

# The Influence of Mergers and Acquisitions on Shareholder Value and Market Returns: An Analysis of the Indian Cement Industry

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## Keywords

Investors, M&A, Cement Sector, Deal Structure, Value Creation, Event Study, Ratio Analysis

## Abstract

Sustainable corporate growth is a crucial goal in today's competitive business environment, especially in sectors like cement manufacturing, where robust domestic and international competitors influence market dynamics. To expand strategically and enhance operational efficiency, companies increasingly rely on mergers and acquisitions (M&As) as an inorganic method to generate synergies, reduce market competition, acquire technical expertise, and optimise resources. This study aims to evaluate how M&A transactions impact both investor sentiment and the financial growth of acquiring firms within the Indian cement industry. Using a dual approach – comprising financial ratio analysis (Current Ratio, Liquid Ratio, Net Profit Ratio, Gross Profit Ratio, RoNW, RoCE, EPS, DPS, Debt-Equity Ratio, and Interest Coverage Ratio) and an event study method – this research examines a selection of cement companies listed on Indian stock exchanges, chosen based on market capitalisation. Secondary data were collected from reliable sources, including the National Stock Exchange (NSE), Money Control, Yahoo Finance, and published annual reports. The event study employs an estimation window of 250 trading days, from 281 to 31 days before the M&A announcement, along with an event window of  $\pm 30$  days around the announcement date to capture stock market reactions. The statistical significance of abnormal returns (AR) is tested using  $t$ - $t$ -values at a 95% confidence level. Operational efficiency is assessed through ratio analysis over five years (two years pre-merger, the year of merger, and two years post-merger). Results indicate that most ARs are positive for all companies studied, and the AR for Ambuja post-merger is statistically significant and positive ( $AR > 1.96$ ), as is that for ACC cement. Although the ARs of Dalmia Bharat and Jay Prakash are not statistically significant, they remain positive. Moreover, ratio analysis reveals that the liquidity, profitability, and solvency positions of all the companies under review have improved post-merger compared to pre-merger. The authors conclude that investors are more responsive to merger and acquisition events, and that M&As create value for shareholders and the companies involved.

## Introduction:

Mergers and Acquisitions (M&A) are the modern techniques of corporate restructuring and consolidation. Loss-making businesses or unlevered businesses face the cut-throat competition of price reduction as a challenge, which compels such businesses to either close down or integrate their line of operation with other businesses to operate jointly in the market. Business consolidation through mergers and acquisitions is the most accepted strategy to experience business growth and growth of the shareholders (Martynova & Renneboog, 2008; Giannopoulos et al., 2023). When more than 53 per cent of mergers and acquisitions contribute negatively to the growth of the business and shareholder growth (KPMG, 1999), the researchers are keen to find out the answer to the question, why mergers and acquisitions have been increasing day after day?

From the literature review, it is found that a mix of conclusions states M&A destroys shareholders' wealth (Dissanaike et al., 2020; Chung et al., 2020; Frattaroli, 2020; Anonymous Review, 2025; Meckl & Röhrle, 2020), while a group of researchers conclude that M&A substantially contributes to the growth of the business and value for shareholders (Zhang et al., 2020; Chaudhry et al., 2021; Teschner & Paul, 2021; Papachristopoulos et al., 2023). Researchers comment on the impact of M&A on the growth of shareholders' value, but the overall effects are considered to be inadequate because the complete parameters of impact are not sufficiently addressed. Organic growth of a business is achieved through the business's efficiency in

operation (Sudrajat, 2020; Aggelopoulos & Lampropoulos, 2023), and inorganic growth becomes evident through business consolidation and restructuring, which can be achieved by the modern accepted theory of M&A (Rohra & Anita, 2023; Lei & Hitt, 1995). Therefore, the impact of mergers and acquisitions on corporate growth and stock returns that combinedly contribute to shareholders' growth needs to be studied to add to the existing branch of knowledge, whether M&A creates value addition to the growth of shareholders' wealth.

Shareholders are the real owners of an organisation (Berle & Means, 1932), whose value in the business is measured in quantifiable terms for the intrinsic value of shares generated by the business operation, together with the capital appreciation of shareholders' holdings through share price volatility in the stock market. The impact of the merger on the growth of shareholders' wealth can therefore be correctly quantified only when the impact of merger on the growth of the business and the growth of the market value of the shares is correctly measured. This study is designed to measure the shareholders' growth contributed by the growth of the business and market performance on capital appreciation, impacted by M&A.

### Background for the Study

Mergers and acquisitions (M&As) have long been positioned in academic and corporate discourse as mechanisms capable of creating or destroying firm value. A growing body of literature reveals a paradox: while M&As are widely adopted as strategic tools for growth, empirical evidence suggests that over 53% of such transactions have led to the erosion of shareholder value and the diminution of business performance. This apparent contradiction raises a critical question: why do firms continue to pursue M&A strategies despite the high probability of value destruction? This observation prompts an exploration into the underlying drivers and strategic motivations that compel organisations to engage in M&A activities, even in the face of historically mixed outcomes. Understanding these motivations is essential for decrypting the continued prevalence of mergers and acquisitions across industries and markets.

While mergers and acquisitions are commonly adopted by corporate firms as strategic tools to enhance overall business performance and increase shareholder wealth, a significant body of prior research has reported outcomes that contradict this intent. This discrepancy raises concerns about the methodologies employed in evaluating the success of such transactions. Many existing conclusions appear to offer only a partial assessment, focusing either on short-term market responses or on isolated indicators of post-merger corporate performance. This gap in comprehensive evaluation served as a key impetus for the present study, which seeks to critically examine whether current evaluative approaches effectively capture the true impact of M&A activities on business growth and shareholder value.

