Working Capital Management and Its Impact on Financial Performance: Evidence from Indian Cement Companies

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Abstract: Working capital management plays a crucial role in determining the operational efficiency and financial sustainability of firms, particularly in capital-intensive industries such as cement manufacturing. The present study examines the impact of working capital management on the financial performance of selected Indian cement companies. The study is based on panel data comprising 310 firm-year observations. The unit root test results indicated that all variables were stationary at level, confirming the suitability of the dataset for regression analysis. The regression results revealed that the current ratio and debtors' turnover ratio positively and significantly influence financial performance, indicating that efficient liquidity management and effective receivables collection contribute to improved profitability. In contrast, the debt–equity ratio showed a negative and significant relationship with performance measures, suggesting that higher leverage reduces financial efficiency. The cash position ratio and stock turnover ratio also showed negative effects on profit margin in the study period, while quick ratio and creditors turnover ratio did not exhibit significant influence.
Keywords*:* Working capital management, financial performance, cement industry, panel data analysis.

1. Introduction

Working capital management (WCM) is a fundamental aspect of financial management that directly influences the operational efficiency and financial stability of firms. It is the management of short-term assets and liabilities required for the daily functioning of a business (Brigham & Houston, 2019). Efficient working capital management ensures that firms maintain adequate liquidity to finance their routine activities such as purchasing raw materials, paying wages, maintaining inventory, and managing accounts receivable and payable. In corporate finance literature, working capital management has been widely recognized as a critical determinant of firm performance. The management of inventory, accounts receivable, and accounts payable affects the firm's cash conversion cycle, which represents the time taken to convert investments in inventory and other resources into cash flows from sales (Deloof, 2003). A shorter cash conversion cycle generally indicates efficient working capital management and contributes to improved profitability. Conversely, inefficient management of working capital may result in liquidity problems, increased borrowing costs, and reduced operational efficiency.

The importance of working capital management becomes even more significant in manufacturing industries where production processes require substantial investments in inventories and raw materials. Among these industries, the cement industry occupies a vital position in the Indian economy. Cement is a fundamental input for infrastructure development, housing construction, and industrial expansion. India is one of the largest producers and consumers of cement in the world, and the growth of the cement sector is closely linked to the country's economic development and infrastructure expansion (IBEF, 2023).

Over the past two decades, several empirical studies have examined the relationship between working capital management and firm profitability. Many of these studies have found that effective management of working capital components contributes positively to financial performance by improving liquidity and reducing financing costs (Raheman & Nasr, 2007). However, the nature and strength of this relationship may vary across industries and countries due to differences in operational structures, market conditions, and financial practices. Therefore, industry-specific research is necessary to understand how working capital management influences financial performance in particular sectors. Despite the recognized importance of working capital management, many firms struggle to maintain an optimal balance between liquidity and profitability. Maintaining excessive current

assets may improve liquidity but can reduce profitability because funds remain idle and generate limited returns. On the other hand, maintaining insufficient working capital may lead to operational disruptions, delayed payments to suppliers, and difficulties in meeting short-term financial obligations (Gitman et al., 2015).

The Indian cement industry faces several operational and financial challenges that complicate the management of working capital. Demand for cement is largely influenced by infrastructure projects, real estate development, and government investment in construction activities. These factors often lead to fluctuations in production levels, inventory requirements, and credit sales. As a result, cement companies must continuously adjust their working capital strategies to accommodate changing market conditions. Furthermore, the cement sector is characterized by high transportation costs, energy-intensive production processes, and strong competition among firms. These conditions place additional pressure on companies to manage their financial resources efficiently. Inefficient working capital management may lead to increased borrowing requirements, higher interest expenses, and reduced profitability. Although previous studies have investigated the relationship between working capital management and firm performance in various industries, relatively limited research has focused specifically on Indian cement companies. The absence of sufficient empirical evidence in this area creates a research gap that needs to be addressed. Therefore, it is important to examine how working capital management practices influence the financial performance of cement companies operating in India.

