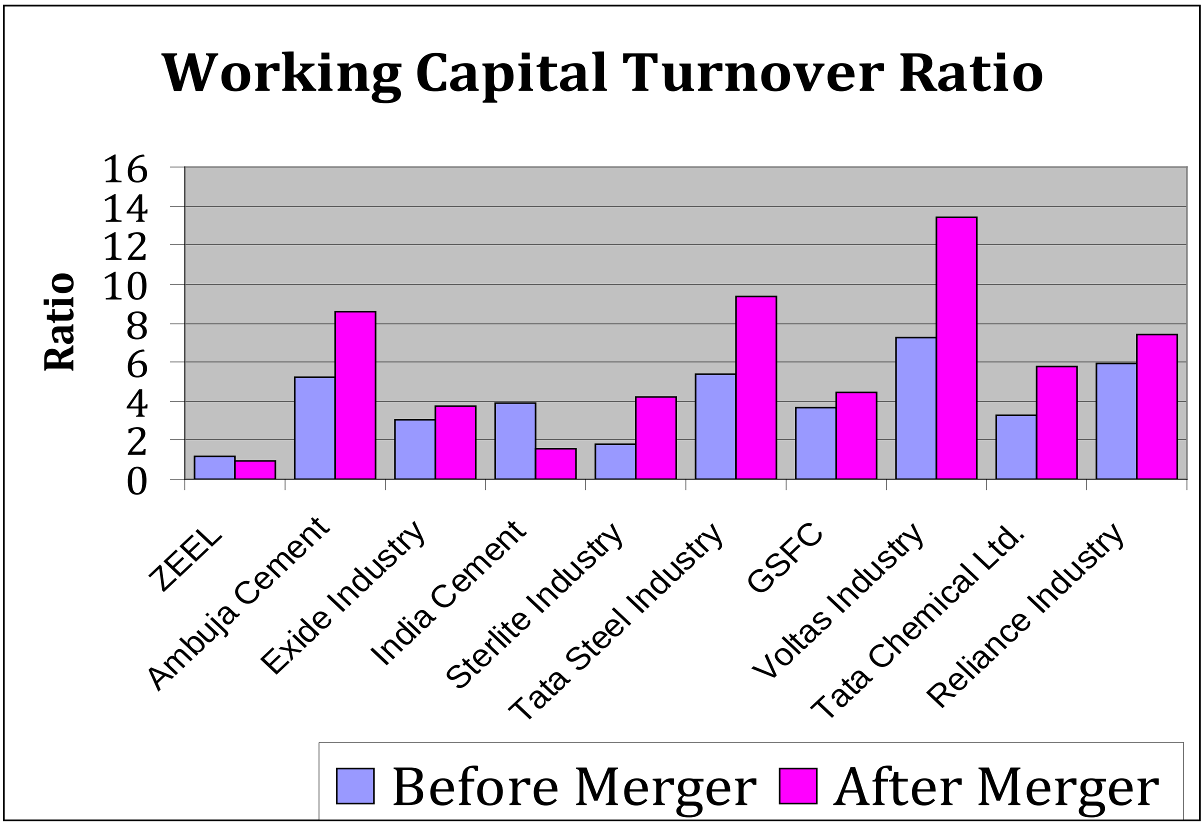
Working Capital Turnover Ratio in selected units

(Before 5 years and after 5 years of M & A)

Name of Company	Before Merger (X)	After Merger (Y)	Difference (D = X – Y)	Difference Squared (D^2)
ZEEL	1.17	0.96	(0.21)	0.0441
Ambuja Cement	5.22	8.61	3.39	11.4921
Exide Industry	3.06	3.78	0.72	0.5184
India Cement	3.92	1.58	(2.34)	5.4756
Sterlite Industry	1.80	4.20	2.4	5.76
Tata Steel Industry	5.39	9.35	3.96	15.6816
GSFC	3.69	4.42	0.73	0.5329
Voltas Industry	7.25	13.42	6.17	38.0689
Tata Chemical Ltd.	3.28	5.78	2.5	6.25
Reliance Industry	5.94	7.40	1.46	2.1316
			$\sum D =$ 18.78	$\sum D^2 =$ 85.955

(**Source:** Annual reports of the selected units and EMIS database website.)

Chart:



◆ **Analysis:**

The above table no.4.18 shows the data regarding working capital turnover ratio in selected 10 units for before and after mergers and acquisitions. Moreover, the table indicates that the highest working capital turnover ratio is in the Voltas Ltd. by 7.25 and the lowest ratio is in the ZEEL. by 1.17 before mergers and acquisitions. The remaining units like Ambuja Cement, India Cement, Tata Steel Ltd., GSFC and Reliance Industry Ltd. show on an average working capital turnover ratio by 3.5. Besides this after mergers and acquisitions the Voltas Ltd. shows the highest ratio by 13.42 and ZEEL Shows the lowest ratio by 0.96. After mergers and acquisition the working capital turnover ratio is decreased in ZEEL and India Cement by 0.21 and 2.34 respectively. However almost all sample units except ZEEL and India Cement show increasing growth rate of working capital turnover ratio after merger and acquisition. So, researcher can conclude that after merger and acquisition the use of working capital for operating incomes of selected units is increased.

