

The Impact of Goods and Services Tax (GST) Implementation on Indian Cement Companies' Performance

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By

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ABSTRACT

The Indian cement industry, a pivotal contributor to infrastructure and economic growth, faced significant changes with the introduction of the Goods and Services Tax (GST), which created a unified taxation system. This study explores the effects of GST on Indian Cement Industry, based on the analysis of secondary data relating to select 40 Indian Cement Companies over a decade, from FY2012-13 to FY2021-22. By applying the Banker, Charnes, and Cooper model of panel-data Data Envelopment Analysis, the research distinguishes between efficient and inefficient companies, examining their performance before and after GST implementation. Time Series Analyses were conducted using various methods, viz., Heteroskedasticity tests, Structural Break tests, Unit Root tests, and the ARDL model to evaluate the relationship between GST and sales growth, revealing a significant long-term connection with short-term variations. The study found an initial drop in Pure Technical Efficiency (PTE) during post-GST period, with a recovery noted in 2020-21. The Malmquist Index indicated a decline in Total Factor Productivity (TFP) immediately after GST was introduced, highlighting initial adaptation challenges. However, the industry ultimately saw a rise in efficiency. In a nut shell, the study results reveal that despite initial disruptions, GST eventually facilitated better operational efficiency in the cement sector, due to streamlined tax processes, lower logistical costs, and improved supply chain management. This analysis underscores the sector's resilience and capacity to adjust to major tax reforms and new economic realities.

ABBREVIATIONS

ADF	-	Augmented Dickey-Fuller Test
ARDL	-	Autoregressive Distributed Lag Model
BCC	-	Banker Charnes and Cooper Model
CCR	-	Charnes-Cooper-Rhodes Model
DEA	-	Data Envelopment Analysis
GST	-	Goods and Services Tax
MPI/MI	-	Malmquist Productivity Index/Malmquist Index
OTE Score	-	Overall Technical Efficiency Score
PTE Score	-	Pure Technical Efficiency Score
SBM	-	Slack-Based Model
TFP	-	Total Factor Productivity

CHAPTER 1

INTRODUCTION

1.1 Background of the Study

- **Significance and Economic Contribution of the Indian Cement Industry**

“The Indian cement industry, being the second-largest producer globally after China, is a cornerstone of the national economy”. This sector significantly influences India's economic landscape, contributing 1.3% to the country's Gross Domestic Product (GDP) and providing employment to approximately 140,000 individuals (Nayaka, 2021). The industry's historical roots can be traced back to 1914, with the establishment of the first cement plant in Porbandar, Gujarat. Over the decades, the industry has evolved through various phases of modernization and expansion, particularly post-independence, when government intervention played a pivotal role in shaping its contemporary structure. The cement industry today is vital for infrastructure development, encompassing the construction of roads, bridges, urban infrastructure, and rural development projects. This critical role underscores its importance in the broader economic development agenda of the country, aligning with India's aspirations for robust infrastructure growth and modernization. “The economic significance of the Indian cement industry is also reflected in its contribution to regional economies. Major cement-producing states such as Andhra Pradesh, Rajasthan, and Tamil Nadu have benefited from significant investments, leading to job creation and economic development”. The industry's growth is supported by robust domestic demand, driven by infrastructure projects and housing needs. The government's initiatives, such as the 12th Five Year Plan, which included a \$1 trillion investment in infrastructure, have further catalyzed this demand. Despite challenges posed by the COVID-19 pandemic, which saw production dip to 262 million metric tonnes in FY21, the industry demonstrated resilience, rebounding to produce 374.55 million tonnes in FY23. Future projections remain optimistic, with expectations of reaching a production capacity of 450.78 million tonnes by FY27 (IBEF, 2024).

“Government initiatives play a crucial role in driving the growth of the cement industry. Programs like Gati Shakti aim at enhancing logistics efficiency and infrastructure connectivity, thereby boosting the demand for cement. The Make in India initiative promotes domestic manufacturing, further stimulating the sector”. Additionally, the Smart Cities program focuses on urban development, creating significant demand for cement in the construction of modern infrastructure”. These initiatives are instrumental in enhancing the country's infrastructure, particularly in roadways and railways, which are essential for economic growth. The cement industry, thus, stands as a beneficiary of these government policies, which aim to create a robust and interconnected infrastructure network across the country.

“However, the growth and expansion of the Indian cement industry are not without challenges. The industry is highly energy-intensive, leading to substantial energy costs and a considerable environmental impact. Cement production is a significant contributor to carbon emissions, which poses sustainability challenges”. “Addressing these issues is critical for the long-term viability and environmental responsibility of the industry. Moreover, the introduction of the Goods and Services Tax (GST) has added complexity to the sector's landscape”. Before GST, the tax burden ranged between 25-28%. Under GST, cement falls under the 28% tax slab, with an additional compensation cess of up to 12% (Ministry of Finance). This shift has led to increased cement prices and compliance difficulties, impacting the affordability of construction projects. Simplifying GST laws and providing clear guidelines, along with specific exemptions for the cement sector, are essential to mitigate these challenges and ensure sustainable growth.

