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PROFITABILITY ANALYSIS OF SELECTED MNCs IN INDIAN CEMENT INDUSTRY DURING THE POST LIBERALISATION ERA

Abstract

Any business's main goal is to maximize profitability. Profitability analysis is the process of assessing a company's capacity to make a profit using financial metrics like revenue ratios and margin ratios. To ascertain how effectively a company is turning a profit, it involves looking at both operating costs and sales revenue. Companies can monitor their progress by calculating and comparing profitability ratios from various time periods. The capacity of your business to make money (profit) in relation to revenues and expenses over a given time period is measured and evaluated by profitability ratios. An analysis of a company's profitability ratios can show how effectively it uses its resources to generate profit and value for shareholders. A company is more profitable and more desirable to investors when the ratio is higher.

Profitability analysis examines the current financial situation to assist businesses in determining future strategies, investments, and the performance of the business. Using profitability analysis to inform important business decisions looks like this GPR, NPR, OPR, ROCE, RONW etc. Gross profit margin aids in determining whether a company is making enough money from its sales. Profitability analysis enables businesses to determine the return or profit percentage that they need to pay their shareholders, and it also assists potential investors in understanding the financial position of a business and making investment decisions. If the gross profit margin is lower, the business must cut costs.

This paper aims to shed light on the profitability trends among India's top 15 cement producers. Additionally, it tries to track and evaluate the industry position of other firms. To compare their performance, profitability ratios are ranked and put into a fixed boundary. The study's secondary data, which was gathered from published annual reports over a five-year period (2014 to 2023), served as its foundation. With the aid of the SPSS 23 program, the available data have been examined using significant profitability ratios as well as some statistical tools like Mean, SD, and Rank.

Keywords: Cement Industry, Profitability and Ratio Analysis.

Introduction

One of the most important industries in the world is the cement sector in India. It took 120 years for it to get there. The cement industry's journey began almost 100 years ago. In 1904, it was first started in Chennai, Tamil Nadu. However, this effort was unsuccessful, and Portland Cement made a significant market entry in 1913–14. The first World War aided in the growth of the cement industry. In 1922-23, six new plants with a 5.59-million-ton production capacity were put into operation.

Several plants were established in Punjab, Tamil Nadu, and Bihar between 1934 and 1937. At that time, India needed to receive cement from England. Cement that was imported cost more money. Other factors that contributed to the industry's quick rise to prominence in India included an increase in domestic demand, the availability of capital, an abundance of raw materials followed by a decrease in foreign supply due to the war, affordable labour,

government support, etc. Then, as part of the economic liberalization strategy, the industry was delicensed in July 1991. The government hoped to spur further modernization and expansion investments by eliminating all restrictions on the cement industry.

We are behind China in the global cement production rankings for a good reason. The amount of cement consumed per person has decreased over the past ten years. China currently consumes 1380 kg of cement per person, whereas India has lagged with only 230 kg. In the last 20 years, the cement industry in India has undergone all the stages of the typical cyclical growth process. The industry is currently in a phase of consolidation following a period of oversupply and a phase of significant capacity additions. The demand for cement is increasing because of sound economic expansion and the expansion of infrastructure. To meet the growing demand for cement, more capacity expansion is planned. After China, India is the second-largest cement producer. It produced 142 m.t. in 2006 with a capacity of 160 m.t. India consumes 125 kg of cement per person annually, which is only about a third of the global average. It shows the industry's potential for growth. The economy's state of development and rate of expansion have a significant impact on cement demand. Cement production increased after deregulation, from 23.5 mt in 1983 to 44.1 mt in 1989 to 142 mt in 2006. Deepak (2007). The cement industry had a 160 m.t. installed capacity as of March 2007, but only 83 percent of that capacity was being used. India produced 300 million tons of cement in 2010, and by 2020, production is projected to increase to 550 million tons. The production of cement has more than doubled over the past ten years, increasing from 106 million tons to 300 million tons.

