EFFECT OF PROFITABILITY, RETURN AND LEVERAGE RATIOS ON STOCK PRICE OF SELECTED CEMENT COMPANIES IN INDIA

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ABSTRACT

The Indian cement industry plays a crucial role in infrastructure development, Housing Construction, and economic growth of the nation. The Indian Cement companies are the second largest producers of cement which contributes significant portion to the GDP. Investment in cement industry is the great opportunity as cement has strong domestic demand, infrastructure demand by government and large-scale capacity expansion by major cement companies. Such Stock prices of cement companies are influenced by various internal and external factors, in which financial ratios play key role in determining the stock performance. This study examines how key profitability ratios influence the stock prices of selected cement companies in India. The secondary data is collected from cement companies from 2004 to 2025 for selected 18 major listed cement firms in Bombay Stock Exchange. The study applies descriptive statistics, correlation analysis, and heteroscedasticity corrected regression technique. The results show that PBT margin, NET Profit Margin, Return on capital Employed and Asset Turnover ratio are the statistically significant factors which determine the stock price whereas PBDIT Margin, PBIT Margin, Return on Networth/Equity, Return on Assets, and Total Debt Equity ratios are portrayed as insignificant variables for determining the stock price movements of selected cement companies.

KEYWORDS: Stock Price, PBT, Net Profit Margin, Asset Turnover Ratio, Heteroskedacity Corrected Regression Model

1. INTRODUCTION

The cement industry in India plays a vital role in driving the economic and infrastructural development of the country, contributing significantly to India's emergence as a global economic power (Dhuri et al., 2025). Cement is an essential product as it is widely used for infrastructure expansion, housing

development, and public investment. According to a report by the India Brand Equity Foundation (IBEF), the cement industry registered a 6.3% year-on-year growth in FY25. Major projects initiated by the central and state governments, such as the Mumbai–Ahmedabad Bullet Train Corridor, the Bharatmala highway project, the PM Gati Shakti National Master Plan, the Pradhan Mantri Awas Yojana (PMAY), and the Smart Cities Mission, have significantly boosted the growth of the cement industry. Cement demand in India reached 445.0 million tons in 2024 and is expected to increase to 625.0 million tons by 2029. Globally, China is the largest producer of cement, and India ranks as the second-largest producer.

The cement industry in India is one of the world's fastest-growing sectors. It comprises highly capital-intensive firms that play a crucial role in determining market valuation and investor confidence due to their financial strength and operational performance. Being a capital-intensive industry, these firms prefer internal financing, rely more on debt financing, and subsequently on equity financing for their projects (Bhattacharjee & Dash, 2021; Rasoolpur, 2018; Singh, 2023). Debt is considered a cheaper source of finance and does not require much time to acquire, as cement companies often have limited time available for completing their projects. Studies show that the capital structure of cement industries and their financial performance have a weak positive correlation due to the low linearity in capital structure adoption (Jaiswal et al., 2025). The capital structure decision also impacts various key financial indicators of the financial statements that measure the financial performance of a company.

Financial performance is one of the most important measures considered by investors before allocating capital to any company. It highlights the strengths and weaknesses of a firm by comparing figures from the balance sheet and profit and loss account. Specifically, financial ratios help determine performance, indicating where a company stands today and where it may be in the future. Investors apply various techniques to measure this present and future performance. Furthermore, investors are rational economic agents; they expect returns and evaluate the risk–return trade-off to avoid losing their hard-earned money. Various factors influence stock price fluctuations, including financial performance (analyzed through ratios), company news, management strategy, economic indicators, market sentiment, and government policies. Consequently, a firm's performance impacts stock price volatility to a certain extent.

Financial ratios, classified under various headings, are an important tool for analyzing the financial performance of a firm, as they facilitate predicting stock price movements. Profitability ratios are among the major ratios that assess a firm's ability or strength to generate revenue, which investors closely examine. Pre-Tax Ratios reveal the operational earning strength of a company before accounting for non-cash and financing costs. As mentioned earlier, the cement industry is highly capital-intensive, builds more plants, and hence requires huge investments, which considerably impact

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its revenue generation. This study specifically aims to explore the impact of profitability ratios on the stock price instability of cement companies listed in the BSE. The study also considers the return and leverage ratios to understand how they influence the stock price movements regarding selected cement companies.

1.1 Research Problem

Sufficient amount of empirical work has been done on Indian Cement Industry to examine the impact of financial performance on stock price movements focusing on financial indicators such as EPS and Book value through regression models. Most of the studies used profitability ratios, leverage and efficiency to explain the impact but they do so under the assumption of homoscedastic error terms in the regression models. Similarly, sector specific studies on capital structure and financial performance in Indian Cement Industry have been done and concluded without focusing on the behavior of error variances in time series or panel Data. However, time series data in capital market such as stock prices and accounting ratios are well known to demonstration of heteroscedasticity, where the variance of the error term changes over time and across firms. This has been documented extensively in the finance and econometrics literature, which shows that ignoring heteroscedasticity can lead to inefficient estimators and misleading statistical inference (Cribari-Neto & Lima, 2014). In the present study, preliminary diagnosis will be conducted on the key variables to ensure the time series panel data satisfy the conditions of regression model to address the heteroscedasticity without removing or altering the data.