India, currently ranked as the fifth-largest economy globally, continues to experience robust growth, with the cement industry playing a pivotal role. This sector contributes approximately 1.3% to the national GDP and exhibits a notable multiplier effect of 1.53 times GDP, underscoring its significant influence on economic development. As infrastructure demands expand, cement consumption has shown a steady year-on-year increase, reinforcing its status as a foundational component of the country's industrial framework. Over the past five years, the cement industry has witnessed a wave of mergers and acquisitions, reflecting a strategic shift toward consolidation. This trend raises an important question: Do these corporate integrations genuinely generate value, or do they undermine it? Motivated by this critical inquiry, the present study seeks to explore the impact of mergers and acquisitions within the Indian cement sector to assess whether they enhance or erode shareholder and enterprise value.

Strategic decisions related to mergers and acquisitions must be approached with clarity and objectivity, particularly when the rationale is to realise potential synergies (Zhang, 2020). However, a closer look at past merger activity suggests that many such transactions are not always rooted in value creation. Instead, they often reflect competitive posturing or hostile takeovers intended to assert market dominance, rather than to generate sustainable shareholder returns (Morck, Shleifer, & Vishny, 1988). In the context of India's cement industry, merger activity frequently appears to be motivated by a desire for business diversification. Evidence shows that financially robust firms often pursue acquisitions as a means to expand their footprint across different business lines. Against this backdrop, the current study seeks to critically examine the

underlying motives behind merger and acquisition decisions within the sector, evaluating whether these moves are genuinely strategic or merely opportunistic.

### Literature Review

The dynamics of mergers and acquisitions (M&As) have long fascinated financial researchers, especially regarding their immediate effects on stock prices and their long-term influence on company fundamentals. M&A announcements frequently serve as signals to the market, prompting investor reactions based on expected synergies, cost efficiencies, and future growth prospects. To examine this impact, the event study methodology and financial ratio analysis have become two widely used techniques, each providing complementary insights into market behaviour and the strategic direction of merging firms.

The event study method, introduced by **Fama et al. (1969)**, has been extensively used to measure Abnormal Returns (AR) around the time of corporate events, such as M&A announcements. This approach assesses whether stock prices deviate significantly from expected trends in a short window surrounding the event date. In the Indian context, studies by **Mukherjee and Ghosh (2004)** and **Kumar and Bansal (2008)** revealed that M&A announcements generally lead to positive short-term abnormal returns, particularly for target firms, and to a lesser extent, acquiring firms. These reactions are interpreted as the market's optimistic anticipation of synergy realization, efficiency gains, or strategic market positioning. However, the validity of these short-term gains remains questionable over the long term. As **Roll (1986)** and **Moeller, Schlingemann, and Stulz (2005)** pointed out, market overreaction and managerial overconfidence can inflate expectations, which may not translate into actual performance. Thus, while event studies capture the market's initial response, they may not fully reflect the realistic success of the merger. In the same line, **Andrade, Mitchell, and Stafford (2001)** have pointed out, the initial investor enthusiasm surrounding M&As often fades if expected synergies are not effectively realized or if post-merger integration is poorly managed. This divergence between short-term return and long-term performance highlights the need to couple event study results with a more grounded analysis of company fundamentals – an area where ratio analysis plays a critical role. This divergence between short-term return and long-term performance highlights the need to couple event study results with a more grounded analysis of company fundamentals – an area where ratio analysis plays a critical role.

Financial ratios such as Return on Capital Employed (ROCE), Earnings Per Share (EPS), Debt-Equity Ratio, and EBITDA margins provide vital insights into the post-merger health and efficiency of the entity. **Ramaswamy and Waeglein (2003)** found that while M&A activity could temporarily inflate market valuations, only firms that achieved improvements in operating ratios showed sustainable long-term growth. In line with this, Indian studies by **Pawaskar (2001)** and **Beena (2004)** have indicated mixed results regarding post-merger financial performance – where some firms showed improved profitability and operational efficiency, while others struggled with integration and resource optimization.

The combination of event study and ratio analysis thus allows for a comprehensive evaluation of M&A impact. While the event study captures the market's perception and sentiment around the transaction, ratio analysis evaluates the strategic and operational outcomes over time. This dual-method approach has gained traction in empirical research, especially in industries like cement, steel, and banking – where both market response and operational integration are critical to assessing the deal's success.

Moreover, factors such as deal type (horizontal vs. vertical), payment method (cash vs. stock), and the institutional ownership structure can further influence both short-term and long-term outcomes. **Eckbo and Thorburn (2000)** emphasized that the market's reaction also depends on the credibility of management and clarity of strategic intent, which directly ties into how financial and operational metrics evolve after the deal.

Despite a growing body of global literature, Indian sector-specific studies, especially within capital-intensive industries like **cement**, remain relatively limited. This gap underscores the value of conducting empirical investigations using event studies and ratio analysis to better understand how M&A events shape market behaviour and firm fundamentals in emerging markets.

### Research Gap

From the literature review, the authors found the following areas which require further investigation;

Existing literature primarily evaluates shareholder growth by analysing stock price volatility using event study methodology. While this approach effectively captures market reactions in the short term, it tends to underrepresent the role of fundamental performance indicators. Consequently, operational efficiency and long-term financial health – which are critical components of sustainable shareholder value – remain insufficiently explored.

Shareholder value is a function of both capital appreciation and operational performance. However, most prior studies have treated these dimensions in isolation, focusing either on market-based returns or on financial performance post-merger. There is a noticeable gap in the literature regarding the combined impact of these two factors on shareholder growth, which warrants a more integrated and comprehensive approach.

Sector-specific research in India, particularly in capital-intensive industries such as cement, remains limited. Despite the strategic and economic significance of this sector, empirical investigations into how mergers and acquisitions influence both market behaviour and operational growth in this context are relatively scarce. This highlights the need for focused research that bridges this critical gap.

### **Research Objectives**

To explore how shareholders respond to merger and acquisition (M&A) announcements in the short run, by analysing stock price behaviour around the event window using event study methodology. This objective aims to capture investor sentiment and market perception of the deal's potential value creation.