The infrastructure sector, particularly roads, has benefited from the Union Budget 2016–17, which will eventually affect the nation's cement industry. The Indian government included USD 8.22 billion in the budget for the construction of Indian roads and highways, which will support the country's cement industry. Nearly 67% of India's total cement consumption was accounted for by the housing sector, which is thought to be a major driver of the country's cement industry. (Source: Emkay Global Financial Services, Union Budget 2016–17).

The Centre has provided a significant infrastructure boost with mega projects like the ambitious Bharatmala Pariyojana, Sagarmala Project, Smart Cities Mission, AMRUT (Atal Mission for Rejuvenation and Urban Transformation), and PMAY (Pradhan Mantri Awas Yojana), among others, in addition to allocating Rs 10 lakh crore for capital expenditure in the Union Budget 2023–24. These initiatives demonstrate the government's seriousness and commitment to accelerating economic progress, improving connectivity, creating jobs, and raising significant amounts of revenue. The domestic cement production in FY 2022 increased from 296 million tons in FY 2021 to 356 million tons because of an infrastructure push and rising housing demand. The volume of cement consumed in FY 2022 was 355.46 million tons, and it is anticipated to rise to 450.78 million tons in FY 2027.

Review of Existing Literature

Numerous studies on various aspects of corporate sector profitability in India have been conducted. To pinpoint the gaps in the literature, some of them that stand out are reviewed.

According to Banerjee's research (1982), corporate profitability is affected by liquidity in three different ways. Profitability rises with an increase in liquidity up to a certain point, then it stays constant with the increase in liquidity until another point, and finally it falls with an increase in liquidity after that.

Jain (1981) conducted an econometric analysis of price-cost margin in Indian manufacturing industries and found that cost factors were regarded as the most important predictor of profitability.

With the aid of some statistical tools and techniques, Mallick and Sur (1998) investigated the effect of working capital management on profitability in the Indian tea industry. Five of the nine ratios related to working capital management showed positive correlation with the profitability indicator, according to the study, while the other four ratios showed negative correlation.

Sur. and Rukhit. (2005) looked at 25 chosen businesses in the Indian corporate sector when examining the relationship between assets management and profitability. According to the study, operating long-term asset turnover ratio was positively correlated with profitability in 19 out of the 20 companies, receivable turnover ratio was positively correlated with profitability in 14 companies, inventory turnover ratio was positively correlated with profitability in 19 companies Out of 25.

From 1996–1997 to 2007–2008, Chakraborty (2008) examined the relationship between working capital and profitability at 25 chosen companies in the Indian pharmaceutical sector. According to the study, inventory management, credit management, and liquidity management all contributed favourably to an increase in corporate profitability.

In his study, Basu (2011) looked at the connection between debtors' management and profitability using data from eleven carefully chosen companies in the Indian cement industry between 2000 and 2009. The study found that current ratio, inventory turnover ratio, and debtor turnover ratio were all positively correlated with return on capital employed in nine different companies. Inventory turnover ratio was also positively correlated with return on capital employed in seven other companies.

A study on the analysis of the composite profitability index of 30 cement companies in India was done by Sathya in (2012). The researcher used secondary data for this study, which she then analyzed using a variety of statistical tools and methods. According to the study, ratio-wise scores were combined to rank the chosen companies in terms of composite profitability. The company with the highest total score was given the top spot, and the company with the lowest total score was given last place.

According to Mohan Kumar, Safeer Pasha, and Bhanu Prakash (2015), the second-largest cement industry in the world is India. Cement is the largest industry in the global economy. In order to support the housing, infrastructure, and employment sectors, it attracted FDI worth US\$3,084.89 million between 2000 and 2014. By the 2020 fiscal year, the production capacity is anticipated to reach 550MT. The main focus of the research paper is on analyses of the profitability of a few selected cement companies in India from 2005 to 2014. Mean, standard deviation, co-efficient of variation, and compound annual growth rate were used as analysis tools. The study discovered that Ambuja Cement's profitability position is satisfactory when compared to that of other businesses.