The core research problem, therefore, is the lack of empirical evidence for Indian cement companies that explicitly incorporates the presence of heteroscedasticity when examining how key independent variables impact on the Stock Price.

While prior studies have linked financial ratios and stock performance in manufacturing and cement sectors, they have not adequately addressed the heteroskedastic nature of these financial series. This study is undertaken to address the gap by applying the suitable model that accept the stationarity of the variables but correct the heteroscedasticity present in the financial data without removing or normalizing the values cause heteroscedasticity.

1.2 Significance of the Study

This study contributes the researchers to address the uneven distribution of error terms in financial data. The data collected from secondary sources through financial statements and web source belongs to capital market is genuine and making any changes in such data for the purpose of satisfying the conditions of regression models leads invalid interpretation and conclusions. Ignoring heteroscedasticity can lead to biased standard errors, unreliable hypothesis testing, and incorrect

interpretations of the relationship between ratios and stock prices. By using heteroscedasticity-corrected models, the study ensures robust and efficient estimates, thereby it improves the reliability of financial and investment conclusions. This adds methodological value for researchers, academicians, and policymakers who rely on empirical evidence to understand the financial behavior of capital-intensive industries.

2. REVIEW OF LITERATURE

2.1 Accounting Variables and Ratios on Cement Industry Stock

Various previously published research publications on how profitability ratios correlated with the stock price movements of cement companies. The studies show that stock returns of cement companies have positive and meaningful significant impact on the BSE Sensex in India. The financial performance of leading cement companies plays a notable role in explaining the Sensex fluctuations (Patjoshi, 2020). Gopi (2018)'s study on extended DuPont Approach showed that the financial performance of cement industry in India by choosing three leading cement companies like ACC, Gujarat Ambuja and UltraTech cement for the period 2006-2015 has emphasized on analysis of Return on Equity (ROE) which disaggregates performance into five components: pre-interest/pretax margin, asset turnover, interest burden, tax efficiency and the equity multiplier, indicated a decline in Return on Equity (ROE) , with similar performance in tough phases.

For instance, research focusing on the cement industry, return on equity and net profit margin, influence financial performance within that sector (Daruwala et al., 2023) (Khan & Khokhar, 2015). Some analyses have shown that earnings per share individually impact stock prices and Return on Assets and Return on Equity may not exhibit a significant direct correlation with stock price (Rafi et al., 2023). However, other investigations have found that profitability metrics, including sales, three-year return, and prior year's net profit margin, alongside factors such as a firm's sector, reinvestment rate, capital expenditures, and debt-to-equity levels, significantly influence a firm's financial performance (Mansoor, 2020). Furthermore, profitability ratios serve as crucial indicators of a company's operational efficiency and overall financial health that provides insights into its capacity to generate income, revenue, assets, and equity over a definite period (Alaagam, 2019).

Studies on Financial ratios of major Indian cement firms revealed that profitability ratios like ROE and EPS had a statistically significant positive impact on stock price performance. In India, the investors have a tendency towards earnings and return on equity while making investment decisions **(Singh, Arora, and Sultana 2025)**.

Patra and Misra (2023) in their study it is revealed that ROA and EPS have strong positive correlations with stock price movements. Their findings bring into line with the fundamental valuation

theory, where the market price of equity represents the discounted value of expected future earnings.

Ravichandran and Thomas (2022) express their opinion that ROE and Net Profit Margins are most influential indicators which determines the stock price. Their study used regression models and showed that 1% increase in ROE could result in a 0.75% increase in the market price of cement stocks, holding other variables constant.

2.2 EMH and Cement Industry Stocks

The Efficient Market Hypothesis (EMH) states that all available information from published financial statements is fully reflected in a company's stock price. In the Indian cement industry, several studies have supported that Efficient Market Hypothesis through econometric analysis. Das, Bhattacharjee, and Kumari (2020) analyzed the stock price variation efficiently reacted to accounting and profitability factors like earnings per share (EPS) and return on equity (ROE) at BSE-listed cement companies. Their research showed that the changes in firm profitability were quickly reflected in the share price movements. Similarly, Panigrahi and Vachhani (2022) showed that the Indian cement market has semi-strong efficiency, with profitability indicators like ROA and ROE serving as important predictors of price changes. Baranidharan and Prakash (2019) also studied the share price behavior of selected Indian cement firms and confirmed that the EMH theory by demonstrating financial ratio information cause the share prices volatility through random walk pattern. Furthermore, Sharma and Khurana (2019) investigated that the profitability disclosures lead to rational pricing of cement stocks of the Indian cement industry. Most of the studies show that under EMH, profitability ratios serve as important factor that hints prices of cement stocks are efficiently affected.