To examine whether companies involved in M&A experience meaningful improvements in their operational performance in the post-merger period, as measured through key financial ratios. This will help evaluate whether mergers contribute to long-term, fundamental growth and value enhancement for shareholders.

### **Null Hypothesis**

H<sub>01</sub>: The announcement of a merger or acquisition does not result in any significant abnormal return in the stock price of the acquiring firm during the event window.

H<sub>02</sub>: There is no significant difference in the operational performance of the acquiring firm before and after the merger, indicating that the transaction has no measurable impact on long-term fundamental growth.

### **Research Methodology**

#### **Data Collection**

The present study is based entirely on secondary data, meticulously gathered to evaluate the impact of mergers and acquisitions (M&As) on shareholder value and operational efficiency. To assess the operational performance of the selected companies, annual reports were sourced and analysed over a five-year period – comprising two years prior to the M&A event, the year of the event itself, and two subsequent years. This time frame provides a balanced view of both pre- and post-merger performance trends. In addition to financial data, daily stock prices were retrieved from reliable public sources such as the National Stock Exchange (NSE) website and Moneycontrol.com. This stock market data served as the basis for calculating abnormal returns (AR) around the event window using the event study methodology.

#### **Sampling Technique**

A non-probabilistic convenience sampling method was adopted for this study. The selection of companies was based on the availability of data, their active trading status on the NSE, and their involvement in M&A activities up to March 31, 2023. The companies selected include:

- a. Ambuja Cements Ltd.
- b. ACC Ltd.
- c. Dalmia Bharat Ltd.
- d. Jaypee Cements Ltd.

These companies were selected to facilitate a comparative analysis of their financial and market performance during the defined event window. Specifically, acquiring firms were analysed in the context of mergers, while the target firms were examined in relation to acquisitions.

## Analytical Framework

### Financial Ratio Analysis

To assess the operational efficiency of the companies under review, a comprehensive set of financial ratios was employed. These include:

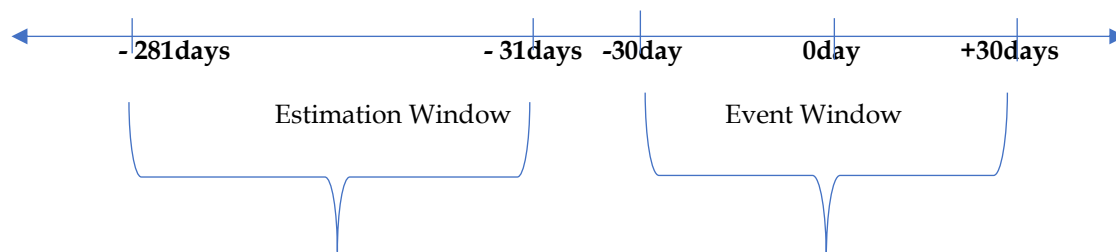
- Liquidity Ratios: Current Ratio, Liquid Ratio
- Profitability Ratios: Net Profit Margin, Operating Profit Margin
- Return Ratios: Return on Net Worth (RoNW), Return on Capital Employed (RoCE)
- Market Performance Ratios: Earnings Per Share (EPS), Dividend Per Share (DPS)
- Leverage Ratios: Debt-Equity Ratio, Interest Coverage Ratio

These ratios provide insights into various dimensions of operational health and managerial efficiency in the aftermath of M&A transactions.

### Event Study Methodology

The event study approach was employed to evaluate the market's reaction to M&A announcements. This method is particularly useful for isolating the abnormal component of stock returns attributable to the merger or acquisition event. In line with academic standards (Brown & Warner, 1985), the following framework was adopted:

- Estimation Window: 250 trading days prior to the event window, specifically from Day -281 to Day -31.
- Event Window: 61 trading days spanning from Day -30 to Day +30, with Day 0 marking the official announcement or effective date of the M&A.



The expected return for each stock was calculated using the market return model:

$$E(R_{i,t}) = \alpha + \beta Rm_{i,t}$$

Where:

- $E(R_{i,t})$ : Expected return of stock  $i$  at time  $t$
- $Rm_{i,t}$ : Market return at time  $t$
- $\alpha, \beta$ : Intercept and slope coefficients from the regression of the stock's return on market return

The actual return was computed using the logarithmic return method:

$$R_{i,t} = \ln\left[\frac{P_t}{P_{t-1}}\right]$$

Where:

- $R_{i,t}$  is the actual return of stock ' $i$ ' on time ' $t$ '
- $P_t$ : Closing price of the stock on day  $t$
- $P_{t-1}$ : Closing price on the preceding day

A positive AR indicates that the M&A event has led to value creation for shareholders, whereas a negative AR implies value destruction. This technique effectively captures the market's immediate response to corporate restructuring events and is particularly useful in assessing shareholder value growth.

This methodology provides a comprehensive and structured approach to analysing both the operational and market-based outcomes of M&A activity in the Indian cement sector. It integrates

traditional financial metrics with modern econometric tools, offering a balanced evaluation of corporate performance in the post-liberalization era.