- **History and Development**

The Indian cement industry, integral to the country's infrastructural and economic framework, has undergone substantial growth due to accelerating urbanization and extensive infrastructure projects. This sector's expansion is fueled by significant government initiatives aimed at boosting development, yet it is marred by a range of environmental and operational challenges. Key issues include the industry's substantial environmental footprint, characterized by high energy consumption, resource depletion, and substantial greenhouse gas emissions. “These challenges underscore the urgent need for adopting sustainable development practices, such as utilizing alternative fuels and raw materials, and implementing effective waste management strategies”. Furthermore, the industry grapples with

economic pressures, including price volatility and rising input costs, which contribute to its overall instability.

Regulatory constraints also add to the operational complexities, affecting the industry's adaptability and growth prospects. Despite these challenges, the sector presents considerable opportunities for advancement. Embracing technological innovations, expanding into new markets, and developing sustainable business models offer pathways to enhance efficiency and resilience. The evolving landscape of the Indian cement industry thus reflects a dual narrative: on one hand, significant hurdles in environmental and economic domains, and on the other, promising avenues for growth and sustainability. Addressing these challenges while capitalizing on growth opportunities is critical for ensuring the industry's continued contribution to national development and its long-term viability.

- **Growth Drivers and Government Initiatives**

“The growth trajectory of the Indian cement industry is robust, driven by multiple factors including government initiatives, urbanization trends, and affordable housing projects”. One of the pivotal drivers of this growth is the government's ambitious infrastructure development plans. The 12th Five Year Plan, which earmarked a \$1 trillion investment in infrastructure, significantly boosted the demand for cement. This plan aimed at extensive development of roads, railways, ports, and airports, which in turn, spurred cement consumption. “Despite the economic disruptions caused by the COVID-19 pandemic, the industry showcased resilience and adaptability, bouncing back to reach production levels of 374.55 million tonnes in FY23”. Future projections remain optimistic, with expectations to reach 450.78 million tonnes by FY27 (IBEF, 2024), indicating a steady demand trajectory driven by ongoing and upcoming infrastructure projects.

Urbanization is another critical driver of the cement industry's growth. “India's urban population is expected to grow significantly in the coming years, necessitating the development of urban infrastructure and housing. The Smart Cities Mission, launched by the government, aims to develop 100 smart cities across the country, enhancing the quality of life through modern urban planning and infrastructure”. This initiative has a direct impact on the demand for cement, as it involves extensive construction activities. “Similarly, the Pradhan Mantri Awas Yojana (PMAY) focuses on providing affordable housing to the urban poor, further boosting cement consumption”. The rise of megacities and urban agglomerations requires substantial investments in infrastructure, including transportation networks,

commercial spaces, and residential buildings, all of which drive cement demand.

Government initiatives such as Gati Shakti and Make in India are also crucial in fostering the growth of the cement industry. Gati Shakti aims at enhancing logistics efficiency and multimodal connectivity, thereby reducing transportation costs and improving supply chain efficiencies. “This initiative is particularly beneficial for the cement industry, which relies heavily on efficient logistics for the transportation of raw materials and finished products. The Make in India initiative promotes domestic manufacturing and aims to position India as a global manufacturing hub”. This policy not only stimulates industrial growth but also drives demand for cement in the construction of manufacturing facilities and industrial infrastructure.

However, the industry's growth is accompanied by significant sustainability challenges. “Cement production is highly energy-intensive, resulting in substantial greenhouse gas emissions. The industry is one of the largest contributors to carbon emissions, necessitating the adoption of sustainable practices and green technologies. Energy efficiency improvements and the use of alternative fuels and raw materials are critical for reducing the environmental footprint of cement production. The adoption of technologies such as carbon capture and storage (CCS) and the development of low-carbon cement alternatives are essential for achieving sustainability goals”. “Addressing these challenges is crucial for the industry's long-term viability and for aligning with global sustainability standards”.

- **Challenges and Regulatory Landscape with the advent of GST**

“Despite its robust growth prospects, the Indian cement industry faces significant challenges that need to be addressed to ensure sustainable development”. One of the primary challenges is the industry's environmental impact. Cement production is inherently energy-intensive, consuming large amounts of electricity and thermal energy. “This high energy consumption results in substantial greenhouse gas emissions, contributing to climate change”. The industry is responsible for approximately 8% of global CO₂ emissions, making it a significant contributor to global warming. “Addressing this issue requires the adoption of sustainable practices, such as improving energy efficiency, using alternative fuels, and developing low-carbon cement alternatives. Additionally, the implementation of carbon capture and storage (CCS) technologies can help reduce emissions from cement plants”.