Sasikala and Balakrishnan (2015) assessed the issues and future prospects of a few Indian cement companies. This study's foundation was secondary data gathered from industry profiles and cement industry annual reports. A strong tool for identifying issues with an

industry's operations and financial position is financial analysis. The business should improve its performance so that it can meet challenges, seize opportunities, and assist management in making financial decisions in the future. The researcher makes recommendations for future improvements to the cement industry considering the findings. This study also identifies the limits to which various industries can improve the accuracy of their assets' positions and financial resources.

In his study, Akki Siva Naga Raju (2016) explained that capital budgeting aids in determining whether funds should be allocated to long-term projects and aids in the analysis of proposals for capacity expansion or addition. By analyzing various capital investment proposals, he was able to select the best option from a variety of alternatives.

Purpose Of the Study

To observe the profitability performance of the companies under study.

To assess the profitability position of the selected companies using commonly used financial ratios.

To compare the performance of the selected companies based on overall profitability with the aid of statistical tools.

Limitations of the study

The study is only able to analyze data from the 2013–2014 fiscal year to 2022–2023 fiscal year.

Only 15 cement industry according to market capitalisation were included in this study. As a result, its perspective is limited.

The study is based on secondary data gathered from websites like Capitaline database and the company's published annual report. Therefore, the study's limitations regarding the secondary data will persist.

Research Gap

The literature review convincingly demonstrates that numerous studies have been conducted on the factors that affect profitability, but there are only a few research papers that address how these factors affect profitability in India's cement industry. The research paper attempts to fill this gap by analyzing the profitability of India's listed cement companies over a ten-year accounting period, from 2014 to 2023. The expansion and development of the cement industry is a key factor in the India's economic development. Many studies have been done in this area, but only a small number of them have been done in India. Most of the studies that have been done on profitability have been done in other parts of the world. However, none of these studies have given the cement industry a special emphasis.

Methodology Of the Study

Universe:

The universe of the study consists of all the limited cement companies working in India and listed on the stock exchange of India.

Sources of Data:

The required data for the present study has been collected from the secondary data sources published in the annual reports and financial statements in the websites of the selected cement companies. The data was extracted from the top fifteen companies in the CEMENT sector belonging to the "BT 500 India's Most Valuable companies" according to market capitalisation published by the "Business Today" in 2023. The data was also collected from Capitaline Corporate Database (CMIE), Capital Market Publishers (I) Ltd. (Mumbai), CMIE Reports, Screener.com, Books, Magazine, Journal, Newspaper, Annual Reports of the selected companies, Research Reports, and Internet sites.

Sample size:

The top 15 Indian cement companies are selected based on market capitalisation as of 31st March 2023.

Study period:

The period of the study is 10 years i.e., 2013-14 to 2022-23.

Sampling techniques

Purposive or judgemental sampling technique is followed in the study. Here financial performance will be considered as dependent variable and liquidity, profitability and efficiency will be considered as independent variable.

Data Analysis

Measurement of Profitability of the Selected Companies

The ability of a business firm to make money is known as profitability. Profit margin ratios and rate of return ratios are the two different types of profitability ratios. Profit margin ratios display the connection between revenue and earnings. There are various types of profit margin ratios because profit can be assessed at different points in the process. The gross profit ratio, net profit ratio, and operating profit ratio are the most widely used profit margin ratios. Rate of return ratios show how profit and investment are related. Return on capital employed, return on net worth, and other rate of return metrics are the most common. This chapter examines the chosen companies' profitability using the following profitability metrics.

Gross Profit Ratio (GPR):

Gross profit margin measures how much profit is made relative to sales revenue. This illustrates a company's earnings after deducting the costs incurred in the production of its products and services. A high gross profit margin ratio indicates that core operations are more efficient because they can still pay for operating costs, fixed costs, dividends, and depreciation while still producing net earnings for the company. On the other hand, a low profit margin denotes a high cost of goods sold, which can be attributed to unfavourable

purchasing practices, low selling prices, low sales, fierce market competition, or poor sales promotion practices.