**Data Analysis & Interpretation:**

**Ratio Analysis**

*Current Ratio*

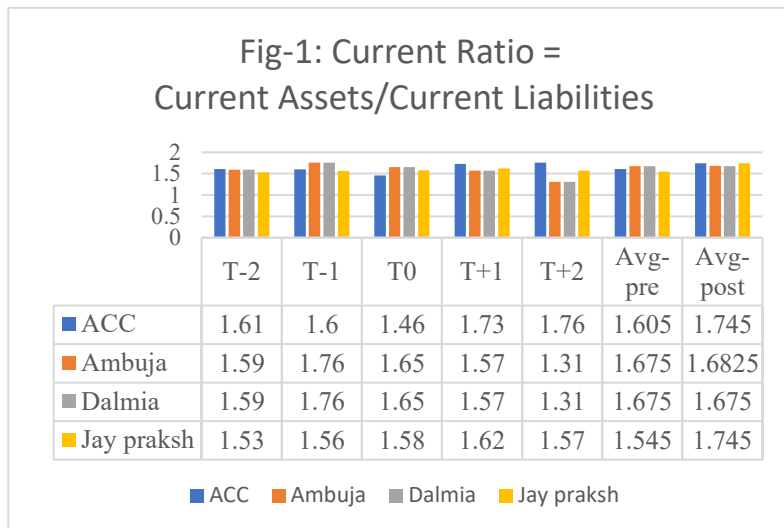
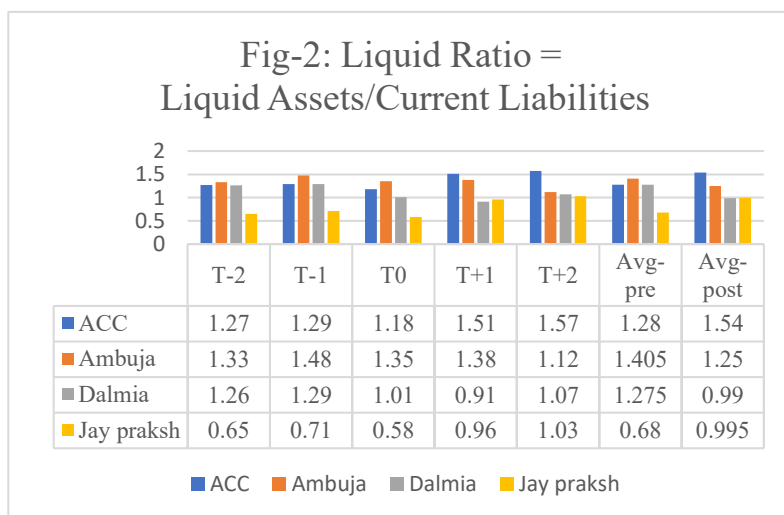


Figure 1 illustrates the Current Ratio, a key indicator of a firm’s ability to cover its short-term liabilities using its short-term assets. This ratio essentially reflects how many rupees of current assets are available to meet each rupee of current liabilities. A ratio of **2:1** or higher is generally regarded as a benchmark of financial soundness, suggesting a healthy liquidity position. An analysis of the data reveals that, although none of the companies consistently achieve the ideal benchmark, there has been a notable improvement in the liquidity position of most firms in the post-merger or acquisition period. This

suggests a positive shift in their ability to manage short-term financial obligations. However, Dalmia Bharat Ltd appears to be an exception, with its current ratio showing little to no change post-merger, indicating that its short-term liquidity remained largely unaffected by the restructuring event.

**Liquid Ratio**

The Liquid Ratio provides a more refined measure of a company’s short-term financial health by excluding inventory from current assets, focusing instead on the most readily available assets to cover current liabilities.



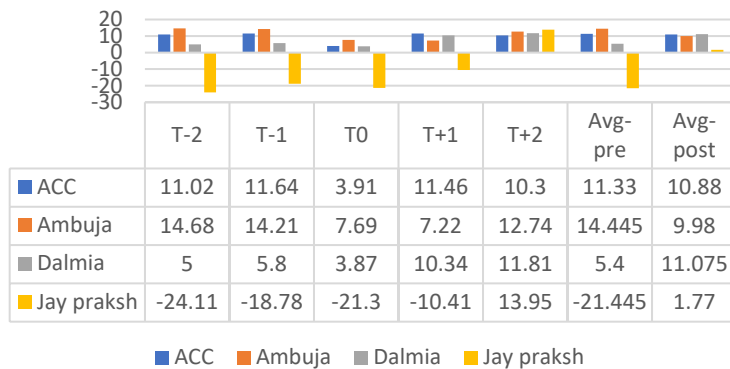
It reflects the firm’s ability to meet immediate obligations without relying on inventory, which may not be easily converted into cash. A liquid ratio of **1:1** is generally considered a healthy standard, indicating that the business holds one rupee in liquid assets for every rupee of current liabilities. As illustrated in Figure 2, all companies included in the study—except Jaypee Associates—maintain this standard, reflecting a sound short-term liquidity position. Notably, most

firms demonstrated an improvement in their liquid ratios following the merger or acquisition, indicating enhanced efficiency in managing liquid assets and current liabilities post-restructuring.

**Net Profit Margin**

Figure 3 depicts the Net Profit Margin, which measures the proportion of net profit earned from net sales—a key indicator of a company’s overall profitability and operational efficiency.

**Fig-3: Net Profit Margin =  
Net profit/Net Sales**



A higher margin indicates better cost management and profitability. From the chart, it is evident that ACC and Dalmia Bharat maintained relatively stable and positive net profit margins throughout the observed period, with slight fluctuations. Dalmia Bharat, in particular, showed a significant improvement post-merger, moving from an average of 5.4% pre-merger to 11.08% post-merger, reflecting stronger profitability. Ambuja Cement experienced a noticeable decline post-merger, dropping from an average of 14.45% before the

event to 9.98% afterward. While still positive, this reduction suggests possible integration challenges or cost pressures following the merger. On the contrary, Jay Prakash cement witnessed a remarkable growth post-merger with 1.77% from -21.45%, thereby improvement of 23.22%.

Overall, the analysis suggests that mergers had a mixed impact on profitability – improving margins for some while posing short-term challenges for others. However, the most dramatic recovery was observed in Jaypee Associates, hinting at a potential strategic revival post-restructuring.

**Operating Profit Margin**

Operating Margin reflects the company’s profitability position before tax. More the profit, more is the profitability and more improvement in EPS.