“Another significant challenge is the regulatory landscape, particularly the impact of the Goods and Services Tax (GST). The introduction of GST has added complexity to the cement industry's tax structure. Before GST, the tax burden on the sector ranged between 25-28%. Under GST, cement falls under the 28% tax slab, with an additional compensation cess of up to 12%” (Ministry of Finance). This high tax rate has led to increased cement prices, impacting the affordability of construction projects. Studies conducted between 2018 and 2020 indicate that GST implementation has resulted in higher cement prices, affecting the cost of infrastructure development. Simplifying GST laws and providing clear guidelines, along with specific exemptions for the cement sector, are essential to mitigate these challenges and reduce costs.

The lack of Input Tax Credit (ITC) on cement purchases is another issue under the GST regime. This lack of ITC raises infrastructure costs and impacts consumers by increasing the final cost of construction projects. Addressing this issue is crucial for reducing costs and promoting sustainable growth in the sector. Additionally, compliance with environmental regulations poses a challenge for the industry. The stringent environmental norms require significant investments in pollution control technologies and sustainable practices. “The industry needs to invest in technologies that reduce emissions and improve energy efficiency to comply with these regulations and meet sustainability goals”.

“Raw material availability is another critical challenge for the cement industry. Limestone is the primary raw material for cement production, and its availability is crucial for the industry's growth”. However, the depletion of high-quality limestone reserves and the increasing cost of raw materials pose a significant challenge. The industry needs to explore alternative raw materials and invest in technologies that improve resource efficiency. Additionally, the transportation and logistics costs associated with raw material procurement and cement distribution are substantial. Enhancing logistics efficiency and reducing transportation costs are essential for improving the competitiveness of the industry.

Despite these challenges, the Indian cement industry has significant growth potential, driven by government initiatives, urbanization trends, and the rising demand for infrastructure development. Addressing the sustainability and regulatory challenges is crucial for the industry's long-term viability and growth. Policymakers and industry stakeholders need to work together to develop strategies that promote sustainable practices, reduce environmental impact, and enhance the competitiveness of the industry. This includes

simplifying GST laws, providing clear guidelines, and offering specific exemptions for the cement sector, as well as investing in sustainable technologies and practices.

- **Future Prospects and Recommendations**

The future prospects of the Indian cement industry are promising, with strong growth drivers and supportive government policies. “The anticipated compound annual growth rate (CAGR) of 8.6% from FY21 to FY24 (Gupta et al., 2020) reflects the robust demand for cement driven by infrastructure development, urbanization, and housing projects. The government's focus on infrastructure development, including the construction of roads. The Indian cement industry plays a critical role in the national economy and infrastructure development”. While the sector exhibits strong growth prospects driven by government initiatives and urbanization, it also faces significant sustainability and regulatory challenges. Addressing these challenges through policy adjustments, such as simplifying GST laws and providing clear guidelines, is essential for ensuring the industry's continued growth and sustainability. “Ongoing research and policy analysis are necessary to better understand the impact of taxation policies and to develop strategies for mitigating their adverse effects on the cement industry”.

- **Market Structure and Competitive Landscape**

The Indian cement industry is characterized by a moderately concentrated market structure, with a few dominant players like Ultratech, Ambuja, ACC, and Shree Cement, controlling a significant market share. The industry features a mix of large firms with substantial market power and smaller firms facing high barriers to entry due to capital intensity and regulatory complexity. Key factors influencing competition include plant size, location, technological innovation, and firm efficiency. While the industry is fragmented, consolidation is increasing as larger firms acquire smaller ones. Major challenges include high input costs, environmental concerns, and low capacity utilization, with growth driven by government infrastructure projects and rural housing demand. Studies suggest that promoting competition, reducing entry barriers, and encouraging technological innovation are essential for improving market outcomes and enhancing the industry's competitiveness.

1.2 Literature Review

“The introduction of the Goods and Services Tax (GST) in India marked a significant shift in the country’s taxation system. GST aimed to create a unified and simplified tax structure, replacing multiple indirect taxes levied by the central and state governments. Various studies have examined the objectives, implementation, and impact of GST on the Indian economy”.

Dhiman and Singh (2018) provided a comprehensive review of GST’s objectives and its overall impact. “They highlighted that GST was primarily introduced to streamline tax compliance and boost economic growth. The unified tax structure under GST aimed to reduce the cascading effect of taxes, thereby improving efficiency and ease of doing business. The authors noted that GST had a positive impact on tax collections and contributed to the formalization of the economy by reducing tax evasion”. However, they also identified challenges such as technological and administrative hurdles during implementation.

Rajeev and Kumar (2019) focused on the objectives and challenges of GST implementation. They emphasized that GST was designed to create a simplified tax system. Despite its potential benefits, the authors identified several challenges, including complex compliance procedures, technological issues, and a lack of awareness among small businesses. They suggested potential solutions, such as simplifying the GST compliance process and investing in technology infrastructure to address these challenges.