2.3 Fundamental Analysis Theory and Cement Industry Stocks

Fundamental Analysis Theory says that financial ratios, especially profitability ratios, show a company's real value and shape how investors react to price fluctuations. In India's cement sector, Panigrahi (2025) guesses that investors more rely on liquidity rather than profitability while assessing the cement companies according to results quick ratios, current ratio, acid test ratio and Cash Conversion Cycle are dominant over ROA and ROE. Dhuri, Joshi, and Sinha (2024) backed this up with econometric models, opines that the importance of strong profitability ratios determines the stability and performance of cement companies in India. Patjoshi (2020) noticed a day week effect pattern that volatility is higher in Monday, maximum returns in Wednesday and Minimum return in Tuesday in Bombay Sensitivity Index (Sensex), the BSE 100, the BSE 200 and the BSE 500. Most of the studies makes clear that fundamental analysis is still the backbone for linking profitability ratios to investigate both the intrinsic worth and the market value of India's cement stocks.

3. OBJECTIVES OF THE STUDY

The objectives of the study are:

1. To determine the selected profitability ratios influencing the stock price of cement companies
2. To find out the most influential ratio determine the stock price of cement companies.

4. METHODOLOGY

The purpose of this study is to determine the changes in financial ratios and how these changes impact the stock price, specifically in cement companies. The cement Industry in India is the largest cement producer in the world, as it is crucial for individual and institutional investment decisions. The major cement companies are exclusively considered for the study, which are listed on the Bombay Stock Exchange. The scope of this study is limited to 20 cement companies listed on the Bombay Stock Exchange. The March end closing stock price data is collected from the BSE Website, and the data of ratios is collected from Money Control website. The companies considered for the study are Udaipur Cement Works, The Ramco Cements, Shree Digvijay Cement Company, Sanghi Industries, Prism Johnson, Orient Cement, NCL Industries, Mangalam Cement, Kesoram Industries, KCP, Kakatiya Cements, JK Lakshmi Cement, India Cements, Birla Corporation, Barak Vally Cement, Andhra Cement, Ambuja Cements, ACC, Heidelberg Cement India, Deccan Cements.

This paper uses secondary data to achieve the objectives of the study, collected from the moneycontrol.com and BSE websites. The sample of 20 major cement companies is picked over 10 years of data on the closing value of stock price and profitability ratios from the websites. For the study, the panel data model is used

4.1 Variable Selection and Hypothesis Development

As the name itself indicates, a variable is an attribute of an object of study that is dynamic in nature. The closing value of stock price at the end of March 2016 to 2025 is considered as the dependent variable, and 9 profitability ratios are considered as independent variables, assuming that they directly influence the variations in the dependent variable. Here is a brief discussion of variables

01. Stock Price of Cement Companies: The cement companies are capital-intensive companies that required huge investment for their machinery and production process. The chart 1 shows the significant variation growth pattern among Indian Cement companies. A major shift appears during the year 2020 and later, a few companies showed continued growth pattern and a few companies showed stable or low growth.

Figure 1: Stock Price Trend of Selected Cement Companies
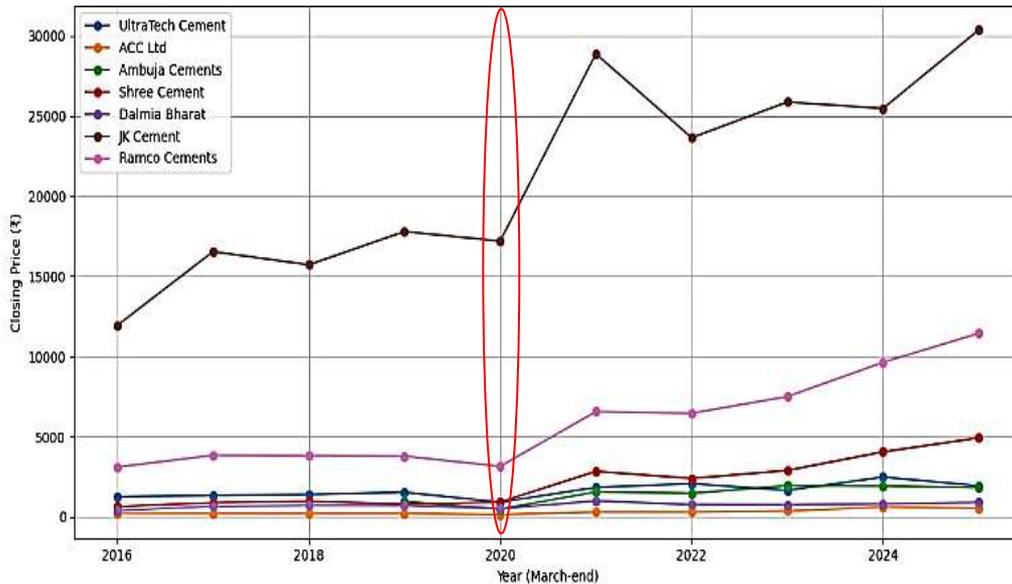
Source: Compilation from Google Collab

02. PBDIT Margin: PBIT is used to measure the company's core operating profitability before depreciation, interest and tax. This ratio helps to understand what is actual operating profit and how a company put efforts to cut the cost. A higher PBDIT margin indicates strong pricing power, cost control, and market competitiveness. The formula for calculating the PBDIT Margin is

$$PBDIT\ Margin\ = \frac{PBDIT}{Net\ Sales} \times 100$$

Hypothesis
H_0 : *The PBDIT Margin is not a deciding factor of stock of cement companies.*
H_1 : *The PBDIT Margin is a significant deciding factor of cement companies.*