**Fig-4: Operating Profit Margin Ratio=  
Operating profit/Net Sales**

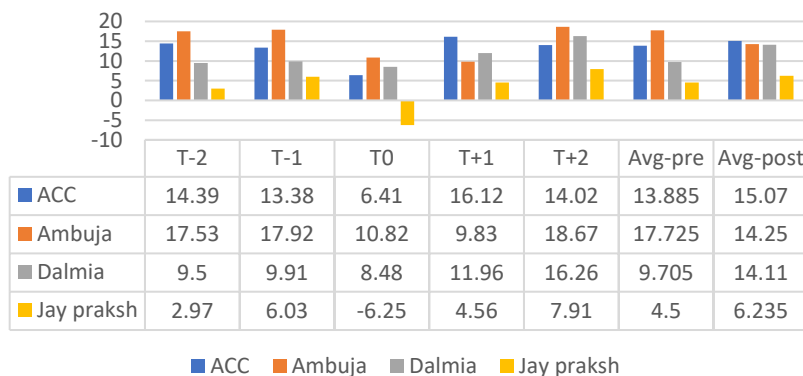


Figure 4 illustrates that the post-merger operating profit margin of all the companies under observation have been improved except Ambuja cement with slight reduction to 14.25% post-merger as compared to pre-merger position of 17.73%, which may be due to burden of cost of integration. However, with fluctuation it is seen that post-merger has made the operating profit position of the business stronger.

**Return on Net Worth (RoNW) Ratio**

Return on Net Worth (RoNW) states the per cent of profit after tax generated by the business using the shareholders’ fund. Return on Net Worth reflects how effectively a company is using its shareholders' equity to generate profits, offering a clear picture of how well investors' money is being put to work. More the RoNW, more stability is for the business and provides more return to shareholders.

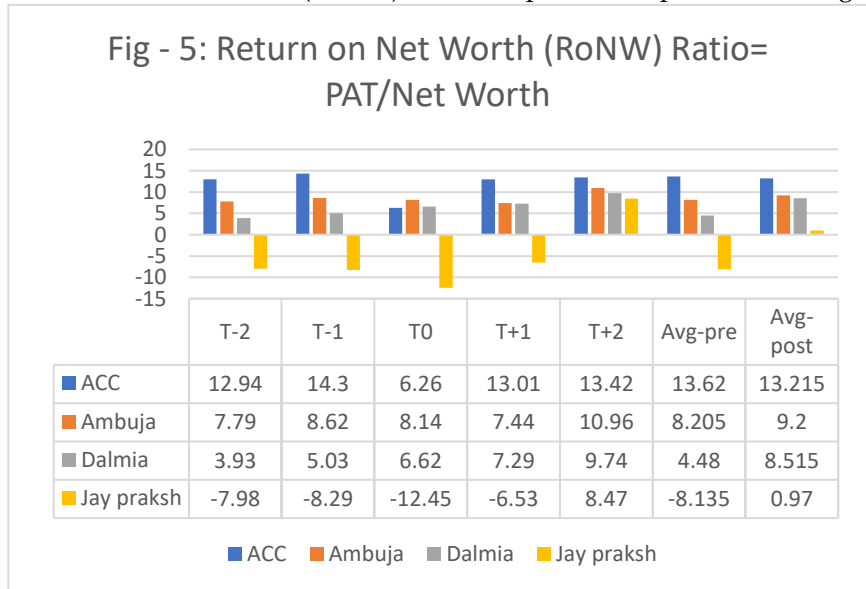


Figure 5 illustrates that the RoNW has been stronger post-merger as compared to pre-merger in all the companies under study, remarkably Jay Prakash associates which turned to positive 0.97% post-merger

from negative 8.14%, thereby RoNW increased by 9.11% after merger.

**Return on Capital Employed (RoCE) Ratio**

Return on Capital Employed (ROCE) shows how efficiently a company is using its total capital – both equity and debt – to generate profits, giving a broader view of overall financial performance.

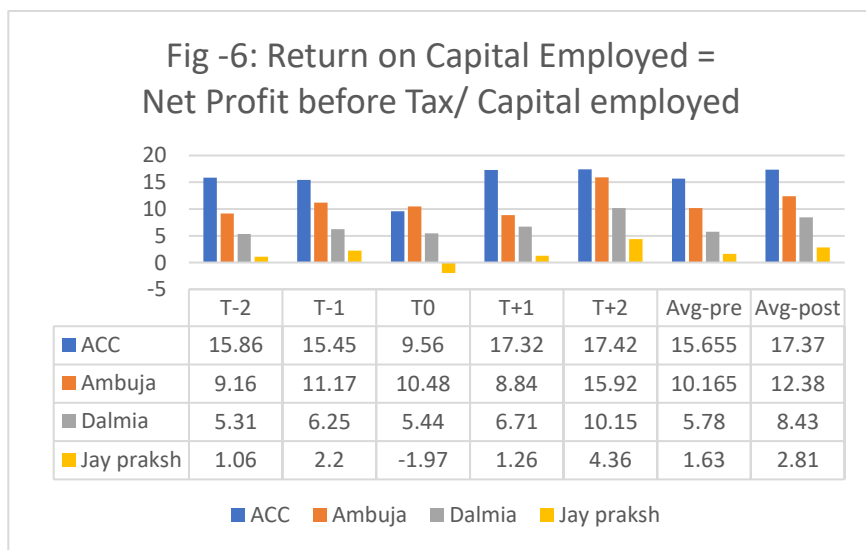
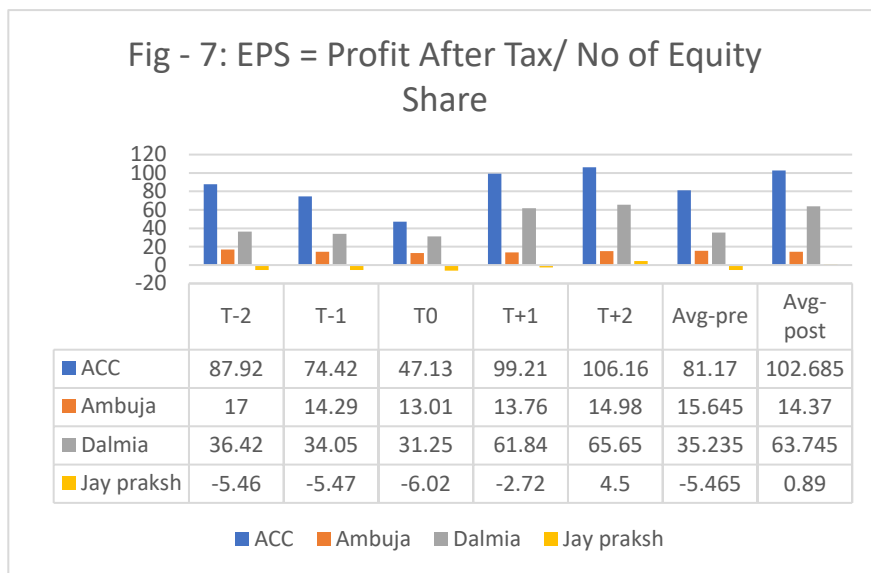


