

A Comparative Study on the Cement and Steel Companies in the Indian Context

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Abstract: *The steel and cement sectors in India are vital to the nation's economic expansion since they produce a large amount of manufacturing goods, infrastructure, and jobs. This study examines how globalisation has affected Indian steel companies' financial situation and assesses the financial success of a few chosen cement and steel firms. Comparing the two sectors, the study looks at capital structure and financial performance of cement and steel companies like as liquidity, leverage, efficiency, and profitability. The study presents clear trends in leverage, liquidity, and operational efficiency amongst cement and steel enterprises through an extensive examination of financial data and market dynamics. The results of present study show that, in comparison to steel firms, cement companies often have lower leverage, higher returns on equity, and better interest coverage ratios, indicating stronger financial health and performance measures. Cement businesses also exhibit more effective inventory management techniques, which may increase operational efficiency. These insights give stakeholders useful data to help them make wise decisions in steel and cement industries.*

Keywords: Financial, Liquidity, Working Capital, Cement Industry, Steel companies, Profitability

1. Introduction

An integral part of India's economic development has come from cement and steel sectors. Its cement and steel consumption, exports, and production have grown significantly over the last decade, propelling it to the forefront of the global steel industry. Finished steel imports and exports totaled 6.02 MT and 6.7 MT, respectively, in FY23. The total finished steel imported and exported in Financial Year 2022 was 4.67 MT and 13.49 MT, respectively. The export of India was enhanced by 25 percent YoY in Financial Year 2022 over Financial Year 2021. The National Steel Policy intends to boost consumption of steel per capita to 160 kgs by 2030 - 31. In April 2023, the exports of steel amounted at 8.6 lakh metric tons and imports stood at 4.60 lakh metric tons. India's steel production grows at 3.2% annually. This is a positive sign for the industry. The prospects demand for steel is also affected by consumer durables and white goods. Therefore, this study's major objective is to determine how globalization has affected the profitability, liquidity, leverage and efficiency of selected Indian steel companies. Cement is the most important input to the construction industry in general and a critical component of the government's housing and infrastructure initiatives, all of which are essential to the country's socioeconomic development and growth. The cement industry in India ranks second worldwide, behind only by China. The top three cement producers are located in China, India and Vietnam respectively. Since it accounts for about 1.3% of GDP and employs over 0.14 million people, it is generally considered an important industry. Additionally, the industry contributes significantly to state and federal treasuries through excise and sales taxes. Without proper management of working capital, funds can be unnecessarily kept in idle assets.

This will reduce the company's liquidity, making it difficult for it to invest in assets that contribute to production, including plants and machinery. Also affected will be the company's bottom line. The liquidity of a firm and how well it is managed determines how successful or unsuccessful it is. The conventional measure for working capital analysis is positive working capital, which is the sum of current assets over current liabilities. However, working capital can be negative in some situations, indicating that current obligations exceed current assets. What strategies may a company employ to manage its liquidity when its working capital is negative? There was a time when negative working capital meant a company was going bankrupt. Now, though, it's considered as a sign of good management.

Indian Cement Industry

In India, the cement sector has experienced a dramatic transformation over the past six years, although despite cement's vital role in the country's infrastructure, the premium brand is virtually nonexistent. Despite being a capital - based industry with a majority of fixed costs, volume growth is critical for India's cement industry, which ranks below steel and aluminum in terms of value - added. The country produces 356 million tons in F. Y 2022, up from 296 million tons in FY 2021. The market size of cement industry in India reached 3.64 billion tones in 2022. The production of cement is expected to rise at a CAGR of 5.6 percent in India from 2016 to 2022, due to enhance demands real estate, roads and development of infrastructure facilities.

Indian Steel Industry

As of the finish of 2030, India is projected to make of rough steel production target of 210 MT. Homegrown accessibility

of unrefined substances like iron mineral and financially savvy work has been the main impetus behind the ascent of the Indian steel business. With its state of the art steel processes, India's steel area is at the bleeding edge of innovation. Its objective has forever been to increment energy effectiveness and modernize and redesign its maturing plants ceaselessly.