The mean GPR of the selected companies in Indian cement industries for the period 2013-14 to 2022-23 was 46.22 and its mean C.S. for the same period was 7.99. The study of GPR of the selected companies reflects that eight companies, namely, Ultratech, Ambuja, Shree, ACC, Dalmia, India, Star, Orient maintained their efficiency in production as well as pricing at a level above the industry mean (46.22) during the period under study whereas the consistency in respect of efficiency in production as well as pricing was considerably higher in UltraTech, Grasim, Ambuja, Shree, JK cement and orient as compared to the industry C.S (7.99) during the same period. So, finally Ultratech, Ambuja, Shree and orient cement industries were able to manage their efficiency of production as well as pricing very impressively.

Net Profit Ratio (NPR):

The net profit margin is the bottom line. It examines a company's net income and divides it by total revenue. It depicts a company's profitability after all expenses, including interest and taxes, have been deducted. One advantage of using the net profit margin as a measure of profitability is that it takes everything into account. One disadvantage of this metric is that it includes a lot of "noise," such as one-time expenses and gains, making it difficult to compare a company's performance to its competitors.

The mean NPR of the selected companies in Indian cement industries for the period 2013-14 to 2022-23 was 7.06 and its mean C.S. for the same period was 1.96. The study of NPR of the selected companies discloses that seven companies, namely, Ultratech, Grasim, Ambuja, Shree, ACC, Ramco and star cement industries maintained their overall efficiency in production, administration, selling, financing, pricing and tax management at a level above the industry mean (7.06) during the period under study whereas the consistency in respect of efficiency in production, administration, selling, financing, pricing and tax management was considerably higher in Ultratech, Grasim, Ambuja, Shree, ACC, Ramco and star cement industries as compared to the industry C.S (1.96) during the same period. It confirms that the overall efficiency of production, administration, and selling, financing, pricing and tax management of Ultratech, Grasim, Ambuja, Shree, ACC, Ramco and star cement industries was encouraging.

Operating Profit Ratio (OPR):

The operating profit margin measures earnings as a percentage of sales before interest and taxes are deducted. Companies with high operating profit margins are generally better equipped to pay for fixed costs and interest on obligations, have a better chance of surviving an economic slowdown, and can offer lower prices than their competitors with lower profit margins. Operating profit margin is frequently used to assess a company's management strength because good management can significantly improve a company's profitability by managing its operating costs.

The mean OPR of the selected companies in Indian cement industries for the period 2013-14 to 2022-23 was 11.64 and its mean C.S. for the same period was 2.77. The study of OPR of the selected companies shows that as compared to the industry mean(11.64) the operating profitability of eight companies, such as Ultratech, Grasim, Ambuja, Shree, J.K, Ramco, Star and Heidelberg cement industries was higher during the study period whereas regarding the consistency of the operating profitability Ultratech, Grasim, Ambuja, Shree, J.K, Ramco, Star and Heidelberg were placed in a better position as compared to the industry C.S (2.77) during the same period. So, as a whole in respect of operating profitability Ultratech, Grasim, Ambuja, Shree, J.K, Ramco, Star and Heidelberg were placed in the above average category.

Return on Capital Employed (ROCE):

ROCE, or return on capital employed, is a financial metric that measures how effectively a company uses its capital to generate profits. In other words, this ratio shows how much profit a company generates per rupee invested. As a result, it aids in analyzing a company's profitability and capital efficiency. A higher ratio is advantageous because the company earns more profits per rupee of capital invested. However, because cash in hand is a component of total assets, a higher ratio may also indicate higher cash in hand. As a result, higher cash reserves may skew this metric because this cash has not yet been used.

The ROCE ratio is used by investors to compare companies in the same sector or industry. This is useful in determining which company spends its money most efficiently in order to generate healthy returns.

ROCE is useful for comparing capital-intensive businesses that require a lot of money to run. Automobiles, trains, steel producers, and so on are examples. Because these companies have made significant investments, smart money management may prove to be a profitable investment for the potential investors.

ROCE is a useful tool for measuring a company's financial efficiency because it calculates profitability after deducting the amount of capital required.

ROCE is a valuable measure not only for investors, but also for businesses because it allows them to assess their performance, identify their strengths and weaknesses, and work on performance development. It also aids companies in trend analysis, as increasing ROCE implies increased long-term profitability.