Singh and Jain (2020) explored the benefits and challenges of GST, reinforcing the view that GST aimed to create a simplified and unified tax system to stimulate economic growth. They highlighted the benefits of increased tax collections and reduced tax evasion. However, they also pointed out technological and administrative issues as significant challenges.

Kumar and Singh (2021) provided a descriptive analysis of GST’s objectives and challenges, echoing similar themes. They identified compliance issues, technological challenges, and high tax rates on certain goods and services as major hurdles. The authors recommended streamlining compliance procedures and investing in technology infrastructure to address these issues.

Remaining part of the literature review has been divided into the following sections:

- a) GST Rates for Cement and Its Impact on Prices
- b) Input Tax Credit (ITC) and Its Impact on Cost Structure
- c) Supply Chain Management and Logistics Challenges
- d) Financial Performance of Cement Industry in the Pre-GST Era
- e) Financial Performance of Cement Industry in the Post-GST Era
- f) Comparative Financial Analysis during Pre-and Post-GST Era
- g) Factors Influencing Financial Performance during Pre and Post-GST Era
- h) DEA Analysis
- i) Global Perspective

GST Rates for Cement and Its Impact on Prices

“The cement industry, a vital sector of the Indian economy, has been significantly impacted by the implementation of GST. Various studies have analyzed the impact of GST rates on cement prices and the overall industry”.

“Aggarwal and Goel (2018) examined the impact of GST on the cement industry. They noted that cement was taxed at a higher rate of 28% under GST, compared to the previous tax regime”. This increase in tax rate led to a rise in cement prices, negatively affecting the industry. The authors highlighted that the higher GST rate posed challenges for the cement industry, including increased production costs and reduced profit margins.

Singh and Sharma (2020) also analyzed the impact of GST on the cement industry, corroborating the findings of Aggarwal and Goel. “They found that the higher GST rate led to an increase in cement prices and posed compliance challenges for the industry”. The need for regular filings of GST returns added to the administrative burden on cement companies.

V. K. Singh and D. Singh (2018) focused on the GST rates for cement and their impact on prices. “They found that the increase in GST rates from the earlier tax regime led to a hike in cement prices, negatively impacting the industry’s growth”. The authors suggested that the high tax rate on cement was a significant barrier to the industry’s expansion.

K. Singh and R. Kumar (2020) conducted an empirical study on “the impact of GST on the cement industry. Their findings indicated that the implementation of GST resulted in increased cement prices, adversely affecting the industry’s revenue and growth. The compliance costs associated with GST further exacerbated the challenges faced by the cement industry”.

Mishra and Shukla (2018) provided a descriptive analysis of the impact of GST on cement prices. They found that the GST rates for cement had increased from the previous tax regime, resulting in higher cement prices. The authors identified challenges such as lack of clarity in GST laws and complexities in compliance as significant issues faced by the cement industry.

Sarma and Raju (2019) analyzed the impact of GST on the prices and distribution channels of cement. They found that the implementation of GST led to changes in distribution channels, with an increased role of organized players. The impact on cement prices varied, with some areas experiencing an increase and others a decrease. The authors suggested that more clarity on GST rates and exemptions could reduce uncertainties and promote growth in the cement industry.

Sen and Mukhopadhyay (2020) examined the impact of GST on the cement industry in selected states of India. They found that the impact varied across states, with some experiencing a higher impact than others. The authors highlighted challenges such as lack of clarity in GST laws and complexities in compliance. They suggested that the government should provide more clarity on GST rates and exemptions and reduce the compliance burden to promote growth in the cement industry.

Input Tax Credit (ITC) and Its Impact on Cost Structure

“The mechanism of Input Tax Credit (ITC) under GST has significant implications for the cost structure of businesses, including the cement industry. Several studies have explored the availability and utilization of ITC and its impact on the cost structure of cement companies”.

Kumar and Singh (2019) provided a descriptive analysis of the impact of ITC on the cement industry. They found that the availability and utilization of ITC significantly impacted the profitability and competitiveness of cement companies. The utilization of ITC helped reduce the tax burden and improve cash flow. However, the authors identified challenges such as compliance issues and the complexity of the GST system.

Gupta and Kumar (2018) examined the concept of ITC and its implications for businesses, particularly in the cement industry. “They found that the ITC mechanism helped businesses reduce their tax burden and improve cash flow”. Proper documentation and compliance were essential to maximize the benefits of ITC. The authors suggested that a proper understanding and

effective implementation of ITC provisions could enhance the competitiveness of businesses.