◆ **Calculation of T – Test:-**

Table 4.18 (a)

Analysis of T - Test in Selected Units under the Study

Working Capital Turnover Ratio

n	Mean ($\overline{D}$)	S.D.(σ)	d.f.	t_c	t_t	Result
10	1.878	2.37	= n – 1 = 10 – 1 = 9	2.507	2.262	H_1

H_0 = *There would be no significant difference in means score of Working Capital Turnover ratio in selected units, before and after merger and acquisition.*

H_1 = *There would be significant difference in means score of Working Capital Turnover ratio in selected units, before and after merger and acquisition.*

$H_0 = u_1 = u_2$

$H_1 = u_1 \neq u_2$

5% level of significance table value = 2.262

The calculated value of T is 2.507 while table value of T is 2.262. Thus,

TC > TT

The calculated value of ‘t’ is greater than the table value of t. The Null Hypothesis is rejected. The results are not as per the expectation.

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CHAPTER 5

SUMMARY, FINDINGS AND SUGGESTIONS

5.1 Introduction

5.2 Summary

5.3 Findings

5.4 Suggestions

CHAPTER 5

SUMMARY, FINDINGS AND SUGGESTIONS

5.1 INTRODUCTION:

Mergers and acquisitions (M & As) have been a very important market entry strategy as well as expansion strategy. This present era is known as competition era. In this era companies, to avoid the competition, go for merger, and enjoy sometimes monopoly. Corporate India is waking up to the new millennium imperative of mergers and acquisitions in a desperate search for a panacea for facing the global competition. This is hardly surprising as stiff competition is, in a sense, implicit in any bid to integrate the national economy with the global economy. The ongoing process of liberalization has exposed the unproductive use of capital by the Indian corporate both in public and private sectors. Consolidation through mergers and acquisitions (M & As) is considered one of the best ways of restructuring structure of corporate units.

The concept of mergers and acquisitions is very much popular in the current scenario, so it is significantly popular concept, after 1990s, where India entered in to the Liberalization, Privatization and Globalization (LPG) era. The winds of LPG are blowing over all the sectors of the Indian economy but its maximum impact is seen in the industrial sector. It caused the market to become hyper-competitive. As competition increased in the economy, so to avoid unhealthy competition and to face international and multinational companies, Indian companies are going for mergers and acquisitions.

As an investor or potential investor, performance and profitability measurement is one of the significant yardstick to evaluate their rationally behind their investment of potential investment of funds. The measurement of profitability can be done in different ways and so far no perfect method or technique is available for this purpose. For example the computation of Return on Investment (ROI) is base on profit and it is due to lack of uniform of profit.

Determination of ROI is also debatable. ROI is a relative measure, and it has its own benefits and limitations. One other measurement of profitability and liquidity is ratio analysis and ratio has its own limitations.

5.2 SUMMARY:

Chapter – 1

Research Methodology:-

The title of the present study is "Financial Growth Indicator of Merger and Acquisition in Indian Corporate Sector.", the present study is mainly intended to examine the financial performance of merged companies five years before merger and five years after merger. This study is mainly based on secondary data published by the selected units in its annual reports and accounts. The main objective of the present research is to find out the impacts of merger and acquisitions on the financial performance of the selected units. Various statistical techniques like average, index number, the standard deviation have been used and student 'T' test has been applied to test the validity of two hypothesis namely (1) Null Hypothesis and (2) Alternate Hypothesis. And finally the limitations of the present research have been presented.

Chapter – 2

Conceptual Framework of Merger and Acquisition:

Merger is defined as combination of two or more companies into a single company where one survives and the other lose their corporate existence. Mainly four types of merger and acquisitions are there and two accounting methods for merger and acquisition are used. More over in this chapter difference between merger and acquisition, difference between acquisition and takeover, Merger and Acquisition Process, Significance of merger and acquisition, Requirement of merger and acquisition, Motives behind merger and acquisition, Benefits of merger and acquisition, Limitations of merger, Impact of merger and acquisition, Financial accounting for merger and acquisition, Merger and acquisition strategies, Merger and acquisition laws, Merger and acquisition in India, Merger and acquisition in world have been included and discussed by the researcher.

Chapter – 3

Brief profile of the Selected Industries

In this chapter the brief history of the selected 10 units, list of board of directors, products and manufacturing process, organization structure of the selected units, plants and its operations, production capacity of each unit, list of associates and subsidiary companies, major achievements of the selected units, corporate governance report and social responsibility, strength and weaknesses and future plans of the selected units have been discussed.

Chapter – 4

Analysis and Interpretation of Data

In this chapter analysis of profitability, liquidity and leverage position of selected units under study have been explained. Here meaning of profitability, liquidity and leverage, various measurement of profitability, liquidity and leverage and framework of analysis of profitability has been discussed. For analysis and interpretation of data the return on gross capital employed ratio, return on net capital employed ratio, return on share holders funds ratio, return on long-term funds ratio, Earning per share ratio, gross profit ratio, net profit ratio and operating profit ratio for the profitability analysis and current ratio, quick ratio, inventory turnover ratio, debtors ratio, long-term debt to equity ratio, total debt to equity ratio, fixed assets turnover ratio and working capital turnover ratio for the liquidity and leverage analysis have been calculated by the researcher. Here various ratios of profitability, liquidity and leverage have been tested with the help of student paired ‘t’ test.