03. PBIT Margin: PBIT margin ratio is used to measure the operating profit after deducting the depreciation, reflecting firm's ability to manage interest obligations and statutory tax adjustments. Higher the PBDIT margin reflect the firm's efficiency of utilization of its resource. The formula for calculating the PBDIT Margin is

$$PBIT\ Margin\ = \frac{PBIT}{Net\ Sales} \times 100$$

H_0 : *The PBIT Margin is not a deciding factor of stock of cement companies.*
H_1 : *The PBIT Margin is a significant deciding factor of cement companies.*

04. PBT Margin: The PBT ratio measures the profitability after deducting the depreciation and interest. It is an important ratio that indicates the actual profit before taxation obligations. Investors look into the fact that how taxation impact on the profitability of a firm. The Formula for calculating the PBT ratio is

$$PBT\ Margin\ = \frac{PBT}{Net\ Sales} \times 100$$

H_0 : *The PBT Margin is not a deciding factor of stock of cement companies.*
H_1 : *The PBT Margin is a significant deciding factor of cement companies.*

05. Net Profit Margin: Net Profit margin is the percentage of profit to its revenue of a firm and one of the significant ratios used in analysing the stock price movements. The net profit margin ratio reveals the company's ability to produce profit after deducting expenses. Higher NPM increases the investor confidence creating upward stock price movements. The formula for calculating Net Profit Margin is :

$$Net\ Profit\ Margin\ = \frac{Net\ Profit}{Net\ Sales} \times 100$$

H_0 : *The Net Profit Margin is not a deciding factor of stock of cement companies.*
H_1 : *The Net Profit Margin is a significant deciding factor of cement companies.*

06. Return on Networth / Equity: This is also called as ROE ratio indicates how profit a firm generates from the money shareholders invested. The higher RoNW ratio reflects the firm's efficiency in utilizing the shareholders' money to generate sufficient profit for operations and distribution. The formula is used as:

$$ROE\ = \frac{Net\ Profit\ after\ Tax}{Shareholder's\ Equity} \times 100$$

H_0 : *The ROE ratio is not a deciding factor of stock of cement companies.*
H_1 : *The ROE ratio is a significant deciding factor of cement companies.*

07. Return on Capital Employed (%): ROCE is the ratio that measures how a company uses its capital to generate the profits. ROCE works as proxy for operational efficiency for capital intensive industries. Higher ROCE attracts institutional investors because it indicates higher asset productivity and supports a higher stock valuation. The formula for calculating Net Profit Margin is :

$$ROCE\ (\%) = \frac{EBIT}{Capital\ Employed} \times 100$$

H_0 : *The ROCE ratio is not a deciding factor of stock of cement companies.*
H_1 : *The ROCE ratio is a significant deciding factor of cement companies.*

08. Return on Assets: Return on assets ratio indicates that how a firm utilizes the assets to produce the earnings. This ratio also evaluates the managerial efficiency of allocating the capital on assets by lowering risk and stabilizing the earnings. The formula for calculating ROA is

$$ROA = \frac{Net\ Income}{Average\ Total\ Assets} \times 100$$

H_0 : *The ROA ratio is not a deciding factor of stock of cement companies.*
H_1 : *The ROA ratio is a significant deciding factor of cement companies.*

09. Total Debt/Equity: The debt equity ratio provides information to investors that firms capital structure is leaned either towards debt or equity. It is also called as risk ratio, as it indicates the amount of borrowing from outside sources and funding from shareholders. The formula for calculating the Debt Equity Ratio is:

$$Total\ Debt/Equity := \frac{Total\ Debt}{Total\ Equity} \times 100$$

H_0 : *The Debt to Equity ratio is not a deciding factor of stock of cement companies.*
H_1 : *The Debt to Equity ratio is a significant deciding factor of cement companies.*

10. Asset Turnover Ratio: Asset turnover ratio indicates the generation of revenue out of its assets. The high Asset Turnover Ratio reflects that the firm utilizes its assets efficiently in making sales and low asset turnover ratio indicates that firm is inefficient to utilize the assets. The formula for calculating Asset Turnover Ratio is :

$$Asset\ Turnover\ Ratio := \frac{Net\ Sales}{Average\ Total\ Assets} \times 100$$

H_0 : *The ATR ratio is not a deciding factor of stock of cement companies.*
H_1 : *The ATR ratio is a significant deciding factor of cement companies.*

4.2 Scope of the Study
The study is limited to 18 cement companies listed in Bombay Stock Exchange for the period of 2016 to 2025

4.3 Tools for Analysis
The study uses following methods for achieving the objectives.
- Descriptive Statistics
- Correlation Matrix
- Heteroscedasticity Test
- Heteroscedasticity Corrected Regression Model

5. DATA ANALYSIS AND INTERPRETATION
5.1 Descriptive Statistics

Table 1: Descriptive Statistics (Authors Calculations)