The rationale for this study lies in the growing importance of financial efficiency in capital-intensive industries. Cement manufacturing requires significant investments in fixed assets, raw materials, and distribution networks. In such an environment, effective management of working capital becomes essential for ensuring smooth production and maintaining profitability. Working capital management plays a critical role in determining a firm's liquidity position and its ability to meet short-term financial commitments. Efficient management of inventory, receivables, and payables can reduce the need for external financing and improve overall financial performance. From an academic perspective, the study contributes to the existing body of knowledge on working capital management and corporate performance. While numerous studies have explored this relationship in developed economies, fewer studies have focused on emerging markets such as India, particularly within specific industries like cement manufacturing. Therefore, the present study seeks to provide empirical evidence on the relationship between working capital management and financial performance in the Indian cement sector. From a managerial perspective, the findings of the study may provide useful insights for financial managers in cement companies. By understanding the impact of working capital practices on profitability, managers can design more effective strategies to optimize inventory levels, improve receivable collection, and manage supplier credit efficiently.

The motivation for conducting this study arises from the increasing emphasis on efficient financial management in modern business environments. In highly competitive industries, firms must utilize their financial resources efficiently in order to sustain profitability and maintain a competitive advantage. Working capital management represents one of the key areas where managerial decisions can significantly influence financial outcomes. The Indian cement industry offers a relevant context for examining this issue because of its strategic importance and complex operational structure. Cement companies must maintain a continuous flow of raw materials and finished goods while managing credit sales and supplier payments. The efficiency with which these activities are managed directly affects the firm’s liquidity and profitability. Additionally, the rapid growth of infrastructure development in India has increased the demand for cement products. This growth has intensified competition among cement companies and highlighted the need for improved financial management practices. Understanding how working capital management influences financial performance can therefore help firms enhance operational efficiency and achieve sustainable growth.

The scope of the present study focuses on examining the relationship between working capital management and financial performance in selected Indian cement companies. The study analyzes key components of working capital, including inventory management, accounts receivable management, and accounts payable management. Financial performance is evaluated using profitability indicators such as return on assets, return on net worth, and net profit margin. These indicators provide insights into the efficiency with which firms utilize their resources to generate profits. The analysis is based on secondary data obtained from the published financial statements and annual reports of selected cement companies. Although the research is limited to the Indian cement industry, the findings may provide useful insights for other manufacturing sectors with similar operational characteristics.

2. Literature review

Working capital management (WCM) has been widely recognized as a crucial component of corporate financial management. Efficient management of working capital ensures the smooth functioning of daily business operations and significantly influences the financial performance of firms. Researchers across different countries and industries have examined the relationship between working capital management and profitability. The following section reviews major empirical studies that explore this relationship, particularly focusing on manufacturing and cement industries.

Early studies in corporate finance emphasized the importance of managing working capital efficiently to maintain a balance between liquidity and profitability. Shin and Soenen (1998) conducted one of the earliest empirical studies examining the relationship between net trade cycle and corporate profitability. Using a large sample of U.S. firms, the authors found a strong negative relationship between the length of the cash conversion cycle and profitability, suggesting that firms with shorter operating cycles tend to perform better financially. Similarly, Deloof (2003) analyzed the impact of working capital management on the profitability of Belgian firms. The study concluded that reducing the number of days of accounts receivable and inventory significantly improves corporate profitability. The findings highlighted that firms can enhance profitability by effectively managing their working capital components. Lazaridis and Tryfonidis (2006) examined the relationship between working capital management and profitability among companies listed on the Athens Stock Exchange. Their study found that firms with efficient working capital practices, particularly shorter cash conversion cycles, achieved higher profitability levels. Raheman and Nasr (2007) investigated the relationship between working capital management and profitability in Pakistani firms. The results showed a significant negative relationship between profitability and the cash conversion cycle, accounts receivable period, and inventory turnover period. This study reinforced the idea that efficient working capital management contributes positively to firm performance. Gill et al. (2010) examined American manufacturing firms and found that working capital management significantly affects profitability. The authors concluded that firms that efficiently manage receivables and inventory can improve their financial performance and operational efficiency. Mathuva (2010) studied firms listed on the Nairobi Stock Exchange and found that efficient management of inventory and accounts payable significantly improves firm profitability. The study suggested that firms should maintain optimal levels of inventory and utilize supplier credit effectively to enhance financial performance. Charitou et al. (2010) investigated the relationship between working capital management and profitability in Greek firms. The results indicated that effective working capital management leads to higher profitability and improved operational efficiency. Enqvist et al. (2014) examined the impact of working capital management on profitability during different economic conditions. Their findings revealed that the relationship between working capital management and profitability becomes stronger during economic downturns, highlighting the importance of liquidity management in challenging economic environments. Baños-Caballero et al. (2014) analyzed the relationship between working capital management and firm performance in Spanish companies. The study found that there exists an optimal level of working capital that maximizes profitability. Both excessive and insufficient working capital was found to negatively affect firm performance. Aktas et al. (2015) investigated whether firms can improve performance by optimizing working capital. The authors concluded that improvements in working capital efficiency lead to higher profitability and shareholder value. Lyngstadaas and Berg (2016) studied Norwegian firms and found a strong negative relationship between the cash conversion cycle and profitability. The study emphasized that efficient working capital management enhances operational efficiency and financial performance. Pais and Gama (2015) examined small and medium-sized enterprises (SMEs) and found that working capital management plays a critical role in determining firm profitability and financial sustainability. Singh and Kumar (2017) analyzed the working capital efficiency of Indian manufacturing companies and found that firms with better working capital management achieved higher profitability levels. Panigrahi (2017) examined the working capital efficiency of Indian cement companies and found that inventory management and receivable management significantly influence profitability. The study revealed that reducing inventory holding periods improves return on assets (ROA) in cement companies. Khan (2017) conducted a comparative study of UltraTech Cement and India Cements to examine the effect of working capital management on profitability. The results indicated that working capital ratios such as inventory turnover and debtor turnover significantly affect profitability in cement firms. Jindal and Kaur (2018) analyzed the relationship between working capital