The mean ROCE of the selected companies in Indian cement industries for the period 2013-14 to 2022-23 was 11.29 and its mean C.S. for the same period was 3.07. The study of ROCE of the selected companies reveals that only eight companies, namely UltraTech, Ambuja, Shree, ACC, JK, Ramco, star, Heidelberg and orient cement industries maintained their overall profitability at a level above the industry mean (11.29) during the period under study whereas the consistency in respect of overall profitability was considerably higher in UltraTech, Grasim, ambuja, Shree, ACC and J.K cement industries as compared to the industry C.S. (3.07) during the same period. So, finally Ultratech, Ambuja, Shree, ACC and JK cement industry able to establish itself as an excellent performer in respect of overall earning capability during the period under study.

Return on Net Worth (RONW):

Return on Net Worth is a profitability metric created from the investor's, not the company's, point of view. The investor can determine whether he will receive the entire net profit or the amount of return by looking at this. It explains how effectively the capital of the shareholders produces profit. Return on Net Worth (RONW) is a percentage-based indicator of a company's profitability. We determine it by dividing the company's net income by shareholders' equity. Return on net worth is used in finance as a measure of company's profitability. It reveals how much profit of a company generates with the money that the equity shareholders have invested. Therefore, it is also called return on equity (ROE). This ratio is useful for comparing the profitability of a company to that of other firms in the same industry.

The mean RONW of the selected companies in Indian cement industries for the period 2013-14 to 2022-23 was 9.61 and its mean C.S. for the same period was 2.1. The study of RONW of the selected companies reveals that ten companies, namely UltraTech, Grasim, Ambuja, Shree, ACC, J.K, Ramco, Star, Heidelberg, and Orient Cement Industries achieved the earning capability from the view point of their owners at a level above the industry mean (9.61) during the period under study whereas the consistency in respect of it was considerably higher in namely UltraTech, Grasim, Ambuja, Shree, ACC, Ramco and Star Cement Industries as compared to the industry C.S.(2.10) during the same period. It confirms that the earning capability of UltraTech, Grasim, Ambuja, Shree, ACC, Ramco, and Star Cement Industries from the viewpoint of its equity shareholders was encouraging fairly.

Profitability Analysis using Comprehensive Rank Test

A thorough rank test that considers both the mean and consistency aspects was made to gauge the profitability status of the chosen companies more accurately. Three steps were taken while conducting this analysis. Based on the means of all the chosen profitability measures, comprehensive ranks were determined in the first step. In this test, the mean values of the five selected ratios—GPR, NPR, OPP, ROCE, and RONW—were combined into points score through a ranking process in order to arrive at a more comprehensive measure of profitability. Any profitability ratio with a high mean value indicates greater profitability, and the rankings were done in that order. The final ranking was conducted using the guiding principle that, in both cases, the profitability status is improved by a decrease in the sum of individual ranks.

The comprehensive rank test, which considers C.S. of all the selected profitability ratios of each company during the study period, was used to determine the consistency of the selected companies' overall profitability in the second step. Ranking was done in that order because a high C.S. of each chosen profitability measure indicates a more consistent as well as favourable position in terms of profitability. The final ranking was conducted using the guiding principle that the better the profitability position, the lower the sum of the individual rankings, and vice versa.

In the third step, the rankings based on mean and consistency for each of the chosen businesses were added to yield their sum, which was then used to determine their final profitability rank. The final profitability ranking was conducted using the guiding principle that the better the profitability position, the lower the sum of the "rank based on mean" and "rank based on consistency," and vice versa.

Table shows that Shree Cement, which ranked first according to 'mean' and Ultratech Cement which ranked first according to 'consistency', had a combined score of 5 in the sum of ranks.

Similarly, ambuja had a combined score of 6, Grasim 8.5, star 9, Ramco 13, ACC 14, JK Cement 14, Heidelberg 18.5, orient cement 19 and so on. Based on the joint score considering both the mean and consistency parameters, Ultratech and Shree cement captured the topmost position in respect of profitability and earning capability and was followed by ambuja, Grasim, star, Ramco, ACC, JK, Heidelberg, orient, jk Lakshmi, Dalmia, Nuvoco, Sagar, India cement industries respectively in that order.