Metrics	Mean	Median	Mode	Standard Deviation	Minimum	Maximum
Stock Price	358.66	165.03	23.20	619.20	4.50	4932.00
PBDIT Margin	14.10	13.89	1.51	6.93	-9.18	31.99
PBIT Margin	9.47	9.55	13.45	7.11	-22.21	24.56
PBT Margin	4.61	5.58	3.34	9.97	-54.61	21.63
Net Profit Margin	3.19	4.16	3.47	8.67	-54.64	16.43
Return on Networth / Equity	0.94	6.76	7.88	153.04	-1774.48	996.64
Return on Capital Employed	9.44	9.31	4.12	7.59	-14.65	30.32
Return on Assets	7.71	2.94	3.05	63.15	-16.01	847.86
Total Debt/Equity	1.24	0.58	0.30	5.13	0.00	67.73
Asset Turnover Ratio	41.34	45.30	1.11	40.51	0.00	135.25

Source: Authors calculations

It is observed that from the table 1, all the ten cement companies have positive mean value of stock price and profitability ratios. The average stock price is 358.66, minimum of 4.50 and maximum of 4932 which shows some of the companies experienced extreme volatility in stock price. The mean value of the profit margin ratios (PBDIT, PBIT, PBT, Net Profit Margin) show moderate means (PBDIT: 14.10, PBIT: 9.47, PBT: 4.61, Net Profit Margin: 3.19, ATR: 41.34) indicates that the cement companies have gone seasonal operational volatility. The mean value of Return on Networth/Equity, Return on Capital Employed, and Return on Assets show some of the most extreme variability, with average values (Networth/Equity: 0.94, Capital Employed: 9.44, Return on Assets: 7.71). The Total Debt/Equity ratio averages 1.24, indicating moderate leverage overall. The mean value of asset Turnover Ratio stands high among other variables. A high variability observed from stock price, Return on Networth / Equity and Asset Turnover Ratios as their standard deviation stands higher than other variables.

5.2 Correlation Analysis

Table 2: Correlation Matrix (Authors Calculations)

Metrics	Stock Price	PBDIT Margin	PBIT Margin	PBT Margin	Net Profit Margin	Return on Net worth / Equity	Return on Capital	Return on Assets	Total Debt/Equity	Asset Turnover
Stock Price	1									
PBDIT Margin	0.222	1.000								
PBIT Margin	0.232	0.955	1.000							
PBT Margin	0.230	0.753	0.860	1.000						
Net Profit Margin	0.189	0.666	0.789	0.963	1.000					
Return on Net worth / Equity	0.031	-0.016	0.011	0.221	0.243	1.000				
Return on Capital Employed	0.124	0.678	0.728	0.648	0.566	-0.064	1.000			
Return on Assets	-0.029	-0.102	-0.045	0.031	0.035	0.512	-0.101	1.000		
Total Debt/Equity	-0.062	-0.071	-0.059	-0.261	-0.252	-0.857	0.008	-0.046	1.000	
Asset Turnover Ratio	-0.139	0.165	0.185	0.161	0.145	-0.078	0.115	-0.067	0.067	1

Source: Authors Calculation

The correlation matrix depicts that PBDIT Margin, PBIT Margin, PBT Margin, Net Profit Margin are having positive correlation with the stock price variation which much higher than Return on Net worth / Equity and Return on Capital Employed. Whereas, Return on Assets, Total Debt/Equity, and Asset Turnover Ratios move in reverse order with stock price fluctuations.

5.3 Unit Root Test
A unit root test applied to every series of variables in the panel to check the stationarity of data assuming that the statistical properties of variables are constant over a time. Unit root test hypothesis H0: The series is Stationary (around a deterministic trend or level).

H1: The series has a Unit Root (Data is non-stationary).

5.3.1 Unit Root Test Statistics

Augmented Dickey fuller test has been applied with constant and trend test down from maximum AIC lag order the results shows that:

Table 3: Augmented Dickey fuller test

Sl	Variable	ADF pvalue	KPSS pvalue	ADF conclusion	KPSS conclusion
0	Stock Price	0.0004	0.0001	Stationary	Trend-stationary
1	PBDIT Margin	0.0009	0.0895	Stationary	Trend-stationary
2	PBIT Margin	0.0002	0.0001	Stationary	Trend-stationary
3	PBT Margin	0.0006	0.0001	Stationary	Trend-stationary
4	Net Profit Margin	0.0004	0.0001	Stationary	Trend-stationary
5	Return on Networth/Equity	0.00011	0.0001	Stationary	Trend-stationary
6	Return on Capital Employed	0.0008	0.0001	Stationary	Trend-stationary
7	Return on Assets	0.0003	0.0001	Stationary	Trend-stationary
8	Total Debt/Equity	0.0003	0.0001	Stationary	Trend-stationary
9	Asset Turnover Ratio	0.0004	0.0001	Stationary	Trend-stationary

Source: Authors Calculation

We applied both the Augmented Dickey–Fuller (ADF) test with constant and trend, and the Kwiatkowski–Phillips–Schmidt–Shin (KPSS) trend-stationarity test to examine the time–series properties of the variables. The results shown in Table X indicate that all variables—including Stock Price, PBDIT Margin, PBIT Margin, PBT Margin, Net Profit Margin, Return on Net Worth/Equity, Return on Capital Employed, Return on Assets, Total Debt–Equity Ratio, and Asset Turnover Ratios rejected the null hypothesis at the 1% significance level. This confirms that all series are **stationary**

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in levels and do not contain unit roots.