management and financial performance in Indian manufacturing firms. The study found that efficient management of receivables and inventory leads to improved financial performance. Moussa (2018) examined Egyptian firms and found that shorter cash conversion cycles positively affect firm profitability. The study emphasized the importance of efficient working capital management for maintaining financial stability. Afrifa and Padachi (2016) studied SMEs and concluded that firms with optimized working capital policies experience improved financial performance and lower financial risk. Mhavarkar (2022) conducted a case study of India Cements Ltd. to examine the impact of working capital management on profitability. The study found that improvements in working capital efficiency were associated with higher profitability and better liquidity management. Another study examining the working capital management practices of BSE-listed cement companies revealed that inventory turnover and cash conversion cycles significantly influence profitability. The findings suggested that reducing inventory holding periods can improve financial performance in cement firms. More recent research by Panigrahi (2025) examined the relationship between working capital management and profitability in Indian cement companies using panel data from 2010 to 2024. The study found that shorter cash conversion cycles, faster receivable collection, and efficient inventory management significantly improve firm profitability. The results also indicated that firms with higher profitability benefit more from improvements in working capital efficiency. The study further highlighted that the Indian cement industry faces unique operational challenges such as high transportation costs, seasonal demand fluctuations, and capital-intensive production processes. These factors increase the importance of effective working capital management for maintaining financial stability and competitiveness in the sector.

However, despite the growing body of research on working capital management, several gaps remain in the literature. Many previous studies have focused on general manufacturing industries rather than specific sectors such as cement manufacturing. Additionally, some earlier studies relied on limited datasets or short time periods, which may not fully capture long-term trends in working capital practices. Furthermore, recent institutional developments such as digital financial systems and supply chain financing mechanisms have not been adequately incorporated into earlier studies. Therefore, further empirical research is necessary to examine the relationship between working capital management and financial performance in Indian cement companies using updated data and advanced analytical techniques.