5.3 FINDINGS:

Ratio analysis is one of the most important techniques to measure the profitability and liquidity. It measures efficiency of asset management and efficiency of expense control. The findings of this study have been narrated as under:

5.3 (a) Return on Gross Capital Employed: This ratio was the highest in ZEEL Co. by 14.95% and the lowest in Voltas Ltd. by 5.49% before mergers and acquisitions. After merger and acquisition it was the highest in Tata Chemical Ltd. by 15.73% and the lowest in Voltas Ltd. by 3.19%. After mergers and acquisitions the financial performance of selected units was decreased except Tata Chemical Ltd. The result shown by paired 't' test reveals that the difference in return on gross capital employed is ***not significant*** at 5% level of significance in the selected units, before and after mergers and acquisitions.

After mergers and acquisitions the return on gross capital employed is not improved in selected units.

5.3 (b) Return on Net Capital Employed: This ratio was the highest in ZEEL Ltd. by 21.63% and the lowest in Tata Steel Ltd. by 9.16% before mergers and acquisitions while after merger and acquisition it was the highest in Tata Chemical Ltd. by 18.25% and the lowest in GSFC by 4.76%. After mergers and acquisitions the financial performance of selected units was decreased except Tata Chemical Ltd. and Reliance Industry Ltd. The result shown by paired 't' test reveals that the difference in return on net capital employed is ***significant*** at 5% level of significance in the selected units, before and after merger and acquisition.

The financial performance of selected units is not improved after mergers and acquisitions.

5.3 (c) Return on Share Holders Fund: Return on share holder's funds ratio was the highest in ZEEL Co. by 31.88% and the lowest in Voltas Ltd. by 3.69% before mergers and acquisitions. After mergers and acquisitions it was the highest in Tata Chemical Ltd. by 19.62% and the lowest in India Cement, GSFC and Voltas Ltd. by 0% due to net loses. After mergers and acquisitions the financial performance of selected units was decreased except Tata Chemical Ltd. Tata Steel Ltd. and Reliance Industry Ltd. The result shown by paired 't' test reveals that the difference in return on share holders funds is ***not significant*** at 5% level of significance in the selected units, before and after merger and acquisition.

The return on share holder's funds is not improved after mergers and acquisition in selected units.

5.3 (d) Return on Long-term Funds: This ratio was the highest in ZEEL Co. by 37.17% and the lowest in Tata Chemical by 9.91% before mergers and acquisitions while after mergers and acquisitions it was the highest in Exide Industry Ltd. by 18.60% and the lowest in Voltas Ltd. by 4.90%. After merger and acquisitions return on long-term funds was decreased in 5 units (ZEEL Co., Exide Industry, India Cement, GSFC and Voltas Ltd.) and increased in 5 units (Ambuja Cement, Sterlite Industry, Tata Steel Ltd. Tata Chemical Ltd. and Reliance Industry Ltd.). The result shown by paired 't' test reveals that the difference in return on long-term funds is ***not significant*** at 5% level of significance in the selected units, before and after mergers and acquisitions.

After mergers and acquisitions the return on long-term funds is improved in 5 units and decreased in 5 units.

5.3 (e) Earning Per Share: The EPS was the highest in Sterlite Industry Ltd. by Rs.30.13 and the lowest in Voltas Ltd. by Rs.1.33 During the post mergers and acquisitions it was the highest in Reliance Industry Ltd. by Rs.52.26 and the lowest in India Cement, GSFC and Voltas Ltd. by Rs.0 because of net loses. After merger and acquisitions EPS was decreased in 5 units (ZEEL Co., Ambuja Cement, India Cement, GSFC and Voltas Ltd.) and increased in 5 units (Exide Industry, Sterlite Industry, Tata Steel Ltd. Tata Chemical Ltd. and Reliance Industry Ltd.). The result shown by paired 't' test reveals that the difference in EPS is ***not significant*** at 5% level of significance in the selected units, before and after mergers and acquisitions.

The earning per share is not improved in selected units after mergers and acquisitions.

5.3 (f) Gross Profit Ratio: This ratio was the highest in ZEEL Co. by 32.32% and the lowest in Voltas Ltd. by 3.97% before mergers and acquisitions while after mergers and acquisitions it was the highest in ZEEL Ltd. by 37.07% and the lowest in Voltas Ltd. by 1.36%. After mergers and acquisitions the financial performance of selected units was decreased except ZEEL, Exide Industry and Tata Chemical Ltd. The result shown by paired 't' test reveals that the difference in return on gross profit ratio is ***not significant*** at 5% level of significance in the selected units, before and after mergers and acquisitions.

The profitability of selected units is not improved after mergers and acquisitions.

5.3 (f) Net Profit Ratio: This ratio was the highest in ZEEL Co. by 28.75% and the lowest in Voltas Ltd. by 1.04% before mergers and acquisitions while after mergers and acquisitions it was the highest in ZEEL Ltd. by 28.02% and the lowest in India Cement Ltd. and GSFC by 0% due to net loses. After mergers and acquisitions the financial performance of selected units was decreased except Voltas Ltd. and Tata Chemical Ltd. The result shown by paired 't' test reveals that the difference in return on net profit ratio is ***not significant*** at 5% level of significance in the selected units, before and after mergers and acquisitions.

The net profit ratio of selected units is decreased after mergers and acquisition in selected units.