Kumar and Singh (2020) analyzed the ITC mechanism and its impact on the cost structure of the cement industry. “They found that ITC significantly reduced the overall tax burden of the industry, improving its cost structure. However, challenges such as compliance issues and the complexity of the tax system persisted. The authors concluded that ITC played a crucial role in reducing the tax burden and improving the overall cost structure of the cement industry”.

Chauhan and Chauhan (2021) explored the impact of ITC on the cost of the cement industry. “They found that ITC significantly reduced the overall tax burden and improved the cost structure of cement companies. Compliance issues and the complexity of the tax system were highlighted as major challenges. The authors suggested that further research was needed to identify strategies to overcome these challenges and evaluate the long-term impact of ITC on the cement industry”.

Supply Chain Management and Logistics Challenges

“Effective supply chain management and logistics are crucial for the success of the cement industry. Several studies have examined the challenges and opportunities in supply chain management within the cement industry”.

Mahesh and Yadaiah (2021) reviewed “the role of logistics service providers in the Indian cement industry. They identified key challenges faced by logistics service providers, such as transportation inefficiencies, inadequate warehousing facilities, and lack of coordination in the supply chain. The authors suggested that addressing these challenges could improve the overall efficiency and competitiveness of the cement industry”.

Dey and Mahapatra (2019) provided a descriptive analysis of supply chain management in the Indian cement industry. “They highlighted the need for effective supply chain management practices, such as efficient transportation, inventory management, and coordination among stakeholders”. The authors suggested that improving these practices could enhance the efficiency and competitiveness of the cement industry.

Singh and Srivastava (2016) analyzed the challenges and opportunities in supply chain management of the cement industry. They identified transportation, inventory management, and lack of standardization as major challenges. The authors suggested that effective supply chain management

could reduce costs, increase efficiency, and enhance customer satisfaction. They recommended adopting advanced technologies, developing efficient logistics networks, and enhancing collaboration among industry players.

Nataraja and Parappagoudar (2019) discussed the challenges in cement supply chain management. They identified transportation delays, poor inventory management, inadequate infrastructure, and lack of collaboration among stakeholders as major issues. The authors provided several recommendations to improve the efficiency of the supply chain, such as adopting innovative technologies and improving infrastructure.

Parashar, Gupta, and Purohit (2020) reviewed logistics and supply chain management practices in the Indian cement industry. They identified high transportation costs, poor infrastructure, inadequate supply chain visibility, and lack of collaboration among stakeholders as significant challenges. The authors suggested improving infrastructure, adopting innovative technologies, and enhancing collaboration among stakeholders to overcome these challenges.

Jain and Jain (2017) presented a case study on the supply chain management practices of Ambuja Cement. They found that the company successfully managed its supply chain by establishing strong supplier relationships, improving inventory management, adopting innovative technologies, and enhancing collaboration among stakeholders. The authors concluded that effective supply chain management practices were critical for the success of cement companies.

Tiwari, Srivastava, and Tiwari (2016) identified supply chain challenges faced by the Indian cement industry, including transportation, inventory management, and supply chain coordination. “They suggested that addressing these challenges could improve the overall supply chain efficiency of the industry”.

Jain, Makhija, and Singh (2016) provided a case study “analysis of logistics and supply chain management in the cement industry. They identified transportation infrastructure, poor inventory management, and lack of coordination among supply chain partners as major challenges”. “The authors highlighted the need for adopting best practices in logistics and supply chain management to improve efficiency and competitiveness”.

Kumar, Pradhan, and Shukla (2021) examined the supply chain challenges faced by the Indian cement industry during the COVID-19 pandemic. They found that the pandemic exacerbated existing supply chain challenges,

particularly related to transportation and inventory management. The authors suggested adopting new strategies and technologies to improve supply chain resilience and reduce vulnerability to future disruptions.

Financial Performance of Cement Companies: Pre-GST Era

“The financial performance of cement companies in India before the implementation of the Goods and Services Tax (GST) has been a subject of extensive analysis and discussion”. Several researchers have contributed to this area, providing a comprehensive understanding of how cement companies fared in the pre-GST era across various financial performance metrics. This section reviews key studies to illustrate the financial landscape of the cement industry prior to GST implementation.

Financial Performance Metrics: Pre-GST Era

Profitability

“Profitability is a key metric for assessing the financial health of a company”. In the pre-GST era, several studies highlighted the profitability of cement companies, although there were notable variations.

Nair and Kumar (2018) found that the cement industry experienced growth in profitability over five years, suggesting a robust performance before GST. “They reported an increase in net profit margins and operating profit margins, indicating efficient cost management and strong revenue growth”.

Rani and Kumar (2021) and Kumar and Singh (2017) both reported high profitability ratios for the industry, indicating a strong financial position. These studies highlighted that cement companies were able to maintain healthy profit margins despite fluctuations in raw material prices and market demand.

Liquidity

“Liquidity measures a company's ability to meet its short-term obligations”. Studies on the pre-GST financial performance of cement companies generally indicated stable liquidity ratios.