3. Data and methodology

The present study investigates the relationship between working capital management and financial performance in selected Indian cement companies. The analysis is based on secondary data collected from the published annual reports and financial statements of selected cement companies listed on the Bombay Stock Exchange. Secondary financial data are used in empirical corporate finance studies because they provide standardized and audited information regarding the financial position and operational performance of firms. The dataset includes panel observations of 310 firm–year observations for the selected companies. The use of panel data allows the study to examine both cross-sectional variations among firms and time-series changes over the study period. Panel data analysis is considered appropriate in financial research because it improves the efficiency of estimation and allows researchers to control for unobserved firm-specific effects (Baltagi, 2013). The study focuses on major working capital indicators and profitability measures in order to examine how liquidity management and operational efficiency influence the financial performance of cement companies. The study considers both independent variables representing working capital management and dependent variables representing financial performance. Working capital management is represented the independent variables, by the financial ratios. Current Ratio (CR) measures the firm's ability to meet short-term obligations using current assets. Quick Ratio (QR) indicates the firm's immediate liquidity position after excluding inventories. Cash Position Ratio (CPR) measures the proportion of cash and cash equivalents available to meet short-term liabilities. Debt Equity Ratio (DER) reflects the financial leverage and capital structure of the firm. Stock Turnover Ratio (STR) measures the efficiency by way of inventory is managed. Debtors Turnover Ratio (DTR) indicates the efficiency of receivable collection from customers. Creditors Turnover Ratio (CTR) reflects the firm's payment practices toward suppliers. These variables collectively represent the efficiency of liquidity management, inventory control, receivable management, and trade credit practices in firms. Financial performance (Dependent Variables) is measured using three profitability indicators. Return on Net Worth (RONW) represents the return earned on shareholders' investment. Return on Assets (ROA) measures the efficiency with which total assets generate profits. Net Profit Margin (NPM) indicates the percentage of profit

earned from total sales.

These indicators provide comprehensive insights into the financial performance of firms from both shareholder and operational perspectives.

Before conducting regression analysis, it is necessary to examine whether the variables used in the study are stationary. Non-stationary data may produce misleading regression results and lead to spurious relationships. Therefore, the study applied the Levin, Lin and Chu (LLC) panel unit root test to examine the stationarity properties of the variables. Table 1 presents the results of the panel unit root test. The LLC statistics and corresponding probability values for all variables were negative and statistically significant at the 5 percent level both at level and at first difference. The results indicate that the null hypothesis of the presence of a unit root is rejected for all variables, including current ratio, quick ratio, cash position ratio, debt equity ratio, stock turnover ratio, debtors turnover ratio, creditors turnover ratio, return on net worth, return on assets, and net profit margin. Since the probability values were below the significance level of 0.05, the variables were found to be stationary at level form. The results suggest that the mean, variance, and autocorrelation structure of the series remained stable over time. Consequently, the dataset did not exhibit non-stationarity problems, and the variables could be directly used in regression analysis without additional transformation. The stationarity of the data reduces the risk of spurious regression and ensures reliable econometric estimation.

To analyze the impact of working capital management on financial performance, the study employed panel regression techniques, including fixed effects and random effects models. Panel regression models are commonly used in financial research because they allow the analysis of both cross-sectional and time-series dimensions simultaneously. The general regression model used in the study is expressed as $FPit = \alpha + \beta 1CRit + \beta 2QRit + \beta 3CPRit + \beta 4DERit + \beta 5STRit + \beta 6\ DTRit + \beta 7\ CTRit + \varepsilon it$

Where, FPit represents the financial performance of firm i at time t, CR = Current Ratio, QR = Quick Ratio, CPR = Cash Position Ratio, DER = Debt Equity Ratio, STR = Stock Turnover Ratio, DTR = Debtors Turnover Ratio, CTR = Creditors Turnover Ratio, α = constant term, β = regression coefficients, and ε = error term. Separate regression models were estimated for each dependent variable, namely return on net worth, return on total assets, and net profit margin**.**

To determine whether the fixed effects model or random effects model is more appropriate, the study applied the Hausman specification test. The Hausman test compares the consistency of the fixed effect and random effect estimators and identifies the suitable model for estimation.

4. Empirical Results and Interpretations

Table-1: Panel Unit Root Test Results (Levin, Lin & Chu t)

Variable	At Level			At 1st Differenced		
	Statistic	Prob.	Remarks	Statistic	Prob.	Remarks
CR	-7.10	0.00	S	-6.78	0.00	S
QR	-8.91	0.00	S	-7.37	0.00	S
CPR	-8.08	0.00	S	-9.57	0.00	S
DER	-5.72	0.00	S	-7.22	0.00	S
STR	-8.93	0.00	S	-18.94	0.00	S
DTR	-10.70	0.00	S	-9.49	0.00	S
CTR	-7.21	0.00	S	-12.30	0.00	S
RONW	-2.22	0.01	S	-1.96	0.02	S
ROA	-1.65	0.04	S	-6.47	0.00	S
NPM	-2.53	0.01	S	-9.78	0.00	S