A major contributor to India's economic growth has been the country's steel sector. Its impressive growth in steel production, consumption, and international commerce over the past decade has put it on the map of the world's steel producers. India is the second - largest producer of crude steel in the world, with an output of 125 MT of crude steel and finished steel production in F. Y.2023. Consequently, the potential for expansion in the Indian steel sector is enormous. Significantly, it highlights the fact that steel continues to dominate more conventional markets, such as those dealing with building and infrastructure, transportation, and industrial applications. Nevertheless, the production of crude steel and finished steel stood at 134 MT and 120MT, respectively in F. Y.2022. In Financial Year 2022, 106 MT of finished steel were consumed. The total amount of finished steel consumed in Financial Year 2023 was 119 MT. The production of finished steel was 38.6 MT and crude steel was 41 MT in April–July 2022. This was largely brought on by the growth of the automotive and infrastructure industries. This was mostly due to the expansion in the infrastructure and automobile sectors. Consumer durables and white goods also contribute to the potential demand for steel. Therefore, the primary aim of this research is to analyse the impact of globalisation on the financial standing of Indian steel businesses and to draw a straight line connecting the chosen companies' profitability, liquidity, leverage and efficiency.

2. Literature Review

Muanpaopong et. al. (2023) researched the reaction time of cement clinker in a lab ball mill using balls made of steel or alumina, with sizes varying from 20 to 40 mm, and a mix of the two. For the purpose of tracking the PSD's development over time, sieving and laser diffraction were employed. We utilized a population balance model (PBM) –based global optimizer–based back - calculation approach to predict the breakage parameters. The mill's ball's motion was modelled using the discrete element method (DEM). The steel balls were able to break the clinker into smaller pieces more rapidly than the alumina balls because of their higher total - mean energy dissipation rate. This study suggests that continuous ball mills can potentially save a significant amount of energy by switching from steel balls to alumina balls, even after taking into consideration the slower breaking caused by the latter.

Salihu (2023) uncovered that the political settlement and industrial strategies of a common clientele have affected cement, textile, and iron and steel industries in Nigeria. These policies were developed and implemented using essentially the same power structure, yet the outcomes of their implementation are confusingly different. Because to the cement industrial strategy (BIP), Nigeria was able to transition from a net cement importer to a self - sufficient

producer; however, the iron and steel and textile industries were unable to achieve their objectives through comparable strategies. This study aimed to explain why policy results may be so varied by merging ideas from rents space and technical capacity theory with the political settlement framework. Some interesting things were discovered. Regardless of the way that the help of political authority for a specific strategy was viewed as vital to strategy execution for the most part, three elements arose as really significant for modern arrangement execution; these seem to have represented the distinctions in approach results across the three analyzed ventures.

Meshram and Kumar (2022) the cement industry's production and shipping processes produce a substantial amount of carbon dioxide. There are a lot of programmes trying to reduce the impact on the environment. Making new binders out of waste products or recycled materials is a groundbreaking breakthrough. One example is geopolymers. This study takes a comprehensive look at the life cycle implications of two different forms of geopolymer cement produced in India utilising varying mixes of fly ash, slag, and cement. There are currently no industry - wide standards for geopolymer cement; hence this study relied on data from pilot - scale (5 t/d) production. When compared to traditional Portland cement, geopolymer cement produced from fly ash and slag significantly lessens the likelihood of climate change by 70%, abiotic depletion by 49%, terrestrial ecotoxicity by 77%, and abiotic depletion by 34%. The most harmful application of geopolymer cement to the environment is in highly alkaline solutions. Since geopolymer cement is less harmful to the environment than regular cement, the results demonstrate that it could be a viable alternative binder.

Nandi Chandra (2012) looked into how profits were affected by changes in liquidity management strategies. We have tried to find a linear relationship between liquidity and profitability using a multiple regression model. Over the course of the study period, the selected firm maintained a strong net working capital to current liabilities ratio, which contributed to their liquidity, according to the analysis.