Rani and Kumar (2021) highlighted stable liquidity ratios across the industry. They noted that cement companies maintained adequate current and quick ratios, ensuring they could meet their short-term liabilities without facing liquidity crises.

Kumar and Singh (2017) also found high liquidity ratios, suggesting that cement companies were well-positioned to handle short-term financial obligations. They emphasized the importance of liquidity management in maintaining operational stability and avoiding financial distress.

Solvency

“Solvency ratios assess a company's ability to meet its long-term debts”. The pre-GST era saw varying results in this metric.

Rani and Kumar (2021) reported stable solvency ratios, indicating a balanced financial structure. They found that cement companies generally had manageable debt levels relative to their equity, reducing the risk of financial instability.

Kumar and Singh (2018), however, highlighted high debt-equity ratios, suggesting some companies faced challenges with long-term debt. They pointed out that high leverage could expose companies to financial risks, particularly during economic downturns or periods of high-interest rates.

Efficiency

“Efficiency ratios evaluate how well a company uses its assets and liabilities to generate income”. The pre-GST era studies indicated room for improvement in this area.

Kumar and Singh (2017) found low efficiency ratios, pointing to potential operational inefficiencies. They suggested that cement companies needed to focus on improving asset utilization and reducing production costs to enhance overall efficiency.

Malik and Mittal (2019) noted that while profitability and liquidity improved post-GST, efficiency ratios showed no significant improvement, indicating ongoing challenges. They recommended that companies invest in modern technologies and adopt best practices to boost operational efficiency.

Financial Performance Analysis of Cement Companies in the Pre-GST Era

“The financial performance of cement companies in India before the implementation of the Goods and Services Tax (GST) has been the subject of extensive analysis. Researchers have examined various financial metrics, including revenue, profitability, and return on investment (ROI), to understand

the trends and patterns within the industry. This literature review synthesizes key studies in this area, providing a comprehensive overview of the financial landscape of the Indian cement industry during the pre-GST era”.

Revenue Trends in the Pre-GST Era

“Revenue trends provide critical insight into the financial health and growth trajectory of companies. The following studies offer detailed analyses of revenue patterns in the Indian cement industry before the implementation of GST”.

Talwar and Kaur (2016) analyzed the financial performance of Indian cement companies over a five-year period, using financial ratios and metrics such as revenue. Their study involved collecting data from annual reports and utilizing statistical tools for analysis. They found that the revenue of the Indian cement industry exhibited steady growth despite fluctuations in raw material prices and market competition. This growth was attributed to increasing domestic demand for cement, driven by infrastructure development and urbanization. However, the authors also noted periods of revenue volatility linked to cyclical economic conditions and regional market dynamics.

Sahoo and Mishra (2018) provided an overview of the financial performance of the Indian cement industry, emphasizing revenue trends. Their research indicated that the industry experienced consistent revenue growth, which was supported by strong market demand and favorable government policies promoting infrastructure projects. The study highlighted that while revenue growth was generally positive, it was subject to seasonal variations and external economic factors such as changes in government spending and investment cycles.

Singh and Kumar (2019) compared the financial performance of two leading cement companies in India, ACC and Ultratech Cement, focusing on revenue growth. Their findings revealed that Ultratech Cement outperformed ACC in terms of revenue growth, which they attributed to Ultratech's higher production capacity, broader market reach, and strategic investments in technology and expansion. The comparative analysis underscored the importance of scale and strategic positioning in driving revenue growth in the competitive cement industry.

Profitability Patterns in the Pre-GST Era

“Profitability is a critical indicator of a company's financial health and its ability to generate earnings relative to its expenses. Several studies have explored the profitability patterns of cement companies in India before GST implementation”.

Talwar and Kaur (2016) found that the profitability of the Indian cement industry was volatile, influenced by factors such as raw material prices, transportation costs, and market competition. They reported that fluctuations in input costs, particularly the prices of coal and limestone, had a significant impact on profitability. Additionally, the competitive nature of the market led to pricing pressures, which affected profit margins.

Shah and Siddiqui (2016) conducted a similar study on the financial performance of the cement industry in Pakistan, which provided comparative insights. They found that profitability in the Pakistani cement industry was declining due to rising production costs and increasing competition. The study highlighted that similar factors affected the profitability of cement companies in both India and Pakistan, emphasizing the regional nature of these challenges.

Sahoo and Mishra (2018) noted that while the Indian cement industry experienced steady revenue growth, profitability was volatile due to fluctuations in input costs and market competition. They observed that high transportation costs, driven by the geographical dispersion of production facilities and raw material sources, contributed to the volatility in profitability. Their study suggested that cement companies needed to focus on cost management strategies to mitigate the impact of these factors.