5.3 (g) Operating Profit Ratio: The operating profit ratio was the highest in Ambuja Cement Ltd. by 33.97% and the lowest in Voltas Ltd. by 6.48% before mergers and acquisitions. After mergers and acquisitions it was the highest in Tata Chemical Ltd. by 36.38% the lowest in Voltas Ltd. by 3.18%. After merger and acquisitions Operating Profit Ratio was decreased in 5 units (India Cement Ltd., Sterlite Industry Ltd., GSFC, Voltas Ltd. and Reliance Ltd.) and increased in 5 units (Ambuja Cement Ltd. ZEEL Co., Tata Steel Ltd. and Tata Chemical Ltd.). The result shown by paired 't' test reveals that the difference in EPS is ***not significant*** at 5% level of significance in the selected units, before and after mergers and acquisitions.

After mergers and acquisitions the operating profit ratio is not improved in selected units.

5.3 (h) Current Ratio: This ratio was the highest in ZEEL by 3.36:1 and the lowest in Tata Chemical Ltd. by 0.92:1 before mergers and acquisitions while after mergers and acquisitions it was the highest in ZEEL by 3.58:1 and the lowest in Tata Steel Ltd. by 1.03:1. After mergers and acquisitions the current ratio was decreased except ZEEl, Exide industry, India Cement and Tata Chemical Ltd. The result shown by paired 't' test reveals that the difference in current ratio is ***not significant*** at 5% level of significance in the selected units, before and after mergers and acquisitions.

The liquidity position of selected units is not improved after mergers and acquisitions.

5.3 (i) Current Ratio (including short-term loan): This ratio of liquidity was the highest in ZEEL by 1.98:1 and the lowest in Tata Chemical Ltd. by 0.81:1 during the pre mergers and acquisitions. After merger and acquisitions it was the highest in ZEEL by 1.77:1 and the lowest in GSFC by 0.83:1. After mergers and acquisitions the current ratio was decreased except Voltas Ltd. and Tata Chemical Ltd. The result shown by paired 't' test reveals that the difference in current ratio (including short-term loan) is ***significant*** at 5% level of significance in the selected units, before and after mergers and acquisitions.

The liquidity position of selected units is become poor after mergers and acquisitions.

5.3 (j) Quick Ratio: Quick or liquid ratio was the highest in ZEEL by 2.99:1 and the lowest in Voltas Ltd. by 0.76:1 before mergers and acquisitions. It was the highest in ZEEL by 3.04:1 and the lowest in Tata Steel Ltd. by 0.68:1 during post mergers and acquisitions. This ratio showed the mixed trend in selected 10 units after mergers and acquisitions. After merger and acquisitions Quick Ratio was decreased in 5 units (Exide Industry, Sterlite Industry Ltd., GSFC, Tata Steel Ltd. and Reliance Ltd.) and increased in 5 units (Ambuja Cement Ltd. ZEEL Co., India Cement Ltd. Voltas Ltd. and Tata Chemical Ltd.). The result shown by paired 't' test reveals that the difference in Quick ratio is ***not significant*** at 5%

level of significance in the selected units, before and after mergers and acquisitions.

The liquidity position of selected units is not improved after mergers and acquisitions.

5.3 (k) Inventory Turnover Ratio: This ratio was the highest in Reliance Industry Ltd. by 15.65 times and the lowest in Voltas Ltd. by 3.82 times during pre mergers and acquisitions while after mergers and acquisitions it was the highest in India Cement Ltd. by 14.20 times and the lowest in ZEEL by 3.87 times. After mergers and acquisition inventory turnover ratio was increased in all the sample units except ZEEL, Sterlite Industry and Reliance Industry Ltd. The result shown by paired 't' test reveals that the difference in inventory turnover ratio is ***not significant*** at 5% level of significance in the selected units, before and after mergers and acquisitions.

The inventory turnover ratio of selected units is not improved after mergers and acquisitions.

5.3 (l) Debtors Ratio: Debtors ratio was the highest in Sterlite Industry by 152 days and the lowest in Ambuja Cement Ltd. by 12 days only. After mergers and acquisitions it was the highest in ZEEL by 150 days and the lowest in Ambuja Cement Ltd. by 9 days only. After mergers and acquisitions the collection period of the selected units was decreased except ZEEL, India Cement Ltd., GSFC, Voltas Ltd. and Reliance Industry Ltd. The result shown by paired 't' test reveals that the difference in Debtors ratio is ***not significant*** at 5% level of significance in the selected units, before and after mergers and acquisitions.

The collection policy of selected units is become poor after mergers and acquisitions.

5.3 (m) Long-term Debt to Equity Ratio: This ratio was the highest in Voltas Ltd. by 1.10:1 and the lowest in ZEEL by 0.08:1 while during the post mergers and acquisitions it was the highest in GSFC by 1.11:1 and the lowest in ZEEL by 4.04:1. After mergers and acquisitions the long-term debt to equity ratio was increased in all sample units except ZEEL, Voltas Ltd. and Tata Chemical Ltd. The result shown by paired 't' test reveals that the difference in long-term debt to equity ratio is ***not significant*** at 5% level of significance in the selected units, before and after mergers and acquisitions.

The liquidity position of selected units is not improved after mergers and acquisitions.