Dhingra and Dev (2016) carried out groundwork on the subject of "Determinants of capital construction - An investigation of oil industry in India" utilizing observational techniques. This study plans to analyze the capital construction of oil organizations recorded on the NSE in India and the effect of record attributes, for example, monetary strength, long haul productivity, substantial quality of resources, business hazard, and dissolvability. The research covers the years 2006–2015, namely from April 1–March 31. The study found that dependent factors are adversely correlated with other variables, but financial strength is positively correlated with leverage.

Objective of the study

1) To analyze the financial performance of cement and steel companies in India.

Hypothesis of the study

There is no significant difference between financial performance of cement and steel companies based on their capital structure.

3. Research Methodology

Research design

To achieve the goals, the study design takes a multipronged strategy. First, it entails a thorough examination of the capital structure elements of certain Indian steel and cement companies, with a focus on debt - to - equity ratios, leverage ratios, and other relevant financial measures. The present research examines the chosen companies' financial performance, with particular emphasis on crucial metrics like profitability, liquidity, and efficiency. The financial health and performance of the organisations will be evaluated through the calculation and analysis of several financial ratios, such as inventory turnover ratios, quick ratios, and current ratios. Trends over the study period will be closely examined for noteworthy variations or patterns. Finally, by using statistical analysis techniques like mean, charts and regression analysis. By using these techniques, the study hopes to shed light on the variables affecting the profitability, liquidity, and general financial health of Indian steel and cement companies. This will lead to a thorough understanding of the patterns of capital structure and the dynamics of financial performance in these sectors.

4. Data Collection

I utilized self - organized polls to accumulate information for clear examination studies. Analysts originally inspected the current writing on CPD prior to making the exploration apparatus.

Primary information - Staff collected crucial data for the review's premise. The survey has three phases: Representative Socioeconomics, comprising age,

orientation, instructive accomplishment, work history, contribution, interest, and worker discernment and mindfulness.

Secondary information - Access to auxiliary data should be quick. Its collection depends on academic writing audits of articles in diaries, books, studios, meetings, annual attire association reports, contextual studies, and reference resources.

Sample data

Five companies of each sector were chosen to conduct the research, which are named as follows:

Cement sector

- 1) Ultratech cement
- 2) Shree cement
- 3) Ambuja cement
- 4) ACC
- 5) Dalmia Bharat

Steel sector

- 1) Tata steel
- 2) JSW steel
- 3) SAIL
- 4) Jindal steel
- 5) APL Apollo

5. Data Analysis and Interpretation

Table 1: Cement Sector Companies

Company	Debt - to - Equity Ratio	Leverage Ratio
Ultratech Cement	0.50	2.00
Shree Cement	0.40	1.80
Ambuja Cement	0.60	2.50
ACC	0.55	2.20
Dalmia Bharat	0.45	2.10