Also, we conducted the KPSS test with trend-stationarity, the test rejected the null hypothesis, and concluded that all the variables exceed the p-value 5% threshold. Thus, both tests jointly confirm that the variables exhibit **stationary behavior around a deterministic trend**.

5.4 Heteroskedasticity Test
The error terms in the regression model behaviour is checked across the data, with the help of **Breusch–Pagan (BP)** test and the **White test.** We applied the tests to all the variables to confirm whether the variance of the residuals remains constant (homoskedastic) or changes across observations (heteroskedastic)

Heteroscedasticity Test Results

Table 4: Heteroskedasticity Test

sl	Dependent Variable	BP p value	White pvalue	BP Conclusion	White_ Conclusion
0	Stock Price	0.00001	0.0001	√	×
1	PBDIT Margin	0.00005	0.00009	√	√
2	PBIT Margin	0.00007	0.0009	√	√
3	PBT Margin	0.00007	0.0001	√	√
4	Net Profit Margin	0.0006	0.00010	√	√
5	Return on Networth/Equity	0.00006	0.00011	√	√
6	Return on Capital Employed	0.00002	0.00007	√	√
7	Return on Assets	0.00013	0.00011	√	√
8	Total Debt/Equity	0.0004	0.00010	√	√
9	Asset Turnover Ratio	0.0007	0.00005	√	√

The results clearly show that both the BP and White tests have very small p-values indicating that almost **all variables exhibit heteroscedasticity**. For each variable such as PBDIT Margin, PBIT Margin, Net Profit Margin, Return on Net Worth/Equity, Return on Capital Employed, Return on

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Assets, Total Debt Equity Ratio, and Asset Turnover Ratio the BP and White test p-values are well below the 5% significance level. This means the null hypothesis of homoskedasticity is rejected, and the data show strong signs of non-constant variance.

The Breusch–Pagan test detects heteroscedasticity for Stock Price in the test results which is a slightly lower than The White test p-value for Stock Price, but taken together, the evidence still suggests the presence of heteroskedasticity.

5.5 Regression Analysis

We conducted the preliminary diagnostic checks to ensure that the data fulfills basic underlying assumptions of linear regression models. Both the ADF and KPSS unit root tests confirmed that all variables are stationary. This indicates that the series do not follow stochastic trends and can be meaningfully analyzed in their original form without differencing or co-integration adjustments. However, the Breusch–Pagan and White tests reveal strong evidence of heteroskedasticity across almost all model specifications, which is common in financial and firm-level datasets. To avoid biased standard errors and unreliable hypothesis testing, the study employs a heteroskedasticity-corrected linear regression model, which provides consistent coefficient estimates and robust inference. The approach ensures the correctness of statistical properties and reliability of results drawn from results Long, J. S., & Ervin, L. H. (2000).

5.6 Heteroskedasticity-Corrected Linear Model

A Heteroscedasticity-Corrected Linear Model is employed to examine the relationship between stock prices and the profitability performance of cement companies. The dependent variable of the study is the annual closing stock price of each firm, while the explanatory variables include key profitability ratios such as PBDIT Margin, PBIT Margin, PBT Margin, Net Profit Margin, Return on Net Worth/Equity (ROE), Return on Capital Employed (ROCE), Return on Assets (ROA), Total Debt–Equity Ratio, and Asset Turnover Ratio. The test is conducted using Gretl Software and Google Colab using codes to cross check the similarity of results. The results are shown as below:

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Table 5 Heteroskedasticity-corrected, using 170 observations
Dependent variable: Stock Price

Variables	Coefficient	Std. Error	t-ratio	p-value
const	304.342	55.5678	5.477	<0.0001
PBDIT Margin	1.39013	8.42040	0.1651	0.8691
PBIT Margin	−1.94088	10.6329	−0.1825	0.8554
PBT Margin	21.7418	6.57771	3.305	0.0012
Net Profit Margin	−13.3882	5.82410	−2.299	0.0228
Return on Networth/Equity	−0.520989	0.592970	−0.8786	0.3809
Return on Capital Employed	−7.36893	2.55348	−2.886	0.0044
Return on Assets	0.203517	0.676536	0.3008	0.7639
Total Debt Equity	−12.3733	16.2548	−0.7612	0.4477
Asset Turnover Ratio	−1.13284	0.330897	−3.424	0.0008

Sum squared resid	353.2515	S.E. of regression	1.485874
R-squared	0.520182	Adjusted R-squared	0.493192
F(9, 160)	19.27331	P-value(F)	0.0001
Log-likelihood	−303.3870	Akaike criterion	626.7740
Schwarz criterion	658.1320	Hannan-Quinn	639.4987

Source: Authors Calculation

5.7 Empirical Results and Hypothesis testing
5.7.1 Empirical Results

To examine the determinants of stock price, a regression analysis is conducted using 170 observations. Having a potential non-constant variance in error terms in the model, estimates are calculated using heteroscedasticity-corrected (robust) standard errors. This adjustment ensures the validity of statistical inference regarding the significance of the coefficients even if the assumption of homoskedasticity is violated.