5.3 (n) Total Debts to Equity Ratio: This ratio was the highest in Voltas Ltd. by 1.82:1 and the lowest in ZEEL by 0.21:1. After mergers and acquisitions it was the highest in India Cement by 2.83:1 and the lowest in ZEEL by 0.09:1. After mergers and acquisitions the total debt to equity ratio was increased in all sample units except ZEEL, Ambuja Cement Ltd., Voltas Ltd. and Reliance Industry Ltd. The result shown by paired 't' test reveals that the difference in total debt to equity ratio is ***not significant*** at 5% level of significance in the selected units, before and after mergers and acquisitions.

The liquidity position of selected units is not improved after mergers and acquisitions.

5.3 (o) Fixed Assets Turnover Ratio: The fixed assets turnover ratio was the highest in ZEEL by 6.65 times and the lowest in Ambuja Cement Ltd. by 0.59 times during pre mergers and acquisitions. After mergers and acquisitions it was the highest in ZEEL by 4.80 times and the lowest in Ambuja Cement Ltd. by 0.55 times. After mergers and acquisitions the fixed assets turnover ratio was decreased in all sample units except Voltas Ltd., Tata Chemical Ltd. and Reliance Industry Ltd. The result shown by paired 't' test reveals that the difference in fixed assets turnover ratio is ***not significant*** at 5% level of significance in the selected units, before and after mergers and acquisitions.

The use of fixed assets for operating incomes is decreased in selected units after mergers and acquisitions.

5.3 (p) Owners Funds Ratio: The owners funds ratio was the highest in ZEEL by 83.18% and the lowest in India Cement by 5% before mergers and acquisitions while after mergers and acquisitions it was the highest in ZEEL by 91.64% and the lowest in India Cement Ltd. by 27.45%. After mergers and acquisitions the owners' funds ratio was increased in all sample units except Exide Industry, Sterlite Industry, Tata Steel Ltd. and GSFC. The result shown by paired 't' test reveals that the difference in owners funds ratio is ***not significant*** at 5% level of significance in the selected units, before and after mergers and acquisitions.

The owners' funds ratio is increased in selected units after mergers and acquisitions.

5.3 (q) Working Capital Turnover Ratio: This ratio was the highest in Voltas Ltd. by 7.25 and the lowest in ZEEL by 1.17. After mergers and acquisitions it was the highest in Voltas Ltd. by 13.42 and the lowest in ZEEL by 0.96. After mergers and acquisitions the working capital turnover ratio was increased in all sample units except ZEEL and India Cement Ltd. The result shown by paired 't' test reveals that the difference in owners funds ratio is ***significant*** at 5% level of significance in the selected units, before and after mergers and acquisitions.

The use of working capital for operating incomes is increased in selected units after mergers and acquisitions.

5.4 SUGGESTIONS:

1. The profitability of ZEEL, India Cement, GSFC, Ambuja Cement and Sterlite industry was very good before merger and acquisition, but after merger and acquisition it was decreased. So, these units require concentrating on cost reduction system.

2. The EPS of ZEEL, India Cement and GSFC was decreased after merger and acquisition, so these units require concentrating on proper use of leverage.

3. The liquidity position of Sterlite Industry, Tata Steel Ltd., GSFC and Reliance Industry became very poor after merger and acquisition. So, these units should improve their working capital by reducing its current liabilities. This will also improve their liquidity position.

4. The net profit margin of Ambuja Cement Ltd., Tata Steel Ltd., India Cement Ltd., Exide Industry and Tata Chemical Ltd. is much lower than the operating profit margin, which indicates that the operating cost of these companies is higher. So, these companies should try to control such expenses and improve the net profit margin.

5. The ZEEL, Sterlite Industry and Reliance Industry should reduce their investments in inventory by using inventory control techniques. These units are required to used the latest supply chain techniques like Just-in-time, Efficient consumer response and quick response which focus on reducing the inventory level and there by reducing capital required the inventory.

6. The credit policy of ZEEL, Tata Steel Ltd., GSFC, and Voltas Ltd. is too liberal during the post merger and acquisition period. These units must reduce the days of credit facility made available to their customers.

APPENDIX

◆ Calculation of 'T' Test:

(1) Return on gross capital employed:

$$\overline{D} = \frac{\sum D}{n}$$

$$\overline{D} = \frac{-26.37}{10}$$

$$\overline{D} = -2.637$$

$$\sigma \text{ diff} = \sqrt{\frac{\sum D^2 - (\overline{D})^2 (n)}{n - 1}}$$

$$= \sqrt{\frac{203.17 - (-2.637)^2 (10)}{10 - 1}}$$

$$= \sqrt{\frac{203.17 - 69.54}{9}}$$

$$= 3.85$$

$$t_c = \frac{\left|\overline{D} - 0\right|}{\sigma \text{ diff} / \sqrt{n}}$$

$$= \frac{\left|-2.637 - 0\right|}{3.85/\sqrt{10}}$$

$$= \frac{2.637}{1.217}$$

$$= 2.168$$

(2) Return on net capital employed:

$$\overline{D} = \frac{\sum D}{n}$$

$$\overline{D} = \frac{-38.35}{10}$$

$$\overline{D} = -3.835$$

$$\sigma \text{ diff} = \sqrt{\frac{\sum D^2 - (\overline{D})^2 (n)}{n - 1}}$$

$$= \sqrt{\frac{422.77 - (-3.835)^2 (10)}{10 - 1}}$$

$$= \sqrt{\frac{422.77 - 147.07}{9}}$$

$$= 5.53$$

$$t_c = \frac{\left|\overline{D} - 0\right|}{\sigma \text{ diff} / \sqrt{n}}$$

$$= \frac{\left|-3.835 - 0\right|}{5.53 / \sqrt{10}}$$

$$= \frac{3.835}{1.691}$$

$$= 2.268$$

(3) Return on share holder's funds:

$$\overline{D} = \frac{\sum D}{n}$$

$$\overline{D} = \frac{-60.69}{10}$$

$$\overline{D} = -6.069$$

$$\sigma \text{ diff } = \sqrt{\frac{\sum D^2 - (\overline{D})^2 \text{ (n)}}{\text{n - 1}}}$$

$$= \sqrt{\frac{1{,}198.92 - (-6.069)^2 (10)}{10 - 1}}$$

$$= \sqrt{\frac{1{,}198 - 368.33}{9}}$$

$$= 9.60$$

$$t_c \quad = \frac{\left|\overline{D} - 0\right|}{\sigma \text{ diff} / \sqrt{n}}$$

$$= \frac{\left|-6.069 - 0\right|}{9.60 / \sqrt{10}}$$

$$= \frac{6.069}{3.035}$$

$$= 1.999$$

(4) Return on long-term funds:

$$\overline{D} = \frac{\sum D}{n}$$

$$\overline{D} = \frac{-42.53}{10}$$

$$\overline{D} = -4.253$$

$$\sigma \text{ diff } = \sqrt{\frac{\sum \mathrm{D}^2 - (\overline{\mathrm{D}})^2\ (\mathrm{n})}{\mathrm{n} - 1}}$$

$$= \sqrt{\frac{1{,}269.11 - (-4.253)^2 (10)}{10 - 1}}$$

$$= \sqrt{\frac{1{,}269 - 180.89}{9}}$$

$$= 10.99$$

$$t_c \quad = \frac{\left|\overline{D} - 0\right|}{\sigma \text{ diff} / \sqrt{n}}$$

$$= \frac{\left|-4.253 - 0\right|}{10.99 / \sqrt{10}}$$

$$= \frac{4.253}{3.475}$$

$$= 1.224$$

(5) Earning Per Share:

$$\overline{D} = \frac{\sum D}{n}$$

$$\overline{D} = \frac{-2.55}{10}$$

$$\overline{D} = -0.255$$

$$\sigma \text{ diff } = \sqrt{\frac{\sum D^2 - (\overline{D})^2 (n)}{n - 1}}$$

$$= \sqrt{\frac{1857.14 - (-0.255)^2 (10)}{10 - 1}}$$

$$= \sqrt{\frac{1857.14 - 0.650}{9}}$$

= 14.34

$$t_c = \frac{\left|\overline{D} - 0\right|}{\sigma \text{ diff} / \sqrt{n}}$$

$$= \frac{\left|-0.255 - 0\right|}{14.34 / \sqrt{10}}$$

$$= \frac{0.255}{4.534}$$

$$= 0.056$$

(6) Gross Profit Ratio:

$$\overline{D} = \frac{\sum D}{n}$$

$$\overline{D} = \frac{-11.11}{10}$$

$$\overline{D} = -1.111$$

$$\sigma \text{ diff } = \sqrt{\frac{\sum D^2 - (\overline{D})^2 \text{ (n)}}{\text{n - 1}}}$$

$$= \sqrt{\frac{297.44 - (-1.111)^2 (10)}{10 - 1}}$$

$$= \sqrt{\frac{297.44 - 12.34}{9}}$$

$$= 5.63$$

$$t_c \quad = \frac{\left|\overline{D} - 0\right|}{\sigma \text{ diff} / \sqrt{n}}$$

$$= \frac{\left|-1.111 - 0\right|}{5.63 / \sqrt{10}}$$

$$= \frac{1.111}{1.780}$$

$$= 0.624$$

(7) Net Profit Ratio:

$$\overline{D} = \frac{\sum D}{n}$$

$$\overline{D} = \frac{-26.44}{10}$$

$$\overline{D} = -2.644$$

$$\sigma \text{ diff} = \sqrt{\frac{\sum D^2 - (\overline{D})^2 \text{ (n)}}{\text{n - 1}}}$$

$$= \sqrt{\frac{246.75 - (-2.644)^2 (10)}{10 - 1}}$$

$$= \sqrt{\frac{246.75 - 69.91}{9}}$$

$$= 4.43$$

$$t_c \quad = \frac{\left|\overline{D} - 0\right|}{\sigma \text{ diff} / \sqrt{n}}$$

$$= \frac{\left|-2.644 - 0\right|}{4.43 / \sqrt{10}}$$

$$= \frac{2.644}{1.40}$$

$$= 1.889$$

(8)Operating Profit Ratio:

$$\overline{D} = \frac{\sum D}{n}$$

$$\overline{D} = \frac{1.11}{10}$$

$$\overline{D} = 0.11$$

$$\sigma \text{ diff } = \sqrt{\frac{\sum \mathrm{D}^2 - (\overline{\mathrm{D}})^2\ (\mathrm{n})}{\mathrm{n} - 1}}$$