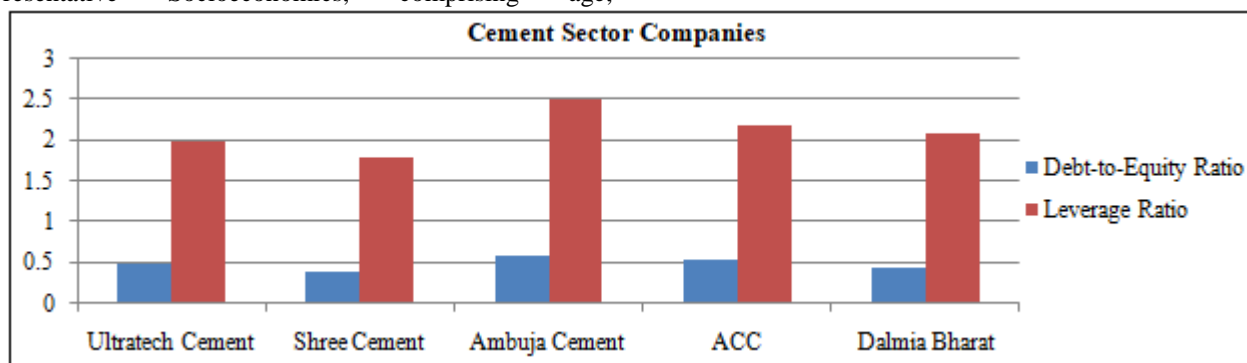


Figure 1: Graphical representation of financial matrix of cement companies

It is clear from looking at the data presented for cement industry companies that each one shows different levels of leverage, as demonstrated by their debt - to - equity ratios and leverage ratios. With debt - to - equity ratios of 0.50 and 0.40, respectively, Ultratech Cement and Shree Cement have relatively lower leverage, suggesting a more balanced financial structure. However, Ambuja Cement and ACC have somewhat higher leverage, as evidenced by their respective debt - to - equity ratios of 0.60 and 0.55, which point to a larger percentage of debt in their capital structure. Dalmia Bharat's debt - to - equity ratio of 0.45 places it in

the middle. It is basic to recognize that albeit these measurements offer significant experiences into the monetary design, a far reaching assessment of each organization's monetary wellbeing and execution requires the incorporation of other monetary measurements, like liquidity and proficiency proportions, as exhibited by the "Other Monetary Measurements" segment.

Table 2: Steel Sector Companies

Company	Debt - to - Equity Ratio	Leverage Ratio
Tata Steel	0.60	2.50
JSW Steel	0.55	2.20
SAIL	0.70	3.00
Jindal Steel	0.50	2.00
APL Apollo	0.45	1.80

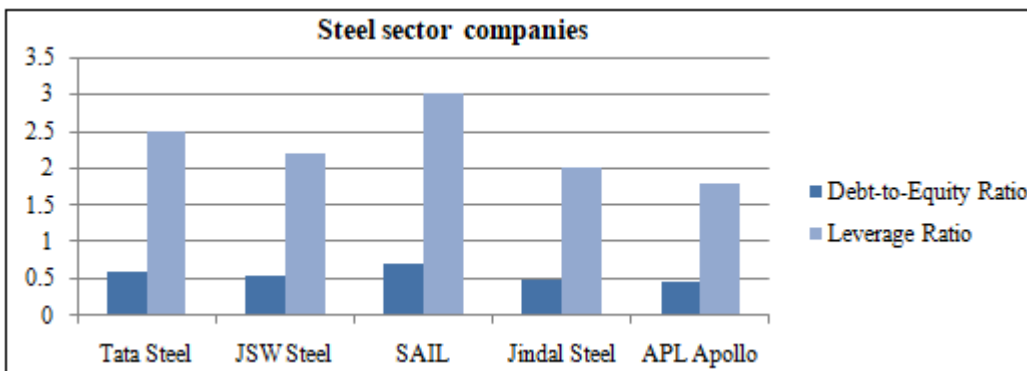


Figure 2: Graphical representation of financial matrix of steel companies

The financial structures and performance metrics of steel sector enterprises exhibit discernible trends upon analysis of the data presented. With debt - to - equity ratios of 0.60 and 0.55, respectively, Tata Steel and JSW Steel show comparatively comparable levels of leverage and a moderate reliance on debt financing. With a debt - to - equity ratio of 0.70, SAIL has the highest leverage of the group, meaning that a larger percentage of debt is present in its capital structure than in the others'. With debt - to - equity ratios of 0.50 and 0.45, respectively, Jindal Steel and APL Apollo

exhibit less leverage and may take a more cautious approach to debt financing. With current ratios of about 2.0 and quick ratios of 1.4 to 1.6, respectively, Tata Steel and JSW Steel show modest liquidity and efficiency in terms of other financial measures. Jindal Steel and APL Apollo have somewhat elevated liquidity, as their current ratios fall between 2.5 and 2.8 and their quick ratios fall between 1.8 and 2.0. With a quick ratio of 1.2 and a current ratio of 1.8, SAIL, on the other hand, has less liquidity, which may point to problems with short - term debt management.