Figure 6 shows the RoCE of all the companies has been increased post-merger as compared to pre-merger position. This implies that the event M&A makes the company operationally efficient.

### Earnings Per Share (EPS)

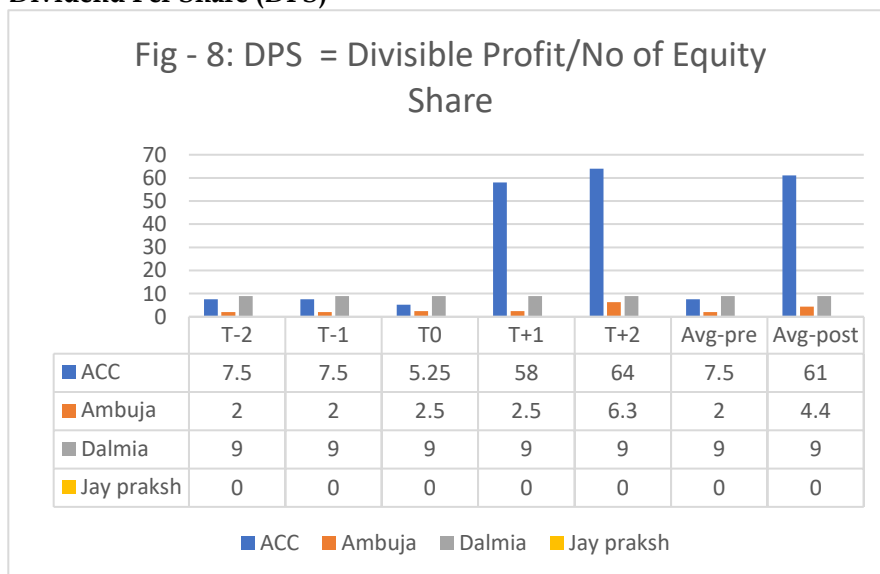
EPS represents the amount of profit after tax available to per equity share. More the EPS, more is the



operating efficiency and contributes more to shareholders return.

Figure 7 states that the post-merger EPS has been improved as compared to pre-merger in all the companies, thereby an indication that the event of M&A is worth enough for value creation.

### Dividend Per Share (DPS)

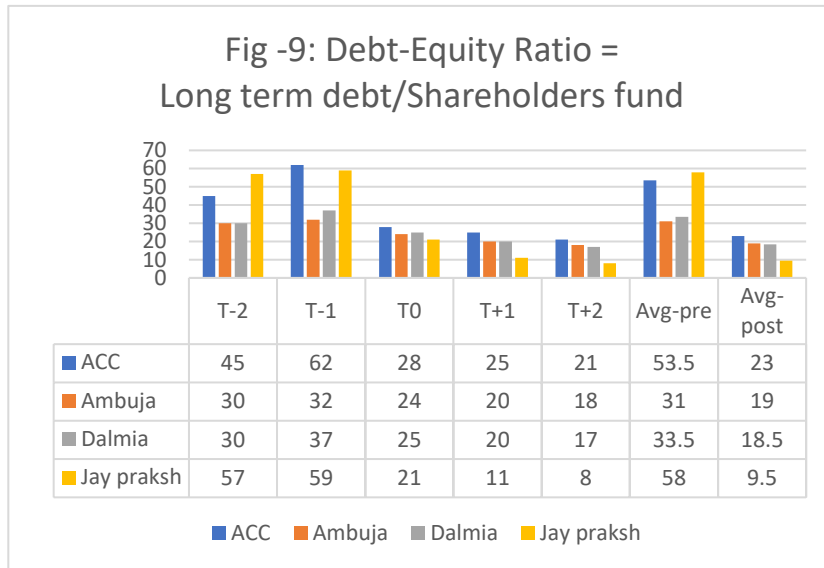


DPS states the amount of profit distributed to shareholders for each share they hold and more the DPS, more is the return to shareholders.

Figure 8 illustrates that the DPS has witnessed a dramatic growth post-merger for ACC reached to ₹61 per share average as compared to ₹7.5 per share pre-merger. Also, Ambuja made a remarkable growth to average ₹4.4 per share post-merger visa-a-vis ₹2 per share average pre-merger. However, Dalmia maintains

the same trend in pre- and post-merger, but Jay Prakash not declaring dividend as there is still negative EPS post-merger, though improvement is noticed.