$$= \sqrt{\frac{242.97 - (0.111)^2 (10)}{10 - 1}}$$

$$= \sqrt{\frac{242.97 - 0.123}{9}}$$

$$= 5.19$$

$$t_c \quad = \frac{\left|\overline{D} - 0\right|}{\sigma \text{ diff} \big/ \sqrt{n}}$$

$$= \frac{\left|0.111 - 0\right|}{5.19 \big/ \sqrt{10}}$$

$$= \frac{0.111}{1.641}$$

$$= 0.068$$

(9)Current Ratio:

$$\overline{D} = \frac{\sum D}{n}$$

$$\overline{D} = \frac{-1.74}{10}$$

$$\overline{D} = -0.174$$

$$\sigma\,\text{diff} = \sqrt{\frac{\sum D^2 - (\overline{D})^2\,(n)}{n-1}}$$

$$= \sqrt{\frac{1.2006 - (-0.174)^2(10)}{10-1}}$$

$$= \sqrt{\frac{1.2006 - 0.303}{9}}$$

$$= 0.316$$

$$t_c = \frac{\left|\overline{D} - 0\right|}{\sigma\,\text{diff}/\sqrt{n}}$$

$$= \frac{\left|-0.174 - 0\right|}{0.316/\sqrt{10}}$$

$$= \frac{0.174}{0.0999}$$

$$= 1.742$$

(10)Current Ratio (Including Short-term loan):

$$\overline{D} = \frac{\sum D}{n}$$

$$\overline{D} = \frac{-2.57}{10}$$

$$\overline{D} = -0.257$$

$$\sigma \text{ diff} = \sqrt{\frac{\sum D^2 - (\overline{D})^2 (n)}{n - 1}}$$

$$= \sqrt{\frac{1.3713 - (-0.257)^2 (10)}{10 - 1}}$$

$$= \sqrt{\frac{1.3713 - 0.6605}{9}}$$

= 0.281

$$t_c = \frac{\left|\overline{D} - 0\right|}{\sigma \text{ diff} / \sqrt{n}}$$

$$= \left|\frac{-0.257 - 0}{0.281 / \sqrt{10}}\right|$$

$$= \frac{0.257}{0.0888}$$

$$= 2.894$$

(11) Quick Ratio:

$$\overline{D} = \frac{\sum D}{n}$$

$$\overline{D} = \frac{-0.54}{10}$$

$$\overline{D} = -0.054$$

$$\sigma \text{ diff } = \sqrt{\frac{\sum D^2 - (\overline{D})^2 (n)}{n - 1}}$$

$$= \sqrt{\frac{2.3824 - (-0.054)^2 (10)}{10 - 1}}$$

$$= \sqrt{\frac{2.3824 - 0.029}{9}}$$

$$= 0.511$$

$$t_c = \frac{\left|\overline{D} - 0\right|}{\sigma \text{ diff} / \sqrt{n}}$$

$$= \frac{\left|-0.054 - 0\right|}{0.511 / \sqrt{10}}$$

$$= \frac{0.054}{0.162}$$

$$= 0.3333$$

(12) Inventory Turnover Ratio:

$$\overline{D} = \frac{\sum D}{n}$$

$$\overline{D} = \frac{2.207}{10}$$

$$\overline{D} = 0.2207$$

$$\sigma \text{ diff} = \sqrt{\frac{\sum D^2 - (\overline{D})^2 (n)}{n - 1}}$$

$$= \sqrt{\frac{105.99 - (0.2207)^2 (10)}{10 - 1}}$$

$$= \sqrt{\frac{105.99 - 0.429}{9}}$$

$$= 3.425$$

$$t_c \quad = \frac{\left|\overline{D} - 0\right|}{\sigma \text{ diff} / \sqrt{n}}$$

$$= \frac{\left|0.2207 - 0\right|}{3.425 / \sqrt{10}}$$

$$= \frac{0.2207}{1.083}$$

$$= 0.1911$$

(13) Debtors Ratio:

$$\overline{D} = \frac{\sum D}{n}$$

$$\overline{D} = \frac{-32}{10}$$

$$\overline{D} = -3.2$$

$$\sigma \text{ diff} = \sqrt{\frac{\sum D^2 - (\overline{D})^2 (n)}{n - 1}}$$

$$= \sqrt{\frac{25{,}170 - (-3.2)^2 (10)}{10 - 1}}$$

$$= \sqrt{\frac{25{,}170 - 102.4}{9}}$$

$$= 52.78$$

$$t_c = \frac{\left|\overline{D} - 0\right|}{\sigma \text{ diff} / \sqrt{n}}$$

$$= \frac{\left|-3.2 - 0\right|}{52.78 / \sqrt{10}}$$

$$= \frac{3.2}{16.70}$$

$$= 0.192$$

(14) Long-term debt to equity Ratio:

$$\overline{D} = \frac{\sum D}{n}$$

$$\overline{D} = \frac{1.79}{10}$$

$$\overline{D} = 0.179$$

$$\sigma \text{ diff} = \sqrt{\frac{\sum D^2 - (\overline{D})^2 \text{ (n)}}{\text{n - 1}}}$$

$$= \sqrt{\frac{2.6945 - (0.179)^2 (10)}{10 - 1}}$$

$$= \sqrt{\frac{2.6945 - 0.320}{9}}$$

$$= 0.514$$

$$t_c \quad = \frac{\left| \overline{D} - 0 \right|}{\sigma \text{ diff} / \sqrt{n}}$$