Return on Investment (ROI) Trends in the Pre-GST Era

“Return on Investment (ROI) is a crucial metric for evaluating the efficiency of an investment and the ability of a company to generate returns from its invested capital. The following studies provide insights into the ROI trends of cement companies in the pre-GST era”.

Talwar and Kaur (2016) reported that the ROI of the Indian cement industry was declining due to increasing capital expenditures. They found that cement companies were investing heavily in expanding their production capacities and upgrading their technologies, which, while necessary for long-term growth, led to higher capital costs and a subsequent decline in

ROI. The study highlighted the need for a balanced approach to capital investment to ensure sustainable returns.

Sahoo and Mishra (2018) similarly found that ROI in the Indian cement industry was under pressure due to rising capital expenditures. They noted that while investments in technology and capacity expansion were essential for competitiveness, they also increased the financial burden on companies, leading to a reduction in ROI. The authors suggested that improving operational efficiency and cost management could help mitigate the impact of these investments on ROI.

Sahoo and Rath (2021) conducted an empirical analysis of the financial performance of the Indian cement industry, focusing on ROI. Their study confirmed the declining trend in ROI, attributing it to increasing capital expenditures and the need for better cost management and efficiency. They recommended that cement companies adopt more effective strategies for managing their capital investments and improving their operational efficiency to enhance ROI.

Nair and Kumar (2018) conducted a descriptive analysis to provide an overview of the financial performance metrics of cement companies in India prior to GST implementation. “Their study focused on key financial metrics such as profitability, liquidity, solvency, and efficiency over a period of five years”. The authors selected a sample of leading cement companies and analyzed their annual reports and financial statements to derive insights. Their findings indicated that the cement industry experienced growth in revenue, profitability, and asset utilization during the pre-GST era. “The study concluded that the financial performance of cement companies was positive before GST, though it also acknowledged the significant impact GST would have on the industry. Specifically, they noted improvements in key metrics such as return on assets (ROA) and return on equity (ROE), which suggested that cement companies were effectively utilizing their resources to generate profits”.

Rani and Kumar (2021) provided a descriptive analysis of the financial performance of Indian cement companies in the pre-GST era through a qualitative research method. They examined financial metrics including profitability, liquidity, and solvency. The authors employed a case study approach, selecting a diverse set of cement companies to ensure a comprehensive analysis. Their results suggested that the industry was profitable with stable liquidity and solvency ratios, despite variations across different companies. This study highlighted the overall financial health and

stability of the industry before the tax regime change. Rani and Kumar emphasized the importance of liquidity management in maintaining operational stability, noting that cement companies generally had healthy current and quick ratios.

Kumar and Singh (2018) analyzed the financial performance of cement companies in the pre-GST era by examining financial ratios such as return on equity, debt-equity ratio, and net profit margin. Their study used a sample of both large and small cement companies to provide a balanced view of the industry. Their findings showed that while the industry was generally profitable, it faced challenges with high debt-equity ratios and low net profit margins. This analysis provided a nuanced view of the financial strengths and weaknesses within the sector. The authors highlighted that high debt levels could pose risks to financial stability, particularly in a competitive and capital-intensive industry like cement manufacturing.

Kumar and Singh (2017) evaluated the financial performance of Indian cement companies through a descriptive research method, focusing on profitability, liquidity, and efficiency. They found that the industry had high profitability and liquidity ratios but low efficiency ratios, indicating room for improvement in operational efficiency. This study highlighted the need for enhancing operational practices to sustain financial performance. The authors

suggested that operational inefficiencies, such as high production costs and wastage, could be addressed through better management practices and technological upgrades.

Factors Influencing Financial Performance of Cement Companies in the Pre-GST Era

“The Indian cement industry is a critical component of the nation's infrastructure and economic development. Understanding the factors that influence the financial performance of this industry is essential for stakeholders, including managers, investors, and policymakers. This literature review provides a detailed analysis of the factors affecting the financial performance of the Indian cement industry in the pre-GST era, drawing insights from various empirical studies. Financial performance in the cement industry is influenced by a multitude of factors ranging from operational efficiencies to macroeconomic conditions. Key studies have identified and analyzed these factors using various financial metrics and statistical methods”.

Kumar and Gupta (2019) conducted a regression analysis to identify the determinants of financial performance in the Indian cement industry. “Their study analyzed data from 29 cement companies listed on the National Stock Exchange (NSE) over a five-year period (2012-2016). The results indicated that sales growth, operating margin, asset turnover, debt-to-equity ratio, and firm size significantly impacted financial performance”. The study emphasized that:

- **Sales Growth:** Companies with higher sales growth tended to exhibit better financial performance, highlighting the importance of market expansion and revenue generation.
- **Operating Margin:** Efficient management of operational costs directly influenced profitability, making it a crucial factor for financial health.
- **Asset Turnover:** Higher asset turnover ratios indicated efficient utilization of assets to generate sales, which positively affected financial performance.
- **Debt-to-Equity Ratio:** A balanced debt-to-equity ratio was essential for maintaining financial stability and avoiding excessive leverage, which could strain financial resources.
- **Firm Size:** Larger firms generally performed better financially due to economies of scale and greater market presence.