Table 1 presented the Levin, Lin and Chu panel unit root test results for the cement industry. The test examined whether the panel data series remained stationary or contained a unit root. The LLC statistics and corresponding probability values showed statistical significance at conventional levels for all variables.At level form, the test statistics for current ratio, quick ratio, cash position ratio, debt equity ratio, stock turnover ratio, debtors turnover ratio, creditors turnover ratio, return on net worth, return on total assets, and net profit margin were negative and significant, with probability values below

0.05. The results rejected the null hypothesis of unit root. All variables remained stationary at level. At first difference, the LLC statistics remained negative and significant for all variables. The probability values again stayed below 0.05. The results confirmed stationarity after differencing. The series did not show unit root

problems.The findings indicated that mean, variance, and autocorrelation structure remained stable over time within the cement industry panel dataset. Since all variables remained stationary at level, the analysis did not require further transformation before regression. The absence of non-stationarity reduced the risk of spurious regression and supported reliable econometric estimation.

Table – 2: Panel Regression Analysis (DV: RONW)

	Fixed Effects			Random Effects		
Variable	Coeff.	t-stat	Prob.	Coeff.	t-stat	Prob.
Intercept	-20.04	-4.25	0.00	-15.94	-3.51	0.00
CR	29.97	3.03	0.00	16.37	1.93	0.05
QR	-16.83	-1.02	0.31	7.21	0.55	0.58
CPR	-3.69	-0.31	0.76	-14.25	-1.48	0.14
DER	-0.63	-8.01	0.00	-0.68	-8.89	0.00
STR	0.02	1.92	0.06	0.00	0.09	0.93
DTR	0.19	2.26	0.02	0.18	2.52	0.01
CTR	-0.08	-0.36	0.72	0.04	0.21	0.83
Panel observation	310			310		
R^2	0.54			0.28		
Adjusted R^2	0.47			026		
F-statistic (prob.)	0.00			0.00		
Hausman Specification Test Results						
Test Summary		Chi-Sq. Statistic		d.f.	Prob.	
Cross-section random		31.61		7	0.00	

Table 2 reported the panel regression results with return on net worth as the dependent variable. The Hausman specification test guided model selection, as the Chi square statistic stood at 31.61 with probability value 0.00, which

rejected the null hypothesis of random effects and supported the adoption of the fixed effects model for analysis. Fixed effects model explained 0.54 variations in return on net worth. Adjusted R-square stood at 0.47. The F-statistic reported probability 0.00. The model remained statistically significant. Current ratio showed a positive and significant coefficient of 29.97 with probability 0.00. Higher liquidity increased return on net worth. Quick ratio reported a negative coefficient of -16.83 with probability 0.31. The result remained insignificant. Quick liquidity did not influence return on net worth. Cash position ratio showed a negative coefficient of -3.69 with probability 0.76. The effect remained insignificant. Debt equity ratio reported a negative and significant coefficient of -0.63 with probability 0.00. Higher leverage reduced return on net worth. Stock turnover ratio showed a positive coefficient of 0.02 with probability 0.06. The effect remained weak and marginal.Debtors Turnover Ratio reported a positive and significant coefficient of 0.19 with probability 0.02. Faster collection improved return on net worth. Creditors' turnover ratio showed a negative coefficient of -0.08 with probability 0.72. The result remained insignificant. The results indicated that liquidity through current ratio and efficiency through debtors turnover ratio improved shareholder return, while higher debt equity ratio reduced performance during the study period.

Table – 3: Panel Regression Analysis (DV: ROA)

	Fixed Effects			Random Effects		
Variable	Coeff.	t-stat	Prob.	Coeff.	t-stat	Prob.
Intercept	-3.69	-3.11	0.00	-4.29	-3.08	0.00
CR	4.78	1.91	0.06	4.69	2.01	0.05
QR	2.24	0.54	0.59	4.09	1.09	0.28
CPR	-1.32	-0.44	0.66	-2.60	-0.95	0.34
DER	-0.03	-1.59	0.11	-0.04	-1.84	0.07
STR	0.00	-1.47	0.14	-0.01	-1.93	0.06
DTR	0.04	1.80	0.07	0.04	2.11	0.04
CTR	-0.03	-0.50	0.62	-0.02	-0.35	0.73