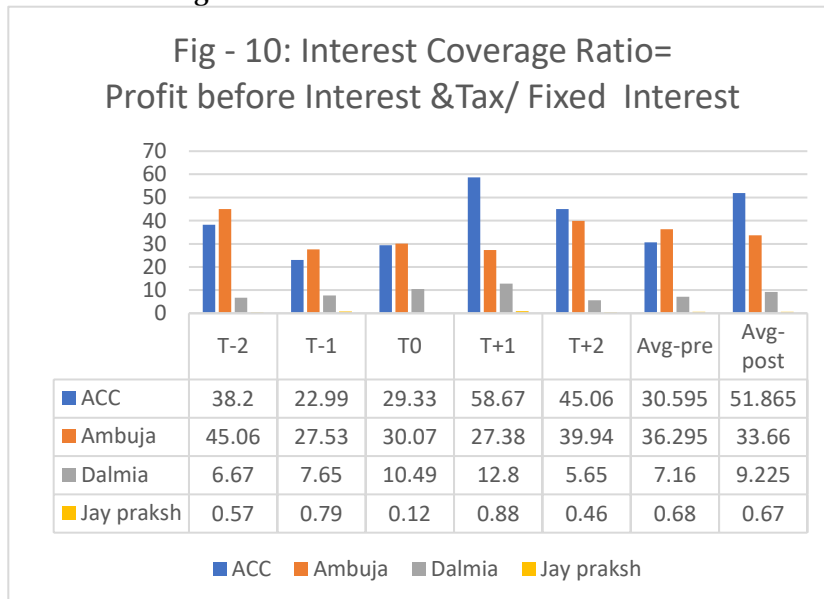
**Debt - Equity Ratio**



The Debt-Equity Ratio compares a company’s total debt to its shareholders’ equity, showing how much the business relies on borrowed funds versus owned funds to finance its operations. A balanced ratio suggests financial stability, while a higher ratio may indicate greater financial risk due to increased dependence on external borrowing. Figure 9 shows that Debt-equity ratio post-merger has been reduced in all the companies, meaning thereby that the company’s dependence on the borrowed capital has been reduced after post-merger. Hence, the event of merger or acquisition

has resulted the reduction of overall financial risk which will increase the profit after tax that may produce more return.

**Interest Coverage Ratio**



Interest Coverage Ratio (ICR) states how many times the fixed interest is covered by the profit. Greater Ratio signifies that the business is able to meet the interest obligation without damaging the liquidity position.

Figure 10 illustrates that the ICR post-merger has been improved for ACC & Dalmia, however it is very slightly decreased in case of Ambuja and Jay Prakash, but it remains positive and nearer to one. It indicates all the companies under study are quite able and efficient to meet the payment of interest obligation.

## Event Study

Event Study Analysis Extracted for 61-day event window

Days	ACC		Ambuja		Dalmia		Jay Prakash	
	AR	t-Value	AR	t-Value	AR	t-Value	AR	t-Value
-30	-0.0032	-0.2197	-0.0114	-0.7337	-0.0166	-0.6513	-0.0068	-0.2375
-29	0.0048	0.3327	0.0064	0.4118	0.0321	1.2591	0.0017	0.0584
-28	0.0053	0.3677	0.0029	0.1884	-0.0064	-0.2519	-0.0016	-0.0546
-27	0.0038	0.2608	-0.0025	-0.1625	-0.0133	-0.5211	0.0013	0.0460
-26	-0.0078	-0.5342	-0.0011	-0.0685	0.0018	0.0698	-0.0012	-0.0421
-25	0.0032	0.2206	-0.0002	-0.0121	0.0189	0.7443	0.0024	0.0847
-24	-0.0030	-0.2090	-0.0046	-0.2963	-0.0040	-0.1587	0.0021	0.0745
-23	0.0143	0.9856	0.0070	0.4491	0.0380	1.4917	0.0003	0.0091
-22	-0.0003	-0.0234	-0.0013	-0.0825	0.0164	0.6453	0.0006	0.0227
-21	0.0003	0.0176	0.0084	0.5415	-0.0104	-0.4070	-0.0009	-0.0313
-20	0.0026	0.1781	0.0074	0.4755	0.0402	1.5801	-0.0001	-0.0043
-19	-0.0044	-0.3017	-0.0014	-0.0874	-0.0118	-0.4628	0.0003	0.0091
-18	0.0098	0.6743	0.0033	0.2125	0.0193	0.7589	-0.0009	-0.0311
-17	-0.0092	-0.6369	-0.0085	-0.5453	-0.0266	-1.0432	-0.0009	-0.0309
-16	0.0007	0.0450	-0.0007	-0.0435	0.0205	0.8034	0.0006	0.0222
-15	0.0005	0.0344	-0.0016	-0.1018	-0.0063	-0.2470	0.0010	0.0360
-14	-0.0005	-0.0328	0.0113	0.7291	0.0181	0.7102	0.0011	0.0367
-13	0.0131	0.9052	0.0269	1.7366	0.0058	0.2292	-0.0021	-0.0723
-12	0.0034	0.2371	0.0037	0.2366	-0.0135	-0.5309	0.0006	0.0227
-11	0.0116	0.8017	0.0277	1.7828	-0.0163	-0.6389	0.0011	0.0367
-10	0.0081	0.5555	0.0289	1.8622	0.0308	1.2094	0.0015	0.0514
-9	-0.0200	-1.3779	-0.0262	-1.6913	-0.0081	-0.3192	0.0007	0.0240
-8	0.0038	0.2624	-0.0077	-0.4959	-0.0109	-0.4299	0.0024	0.0825
-7	0.0016	0.1086	-0.0038	-0.2420	0.0062	0.2424	-0.0070	-0.2431
-6	-0.0053	-0.3619	-0.0164	-1.0561	-0.0032	-0.1260	-0.0001	-0.0043
-5	0.0003	0.0211	0.0136	0.8748	-0.0197	-0.7724	0.0014	0.0499
-4	0.0008	0.0580	0.0050	0.3237	-0.0147	-0.5784	-0.0001	-0.0043
-3	0.0032	0.2211	0.0124	0.7985	0.0023	0.0910	-0.0009	-0.0316
-2	-0.0011	-0.0738	-0.0005	-0.0308	0.0127	0.4991	0.0003	0.0093
-1	-0.0019	-0.1341	0.0140	0.9002	0.0016	0.0643	-0.0024	-0.0848
0	-0.0006	-0.0444	0.0036	0.2342	0.0107	0.4203	-0.0070	-0.2438
1	0.0122	0.8422	0.0434	<b>2.7997*</b>	0.0148	0.5800	-0.0051	-0.1788
2	0.0216	1.4858	0.0283	1.8262	-0.0132	-0.5178	0.0038	0.1343
3	0.0044	0.3011	0.0259	1.6661	-0.0130	-0.5103	0.0006	0.0195
4	-0.0159	-1.0923	-0.0164	-1.0539	-0.0293	-1.1500	0.0020	0.0686
5	0.0377	<b>2.5979*</b>	0.0434	<b>2.7977*</b>	-0.0239	-0.9381	-0.0005	-0.0166
6	0.0192	1.3226	0.0205	1.3203	-0.0213	-0.8379	-0.0015	-0.0529
7	0.0435	<b>2.9974*</b>	0.0762	<b>4.9123*</b>	0.0374	1.4673	-0.0070	-0.2455
8	0.0010	0.0712	0.0283	1.8246	0.0049	0.1929	0.0041	0.1423
9	-0.0346	-2.3860	-0.0368	-2.3739	0.0243	0.9564	-0.0008	-0.0274
10	0.0076	0.5222	0.0877	<b>5.6520*</b>	0.0459	<b>1.8019*</b>	0.0015	0.0538
11	0.0213	1.4691	0.0136	0.8768	0.0009	0.0337	0.0012	0.0432
12	-0.0504	-3.4703	-0.0579	-3.7301	0.0308	1.2084	-0.0022	-0.0752
13	0.0065	0.4455	-0.0124	-0.7998	-0.0264	-1.0361	0.0002	0.0074
14	-0.0181	-1.2457	0.0142	0.9178	-0.0136	-0.5342	0.0051	0.1776
15	-0.0310	-2.1349	-0.0490	-3.1599	0.0088	0.3445	0.0024	0.0852
16	-0.0015	-0.1001	-0.0135	-0.8695	-0.0135	-0.5320	0.0065	0.2269
17	-0.0067	-0.4645	-0.0064	-0.4133	-0.0183	-0.7193	-0.0064	-0.2225
18	0.0068	0.4653	0.0130	0.8384	0.0238	0.9335	-0.0012	-0.0432
19	0.0117	0.8079	0.0137	0.8847	0.0286	1.1254	0.0002	0.0086
20	-0.0331	-2.2762	-0.0507	-3.2645	0.0142	0.5589	-0.0005	-0.0172