Comparative Analysis of Large, Medium, and Small-Sized Companies

“The financial performance of cement companies can vary significantly based on their size. Several studies have conducted comparative analyses of large, medium, and small-sized companies to understand these differences”.

Vijaya and Rajesh (2015) conducted a comparative analysis of the financial performance of large, medium, and small-sized companies in the Indian cement industry. “Using secondary data sources such as annual reports and financial statements, they analyzed various financial performance metrics, including liquidity, profitability, and solvency ratios”. Their research employed quantitative analysis techniques, including ANOVA and Tukey’s HSD test, to determine significant differences in financial performance based on company size. “The results revealed that large-sized cement companies performed better in terms of liquidity and solvency ratios, while medium and small-sized companies performed better in terms of profitability ratios”. This study highlighted the varying financial dynamics across different company sizes and the need for tailored financial strategies.

Bhatia and Jain (2018) conducted an empirical study on the financial performance of the Indian cement industry, using various financial performance metrics. “Their quantitative analysis employed statistical techniques such as correlation and regression analysis to determine the significant factors affecting financial performance. The results of their study revealed that profitability and liquidity ratios were significantly affected by factors such as inventory turnover, debt-equity ratio, and operating profit margin. They concluded that the Indian cement industry needed to focus on improving inventory turnover, reducing debt-equity ratio, and increasing operating profit margins to enhance overall financial performance”.

Comparative Analysis Pre and Post-GST Era

“Research comparing the financial performance of the cement industry in the pre- and post-GST era has provided valuable insights into the impact of GST on the sector”.

Singh and Singh (2020) conducted a comparative analysis of the financial performance of Indian cement companies before and after GST implementation. “Using quantitative research methods, they examined financial ratios such as return on assets, return on equity, and net profit margin. Their study involved a longitudinal analysis, tracking the financial performance of selected cement companies over several years. The results indicated improved financial performance in the post-GST era, with higher profitability and return on assets, suggesting that GST had a positive impact on the financial health of the industry”. The authors attributed this improvement to the reduction in multiple taxes and the resulting decrease in overall tax burden on companies.

Malik and Mittal (2019) conducted an empirical study to assess the financial performance of Indian cement companies before and after GST implementation. Their quantitative analysis focused on liquidity, profitability, and efficiency ratios. The study employed a panel data approach, using data from a large number of cement companies to ensure robust findings. The results suggested that while liquidity and profitability ratios improved post-GST, there was no significant improvement in efficiency ratios. “This study highlighted the mixed impact of GST on different aspects of financial performance”. Malik and Mittal pointed out that although GST streamlined tax compliance and reduced costs, operational inefficiencies remained a challenge that needed to be addressed independently of the tax regime.

Srivastava and Bajpai (2019) analyzed the “impact of GST on the Indian cement industry by comparing production, prices, and demand before and after GST”. Using data from secondary sources, including industry reports and government publications, they found that GST led to a reduction in production costs and an improvement in demand due to the simplified tax structure. This study underscored the operational benefits brought by GST, such as “the elimination of cascading taxes and the harmonization of the tax system across states. The authors highlighted that the reduction in logistics and transportation costs also contributed to the improved financial performance of cement companies”.

‘Understanding the impact of GST on the financial performance of the cement industry requires a comparative analysis of pre and post-GST periods’. Several studies have addressed this topic, providing insights into how the industry's financial metrics have evolved.

Goyal and Goyal (2019) compared the financial performance of the Indian cement industry before and after the implementation of GST. “They used secondary data sources such as annual reports and financial statements to analyze financial performance metrics, including liquidity, profitability, and solvency ratios. The results of their study revealed a significant improvement in the financial performance of the industry post-GST, particularly in terms of profitability and liquidity ratios. The authors concluded that GST had a positive impact on the financial performance of the Indian cement industry by simplifying the tax structure and reducing the overall tax burden”.

Sheikh and Mohd (2020) also conducted a comparative analysis of the financial performance of the Indian cement industry pre and post-GST. Their findings echoed those of Goyal and Goyal, indicating an improvement in profitability and liquidity ratios post-GST. “They attributed this improvement to the reduction in multiple taxes and the resultant decrease in the overall tax burden on companies. This study further underscored the positive impact of GST on the financial performance of the cement industry”.

Additional Studies and Global Perspectives

Shah and Siddiqui (2016) conducted a “financial performance analysis of the cement industry in Pakistan, using financial ratios such as revenue, profitability, and ROI. Their findings revealed that the profitability of the Pakistani cement industry was declining due to rising production costs and increasing competition”. This study provided a regional comparison and