Panel observation	310			310		
R^2	0.64			0.19		
Adjusted R^2	0.59			0.17		
F-statistic (prob.)	0.00			0.00		
Hausman Specification Test Results						
Test Summary		Chi-Sq. Statistic		d.f.	Prob.	
Cross-section random		8.12		7	0.32	

Table 3 reported the panel regression results with return on assets as the dependent variable. The Hausman specification test determined model choice, as the Chi-square statistic stood at 8.12 with a probability value of 0.32, which failed to reject the null hypothesis of random effects and supported the selection of the random effects model for estimation. Random effects model reported R-square of 0.19. The F-statistic showed probability 0.00. The model remained statistically significant. Current ratio showed a positive coefficient of 4.69 with probability 0.05. Higher liquidity increased return on assets. Quick ratio reported a positive coefficient of 4.09 with probability 0.28. The effect remained insignificant. Cash position ratio showed a negative coefficient of -2.60 with probability 0.34. The effect remained insignificant. Debt equity ratio reported a negative coefficient of -0.04 with probability 0.07. Higher leverage reduced return on assets, though significance remained weak during the study period. Stock turnover ratio showed a negative coefficient of -0.01 with probability 0.06. The effect stayed marginal. Debtors' turnover ratio reported a positive and significant coefficient of 0.04 with probability 0.04. Faster collection improved return on assets. Creditors' turnover ratio showed a negative coefficient of -0.02 with probability 0.73. The effect remained insignificant. The results indicated that liquidity through current ratio and efficiency through debtors' turnover ratio improved asset-based return, while higher debt equity ratio reduced performance during the study period.

Table – 4: Panel Regression Analysis (DV: NPM)

	Fixed Effects			Random Effects		
Variable	Coeff.	t-stat	Prob.	Coeff.	t-stat	Prob.
Intercept	-7.17	-2.45	0.01	-8.95	-2.61	0.01
CR	1.89	0.31	0.76	3.46	0.60	0.55
QR	16.23	1.59	0.11	17.07	1.84	0.07
CPR	-15.37	-2.10	0.04	-15.66	-2.34	0.02
DER	-0.13	-2.63	0.01	-0.15	-3.03	0.00
STR	-0.02	-2.98	0.00	-0.03	-3.57	0.00
DTR	0.08	1.51	0.13	0.08	1.71	0.09
CTR	-0.01	-0.06	0.96	0.01	0.07	0.94
Panel observation	310			310		
R^2	0.64			0.13		
Adjusted R^2	0.59			0.11		
F-statistic (prob.)	0.00			0.00		
Hausman Specification Test Results						
Test Summary		Chi-Sq. Statistic		Chi-Sq. d.f.	Prob.	
Cross-section random		14.95		7	0.04	

Table 4 reported the panel regression results with net profit margin as the dependent variable. The Hausman specification test guided model selection, as the Chi-square statistic stood at 14.95 with a probability value of 0.04, which rejected the null hypothesis of random effects and supported the selection of the fixed effects model for estimating the impact on net profit margin. Fixed effects model, reported R-square of 0.64 and adjusted R-square of 0.59. The F-statistic showed probability 0.00. The model remained statistically significant. Current ratio showed a positive coefficient of 1.89 with probability 0.76. The effect remained insignificant. Quick ratio reported a positive coefficient of 16.23 with probability

0.11. The effect remained insignificant at conventional levels. Cash position ratio showed a negative and significant coefficient of -15.37 with probability 0.04. Higher cash holdings reduced net profit margin during the period. Debt equity ratio reported a negative and significant coefficient of -0.13 with probability 0.01. Higher leverage reduced profit margin. Stock turnover ratio showed a negative and significant coefficient of -0.02 with probability 0.00. Higher stock turnover aligned with lower margin in the current study. Debtors' turnover ratio reported a positive coefficient of 0.08 with probability 0.13. The effect remained insignificant. Creditors' turnover ratio showed a negative coefficient of -0.01 with probability 0.96. The effect remained insignificant. The results indicated that higher leverage, higher stock turnover, and higher cash position reduced net profit margin, while liquidity measured through current ratio and quick ratio did not show significant impact during the study period.