$$= \frac{\left| 0.179 - 0 \right|}{0.514 / \sqrt{10}}$$

$$= \frac{0.179}{0.163}$$

$$= 1.098$$

(15) Total debt to equity Ratio:

$$\overline{D} = \frac{\sum D}{n}$$

$$\overline{D} = \frac{1.23}{10}$$

$$\overline{D} = 0.123$$

$$\sigma \text{ diff} = \sqrt{\frac{\sum D^2 - (\overline{D})^2 \text{ (n)}}{\text{n} - 1}}$$

$$= \sqrt{\frac{4.7965 - (0.123)^2 (10)}{10 - 1}}$$

$$= \sqrt{\frac{4.7965 - 0.1513}{9}}$$

$$= 0.718$$

$$t_c = \frac{\left|\overline{D} - 0\right|}{\sigma \text{ diff} / \sqrt{n}}$$

$$= \frac{\left|0.123 - 0\right|}{0.718 / \sqrt{10}}$$

$$= \frac{0.123}{0.227}$$

$$= 0.542$$

(16) Fixed Assets Turnover Ratio:

$$\overline{D} = \frac{\sum D}{n}$$

$$\overline{D} = \frac{-1.03}{10}$$

$$\overline{D} = -0.103$$

$$\sigma \text{ diff } = \sqrt{\frac{\sum D^2 - (\overline{D})^2 (n)}{n - 1}}$$

$$= \sqrt{\frac{8.2303 - (-0.103)^2 (10)}{10 - 1}}$$

$$= \sqrt{\frac{8.2303 - 0.107}{9}}$$

$$= 0.950$$

$$t_c \quad = \frac{\left|\overline{D} - 0\right|}{\sigma \text{ diff} / \sqrt{n}}$$

$$= \frac{\left|-0.103 - 0\right|}{0.950 / \sqrt{10}}$$

$$= \frac{0.103}{0.3004}$$

$$= 0.343$$

(17) Owners funds Ratio:

$$\overline{D} = \frac{\sum D}{n}$$

$$\overline{D} = \frac{62.56}{10}$$

$$\overline{D} = 6.256$$

$$\sigma \text{ diff} = \sqrt{\frac{\sum D^2 - (\overline{D})^2 (n)}{n - 1}}$$

$$= \sqrt{\frac{1{,}375.92 - (6.256)^2 (10)}{10 - 1}}$$

$$= \sqrt{\frac{1{,}375.92 - 391.38}{9}}$$

$$= 10.46$$

$$t_c = \frac{\left|\overline{D} - 0\right|}{\sigma \text{ diff} / \sqrt{n}}$$

$$= \frac{\left|6.256 - 0\right|}{10.46 / \sqrt{10}}$$

$$= \frac{6.256}{3.308}$$

$$= 1.891$$

(18) Working Capital Turnover Ratio:

$$\overline{D} = \frac{\sum D}{n}$$

$$\overline{D} = \frac{18.78}{10}$$

$$\overline{D} = 1.878$$

$$\sigma \text{ diff} = \sqrt{\frac{\sum D^2 - (\overline{D})^2 (n)}{n - 1}}$$

$$= \sqrt{\frac{85.96 - (1.878)^2 (10)}{10 - 1}}$$

$$= \sqrt{\frac{85.96 - 35.27}{9}}$$

$$= 2.37$$

$$t_c = \frac{\left|\overline{D} - 0\right|}{\sigma \text{ diff} / \sqrt{n}}$$

$$= \frac{\left|1.878 - 0\right|}{2.37 / \sqrt{10}}$$

$$= \frac{1.878}{0.749}$$

$$= 2.507$$

ABBREVIATION

ROI	:	Return on Investment
EBIT	:	Earning Before Interest and Taxes
EBT	:	Earning Before Tax
GP	:	Gross Profit
NP	:	Net Profit
OP	:	Operating Profit
ROGCE	:	Return on Gross Capital Employed
RONCE	:	Return on Net Capital Employed
RONW	:	Return on Net Worth
GPR	:	Gross Profit Ratio
NPR	:	Net Profit Ratio
OPR	:	Operating Profit Ratio
DR	:	Debtors Ratio
CR	:	Current Ratio
LR	:	Liquid Ratio
STR	:	Stock Turnover Ratio
QR	:	Quick Ratio
EPS	:	Earning Per Share
WC	:	Working Capital
CA	:	Current Assets
CL	:	Current Liabilities
ZEEL	:	Zee Entertainment Enterprises Limited

GSFC	:	Gujarat State Fertilizers & Chemicals Limited
RIL	:	Reliance Industry Limited
TCL	:	Tata Chemical Limited
TSL	:	Tata Steel Limited
VL	:	Voltas Limited
ACL	:	Ambuja Cement Limited
ICL	:	India Cement Limited
SIL	:	Sterlite Industry Limited
EIL	:	Exide Industry Limited
RBI	:	Reserve Bank of India
SBI	:	State Bank of India
M & A	:	Mergers and Acquisitions
FAT	:	Fixed Asset Turnover
GOI	:	Government of India
GVA	:	Gross Value Added
NVA	:	Net Value Added
MTPA	:	Millions Tones Per Annam
MT	:	Millions Tones

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