Profitability Analysis using Efficiency Scores (DEA)

Using the DEA technique, an effort was made in Table 4 to determine the profitability position of the chosen companies more precisely. Sales and operating profit were used as the output variables in this analysis, while direct and indirect expenses were used as input variables. In order to compare the relative performance of various companies, the DEA model maximizes the output variables and minimizes the input variables. Each of the companies was treated as a homogeneous unit for the purposes of benchmarking, and their comparative performance was evaluated using the DEA methodology. Each of the 15 companies that were chosen received an efficiency score using the DEA methodology, which was calculated on a scale of 0 to 1.

The average highest profitability efficiency score (PES) captured by Ultratech (1) and Sagar (1) cement industries jointly, followed by Grasim (.999), ambuja (.998), star (.996), Ramco (.986), Shree (.980), orient (.968), ACC (.950), Nuvoco (.939), Dalmia (.933), Heidelberg (.932), jk Lakshmi (.918), jk (.915), India (.876) respectively.

The consistency coefficients of PES of the selected companies (as disclosed in Table) were Ultratech (867), Sagar (721.83), Grasim (402.83), ambuja (150.39), star (81.42). Table ... describes the rankings of the selected companies based on average of PES, and consistency of PES. It also depicts the ultimate PES rank (based on the sum of ranks arrived by combining the former two ranks of the selected companies). Based on the average PES, Ultratech and Sagar cement captured the highest rank, followed by Grasim, ambuja, star, Ramco respectively while in respect of the consistency aspect of PES, Ultratech and Sagar cement secured the highest rank followed by Grasim, ambuja, star and JK cement respectively in that order. Finally based on the combined score considering both the mean and consistency parameters, Ultratech captured the topmost position and was followed by Sagar, Grasim, ambuja, star, Shree, Ramco, ACC, orient, JK, Nuvoco, JK Lakshmi, Dalmia, India, and Heidelberg respectively in that order.

Profitability Analysis using Efficiency Scores (PCA)

All these four variables such as sales, operating profit, direct expenses and indirect expenses are responsible for profitability and these variables individually effects on profitability but to consolidate their contribution into profitability we use principal component analysis (PCA) by which we can assign unequal different weights for these variables to the profitability analysis. After weighting the unequal weights of the variables, we use weighted mean to calculate a composite index for profitability analysis. These index ranges between 0 to 1 for 15 different companies for particular period. The value those who are closer to 1 considered more profitable for that certain company under a particular period and whose value far from 1 considered as less profitable for that company under a particular period.

The average highest profitability efficiency Index (PEI) captured by Shree cement (.085) and followed by star cement (.084), ambuja (0.82), Ultratech (.076), orient (.070), Heidelberg

(.068), jk (.068), ACC (.068), GRASIM (0.067), Ramco (.066), Dalmia (.065), India (.053), Nuvoco (.053), Lakshmi (.052), Sagar (.043) respectively in that order. From the table it is revealed that Shree cement is more profitable and star cement(.084), ambuja(0.82), Ultratech(.076), orient(.070), Heidelberg(.068), jk(.068), ACC(.068), GRASIM(0.067) is also profitable as PEI of above cement industry is higher than average and Ramco(.066), Dalmia(.065), India(.053), Nuvoco(.053), JK Lakshmi(.052), Sagar(.043) is less profitable as PEI of the above mentioned industry is less than the average PEI. It also depicts the ultimate PEI rank (based on the sum of ranks arrived by combining the former two ranks of the selected companies). Based on the average PEI, Shree and Star cement captured the highest rank, followed by Ultratech, ambuja, orient, jk, ACC, Heidelberg respectively while in respect of the consistency aspect of PEI, Ultratech and Grasim cement secured the highest rank followed by jk Lakshmi, India, Shree, jk, ambuja, ACC cement respectively in that order. Finally based on the combined score considering both the mean and consistency parameters, Ultratech captured the topmost position and was followed by Shree, Grasim, ambuja, star, orient, jk, ACC, India, jk Lakshmi, Heidelberg, Ramco, Dalmia, Nuvoco, Sagar respectively in that order.

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