5. Conclusion

The present study examined the relationship between working capital management and financial performance of selected Indian cement companies using panel data techniques. The results of the panel unit root test confirmed that all variables were stationary at level, which ensured the suitability of the dataset for further econometric analysis. The panel regression results provided important insights into the relationship between working capital management and financial performance. The findings revealed that liquidity measured through the current ratio had a positive and significant influence on return on net worth and return on assets. This result suggests that maintaining an adequate level of short-term assets relative to short-term liabilities improves the profitability and financial stability of cement companies. Efficient liquidity management allows firms to meet operational obligations and maintain smooth production activities, which ultimately contributes to higher returns. The debtors' turnover ratio also showed a positive and significant impact on both return on net worth and return on assets. This indicates that faster collection of receivables enhances financial performance by improving cash flow and reducing the risk of bad debts. Efficient credit management therefore plays a crucial role in strengthening the operational efficiency of firms. On the other hand, the debt–equity ratio exhibited a negative and significant relationship with financial performance indicators. Higher leverage was associated with lower profitability, indicating that excessive dependence on debt financing increases financial risk and interest obligations, which may reduce the overall returns of the companies. Furthermore, the results showed that cash position ratio and stock turnover ratio had negative effects on net profit margin, while quick ratio and creditors' turnover ratio did not demonstrate statistically significant influence on most performance indicators during the study period.

References

[1] Baltagi Badi H.. (2021). *Econometric Analysis of Panel Data* (6th ed.). Springer.

[2] Brigham, E. F., & Houston, J. F. (2019). *Fundamentals of financial management* (15th ed.). Cengage Learning.

[3] Deloof, M. (2003). Does working capital management affect profitability of Belgian firms? *Journal of Business Finance & Accounting, 30*(3–4), 573–588.

[4] Gitman, L. J., Juchau, R., & Flanagan, J. (2015). *Principles of managerial finance*. Pearson Education.

[5] India Brand Equity Foundation (IBEF). (2023). *Indian cement industry report.* Retrieved from https://www.ibef.org

[6] Raheman, A., & Nasr, M. (2007). Working capital management and profitability: Case of Pakistani firms.
International Review of Business Research Papers, 3(1), 279–300.

[7] Aktas, N., Croci, E., & Petmezas, D. (2015). Is working capital management value-enhancing? *Journal of Corporate Finance.*

[8] Afrifa, G., & Padachi, K. (2016). Working capital level influence on SME profitability. *International Journal of Managerial Finance.*

[9] Baños-Caballero, S., García-Teruel, P., & Martínez-Solano, P. (2014). Working capital management and profitability. *Journal of Business Finance & Accounting.*

[10] Charitou, M., Elfani, M., & Lois, P. (2010). The effect of working capital management on firm profitability. *Journal of Business and Economics Research.*

[11] Deloof, M. (2003). Does working capital management affect profitability of Belgian firms? *Journal of Business Finance and Accounting.*

[12] Enqvist, J., Graham, M., & Nikkinen, J. (2014). The impact of working capital management on firm profitability. *Research in International Business and Finance.*
[13] Gill, A., Biger, N., & Mathur, N. (2010). The relationship between working capital management and profitability. *Business and Economics Journal.*
[14] Jindal, S., & Kaur, P. (2018). Working capital management and firm performance. *International Journal of Financial Management.*
[15] Khan, A. (2017). Effect of working capital management on firm profitability: A comparative study of cement companies.
[16] Lazaridis, I., & Tryfonidis, D. (2006). Relationship between working capital management and profitability. *Journal of Financial Management.*
[17] Lyngstadaas, H., & Berg, T. (2016). Working capital management and profitability. *International Journal of Managerial Finance.*
[18] Mathuva, D. (2010). The influence of working capital management on profitability. *Research Journal of Business Management.*
[19] Mhavarkar, K. S. (2022). An analytical study of working capital management and its impact on profitability: India Cements Ltd.
[20] Pais, M., & Gama, P. (2015). Working capital management and SMEs profitability. *International Journal of Managerial Finance.*
[21] Panigrahi, A. K. (2017). Working capital management efficiency of Indian cement companies.
[22] Panigrahi, A. K. (2025). Working capital management and profitability in India's cement sector.
[23] Raheman, A., & Nasr, M. (2007). Working capital management and profitability. *International Review of Business Research Papers.*
[24] Shin, H., & Soenen, L. (1998). Efficiency of working capital management and corporate profitability. *Financial Practice and Education.*