As reported in table 5, The model explains the strong proportion of variance in dependent variable with R-Square 52% of model fit. It indicates that the selected ratios explain 52% of variance in the dependent variable i.e., stock price. The is substantial degree of explanatory power suggesting that the selected independent variables are highly relevant drivers of the stock price for the sampled cement firms. Further F-statistic confirms that the overall fit of the model is statistically significant as it provides F-Statistics is 19.27 with confidence level 0.001 as it is less than 0.005

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The study examines the impact of pre-tax profits on stock price of selected cement companies. Notably, PBT Margin (Profit Before Tax) demonstrates the strongest positive association with stock price ($\beta = 21.7418$, t = 3.305, $p < 0.0012$). The magnitude of the coefficient suggests that for every unit increase in the PBT margin, the stock price increases by roughly 21.7418 units, holding other factors constant. Net Profit Margin re-establishes a positive relationship ($\beta = -13.3882$, $p = 0.0228$) suggesting that profit earned on every unit of sales is key value driver of the stock price of cement companies. Return on Capital Employed portrayed statistically significant relationship with stock price with negative coefficient ($\beta = -7.36893$, $p = 0.0044$) in which every single unit increased in this variable caused -7.36893 points decrease in stock price. Similarly, efficiency in asset utilization as measured by the Asset Turnover Ratio which is demonstrated a statistically significant and negative relationship with stock price ($\beta = -1.13284$, $p = 0.0008$).

In contrast PBDIT ($\beta = -37.656$, $p = 0.002$). and PBIT margins, Return on Net Worth/Equity ($\beta = -0.520989$, $p = 0.3809$), Return on Assets ($\beta = 0.203517$, $p = 0.7639$) and Total Debt Equity ($\beta = -12.3733$, $p = 0.4477$) exhibit the statistically insignificant relationship with stock price, suggesting these ratios do not direct independent impact on stock price movements in the presence of other financial variables.

5.7.2 Hypothesis Testing

Table 6: Hypothesis testing

Variables	Hypothesis Testing	Results
PBDIT Margin	Null Hypothesis Accepted	The PBDIT Margin is Not a significant deciding factor of stock price of selected cement companies.
PBIT Margin	Null Hypothesis Accepted	The PBIT Margin is Not a significant deciding factor of stock price of selected cement companies.
PBT Margin	Null Hypothesis Rejected	The PBT Margin is a significant deciding factor of stock price of selected cement companies.
Net Profit Margin	Null Hypothesis Rejected	The Net Profit Margin is a significant deciding factor of stock of selected cement companies

Return on Net worth/ Equity	Null Hypothesis Accepted	The ROE ratio is not a deciding significant deciding factor of stock of selected cement companies.
Return on Capital Employed	Null Hypothesis Rejected	The ROCE ratio is a significant deciding factor of selected cement companies
Return on Assets	Null Hypothesis Accepted	Return on Assets is not a significant deciding factor of stock price of selected cement companies.
Total Debt Equity	Null Hypothesis Accepted	Total Debt Equity is not a significant deciding factor of stock price of selected cement companies.
Asset Turnover Ratio	Null Hypothesis Rejected	Asset Turnover Ratio is a significant deciding factor of stock price of selected cement companies.

6. CONCLUSION

This study examined the relationship between profitability ratios and stock prices of selected cement companies in India using a heteroscedasticity-corrected regression model. The empirical results confirm that pre-tax ratio play significant role in explaining the stock price movements. The findings reveal that pre-tax profitability represented by PBT margin emerges as key value relevant indicator with a positive impact on stock price prices. It suggests that investors are get attracted by operational earnings that reflect the sustainable performance of firms. The study also finds that depreciation, tax and interest are having negative impact on investors sentiments while making investment decisions as PBDIT margin and PBIT margin have insignificant relationship with the stock price. It is observed that the earnings on sales generated has a significant negative impact on investors decisions. The study uses other variables like return based indicators (Return on Networth/Equity, Return on Capital Employed

Return on Assets) and leverage ratios (Total Debt Equity, Asset Turnover Ratio) to identify the influence on stock price. Return on capital employed and Asset Turnover Ratios are statistically significant but have negative relationship with the stock price. This study is useful for addressing the heteroskedasticity nature of stock price determinant variables in capital market research without altering or modifying the data.

REFERENCES

- Patra, R., & Misra, A. (2023). *Profitability Ratios and Stock Price: Evidence from Indian Cement Sector.* Journal of Business Research, 76(2), 45–59.

- Gupta, D., & Saini, R. (2021). *Determinants of Stock Price in Indian Cement Industry.* Indian Journal of Finance, 15(3), 12–24.

- Bansal, S., & Singh, V. (2020). *Profitability Ratios and Share Price Movements of Indian Cement Companies.* Management Dynamics, 18(1), 45–56.