Table 3: Financial matrices across industries

Sector	Average Debt - to - Equity Ratio	Average Leverage Ratio	Average Return on Equity (ROE)	Average Interest Coverage Ratio
Cement	1.04	2.36	0.0807	0.0698
Steel	1.16	2.58	0.0656	0.0570

When comparing the cement and steel industries, it is clear that the former relies less on debt financing than the latter, with cement companies having an average leverage ratio of 2.36 and an average debt - to - equity ratio of 1.04. In addition, the average return on equity (ROE) for the cement industry is higher than that of the steel industry (0.0656), indicating stronger returns for shareholders. Furthermore, the cement industry has a higher average interest coverage ratio (0.0698) than the steel industry (0.0570), suggesting a stronger capacity to cover interest payments from earnings. Overall, these results show that the cement industry outperforms the steel industry in terms of performance measures and financial standing.

cement industry, which has a median current ratio of 1.40. Comparing the quick ratio of steel businesses to that of the cement industry, the former shows a little higher median of 1.20, indicating that steel companies may be marginally better able to meet their short - term obligations with their most liquid assets. Overall, these results show a slight edge for steel companies in terms of short - term solvency compared to their cement counterparts, even though both sectors generally indicate acceptable liquidity.

Table 4: Median current ratios across sectors

Sector	Median Current Ratio	Median Quick Ratio
Cement	1.40	1.10
Steel	1.45	1.20

It is clear from comparing the median current and quick ratios for the steel and cement industries that both have comparable liquidity profiles, with steel companies somewhat outperforming cement companies. With a median current ratio of 1.45, steel companies are slightly better able to satisfy short - term obligations with current assets than the

Table 5: Median inventory turnover ratios across sectors

Sector	Median Inventory Turnover Ratio
Cement	5
Steel	4

It is possible to gain fascinating insights into the operational efficiency of the steel and cement industries by analysing their median inventory turnover ratios. The median inventory turnover ratio of 5 for cement companies is greater than the median of 4 for the steel industry. This shows that compared to steel companies, cement companies often sell their inventory more quickly. A greater inventory turnover ratio is a sign of effective inventory management, which is essential for maximising cash flow and lowering holding costs. When compared to the steel business, the cement

industry's greater ratio may be explained by variables including shorter production cycles and more volatile demand. When compared to steel companies, the data generally indicates that cement companies are more successful at controlling their inventory turnover, which could result in increased profitability and operational efficiency.

6. Results

Upon examining the financial structures of enterprises in the cement and steel sectors, significant trends concerning their leverage, liquidity, and efficiency become apparent. While Ambuja Cement and ACC exhibit somewhat higher leverage, cement businesses such as Ultratech Cement and Shree Cement display significantly lower leverage, indicating a more balanced financial structure. Dalmia Bharat lies halfway between these two places. On the other hand, SAIL has the most leverage in the steel industry, while Tata Steel and JSW Steel rely on loan financing to a considerable extent. APL Apollo and Jindal Steel exhibit a more cautious approach to loan borrowing. SAIL has difficulties managing its short-term debt, even though Tata Steel and JSW Steel have reasonable liquidity and efficiency ratios. In comparison to the steel industry, the cement sector has a reduced reliance on debt financing, as seen by its greater interest coverage ratio and average return on equity (ROE). Cement and steel industries have comparable liquidity profiles, but steel companies have a little advantage. Cement companies also show a better median inventory turnover ratio, suggesting improved inventory control and possible increases in operational efficiency. These insights help stakeholders make well-informed decisions by offering a thorough grasp of the operational dynamics and financial health of enterprises in the steel and cement sectors.

7. Conclusion

The unique patterns and insights into the operational dynamics of steel and cement industry enterprises are revealed by analysing their financial structures. In comparison to their steel counterparts, cement companies typically have lower levels of leverage, suggesting a more cautious approach to debt financing. The financial performance of cement sector was improving that indicated by average return on equity (ROE) and interest coverage ratios. Although the liquidity profiles of the two sectors are similar, cement companies have a higher median inventory turnover ratio, suggesting better inventory management techniques, while steel companies have a minor advantage in short-term solvency. All things considered, these results offer insightful information to stakeholders about the operational effectiveness, financial condition, and performance indicators of steel and cement enterprises, enabling well-informed decision-making.

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