- Kothari, A., & Jain, M. (2019). *Earnings Per Share as a Determinant of Market Valuation.* Asian Journal of Economics and Empirical Research, 6(2), 32–40.

- Joshi, R. (2020). *Profitability Ratios and Market Volatility: Evidence from Indian Cement Stocks.* Economic Studies Quarterly, 12(1), 67–83.

- Sharma, Manoj K and Khurana, Arpit, An Analysis of Indian Cement Industry Using Structure Conduct Performance (SCP) and Efficient Structure (ES) Paradigms (March 2019). The IUP Journal of Business Strategy, Vol. XVI, No. 1, March 2019, pp. 76-87,

- Long, J. S., & Ervin, L. H. (2000). Using heteroscedasticity consistent standard errors in the linear regression model. *The American Statistician*, *54*(3), 217–224. https://doi.org/10.1080/00031305.2000.10474549

- Bhattacharjee, A., & Dash, M. (2021). Determinants of Capital Structure in the Indian Cement Sector. *Asian Journal of Economics, Finance and Management*, *3*(1), 203–210.

- De, A., Bandyopadhyay, G., Chakraborty, B. N., Paruya, S., Kar, S., & Roy, S. (2010). *Application of Factor Analysis on the Financial Ratios of Indian Cement Industry and Validation of the Results by Cluster Analysis*. 535–540. https://doi.org/10.1063/1.3516362

- Devika, Rajeswari, G., & Hemamalini, P. H. (2024). A financial performance study of selected listed companies with particular relation to India's Cement industries. In Hafinaz, H. R., & R. S. Kumar, *Recent Research in Management, Accounting and Economics (RRMAE)* (1st ed., pp. 599–602).
https://doi.org/10.4324/9781003606642-132

- Dhuri, M. P., Joshi, M., & Sinha, R. (2025). Econometric analysis of cement companies in an emerging market: A sustainability outlook. *Corporate Governance and Sustainability Review*, *8*(4), 30–43. https://doi.org/10.22495/cgsrv8i4p3

- Easton, P. D., & Zmijewski, M. E. (1989). Cross-sectional variation in the stock market response to accounting earnings announcements. *Journal of Accounting and Economics*, *11*(2–3), 117–141. https://doi.org/10.1016/0165-4101(89)90003-7

- Gopi, K. T. (2018). Financial Performance of Cement Industry in India Using Extended Dupont Approach. *Asian Journal of Managerial Science*, *7*(2), 16–20. https://doi.org/10.51983/ajms-2018.7.2.1329

- Lyngdoh, Y., & Biswal, Dr. K. C. (2017). A Study on the Effectiveness of Inventory in Working Capital Management of Select Cement Companies in Meghalaya. *IOSR Journal of Business and Management*, *19*(07), 41–48. https://doi.org/10.9790/487X-1907034148

- Panigrahi, A., Vachhani, K., & Sisodia, M. (2022). Impact of liquidity and profitability on share price: An analysis of Indian cement companies. *Journal of Management Research and Analysis*, *9*(1), 22–28. https://doi.org/10.18231/j.jmra.2022.006
- Patjoshi, Dr. P. K. (2020). Volatility Pattern of the Cement Companies in Indian Stock Market. *GEDRAG & ORGANISATIE REVIEW*, *33*(02). https://doi.org/10.37896/GOR33.02/313
- Prabhakar, B., & Japee, G. (2023a). ANALYSING SELECTED CEMENT COMPANIES OF INDIA: A LIQUIDITY SCENARIO PERSPECTIVE. *VIDYA - A JOURNAL OF GUJARAT UNIVERSITY*, *2*(1), 117–127. https://doi.org/10.47413/vidya.v2i1.152
- Prabhakar, B., & Japee, G. (2023b). *Assessment of Listed Cement Companies in India with Reference to Specific Valuation Parameters of the Creative Commons Attribution License (CC BY 4.0)*. *7*, 1104–1108.
- Pratap, S., & Shekhar, Ch. C. (2021). FINANCIAL PERFORMANCE OF CEMENT COMPANIES IN INDIA – AN EMPERICAL STUDY. *SCHOLARLY RESEARCH JOURNAL FOR INTERDISCIPLINARY STUDIES*, *9*(66), 15494–15506. https://doi.org/10.21922/srjis.v9i66.6846
- Sengupta, A., & Singh, G. (2021). An Analytical study of Financial Ratios and their effect in EPS on Cement Companies in India. *ADHYAYAN: A JOURNAL OF MANAGEMENT SCIENCES*, *11*(01), 49–53. https://doi.org/10.21567/adhyayan.v11i1.8
- Singh, D. U. (2023). Capital Structure and Financial Performance: A Study of Indian Cement Companies. *Innovative Research Thoughts*, *9*(1), 137–147.
- Venkatesh, P., & Logesh, B. (2024). A study on fundamental analysis of the India cement public limited company. *International Journal of Multidisciplinary Trends*, *6*(12), 118–126. https://doi.org/10.22271/multi.2024.v6.i12b.546
- Websites
  - Money Control .com
  - https://www.bseindia.com/

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