21	0.0169	1.1669	0.0012	0.0778	-0.0041	-0.1622	-0.0001	-0.0043
22	0.0063	0.4310	0.0284	1.8321	-0.0095	-0.3714	-0.0072	-0.2498
23	0.0008	0.0534	0.0291	1.8749	-0.0209	-0.8226	0.0002	0.0074
24	-0.0045	-0.3108	0.0026	0.1676	0.0202	0.7950	0.0012	0.0432
25	-0.0168	-1.1579	-0.0401	-2.5862	0.0266	1.0434	0.0016	0.0563
26	0.0014	0.0987	0.0082	0.5264	-0.0289	-1.1369	0.0020	0.0704
27	-0.0188	-1.2943	-0.0156	-1.0075	0.0169	0.6647	0.0032	0.1119
28	-0.0032	-0.2189	0.0073	0.4685	0.0180	0.7064	-0.0005	-0.0175
29	0.0079	0.5433	0.0345	2.2265	0.0051	0.2012	-0.0012	-0.0434
30	-0.0155	-1.0663	-0.0275	-1.7695	0.0089	0.3503	0.0006	0.0217

Sources: Authors' compilation (\*t-value at 5% level of significance is statistically significant as the value is more than the tabulated value 1.96)

The event study analysis conducted over a 61-day window (from day -30 to +30) provides key insights into the abnormal returns (AR) and their statistical significance for four cement companies: ACC, Ambuja, Dalmia, and Jay Prakash. Focusing on the t-values at a 5% level of significance (critical value  $\pm 1.96$  for a two-tailed test), we can interpret market reactions before and after the event. For Ambuja Cements, the post-event window reveals a strong positive reaction from day 1 onwards. Notably, the t-values on day 1 (2.7997), day 5 (2.7977), day 7 (4.9123), and day 10 (5.6520) are statistically significant, indicating a sustained investor confidence and strong abnormal returns post-event. ACC also exhibits significant positive abnormal returns, particularly on day 5 ( $t = 2.5979$ ) and day 7 ( $t = 2.9974$ ), suggesting that the event was favourably received by the market, though the effect is slightly more moderate compared to Ambuja. In contrast, Dalmia shows mixed results. While the company experienced brief positive ARs (e.g., day 10 with  $t = 1.8019$ ), these did not consistently cross the 1.96 threshold, except for day 10, which marginally meets the significance level. The company's results appear relatively neutral, hinting at either investor uncertainty or muted expectations. Jay Prakash Associates, however, does not reflect any statistically significant t-values throughout the window. This suggests a negligible market reaction or possibly that other external factors diluted the event's effect on its stock. In summary, Ambuja and ACC emerged as the strongest performers with statistically significant and consistent abnormal returns post-event, reflecting strong investor optimism. Meanwhile, Dalmia and Jay Prakash did not exhibit clear or sustained significant responses, implying either investor hesitation or weak perceived impact of the event.

### Findings

This study adopts a dual-method approach, employing both Ratio Analysis and Event Study to interpret the outcomes effectively. The ratio analysis indicates that the liquidity position of all the companies involved in mergers or acquisitions has shown improvement in the post-merger phase, as reflected by current and liquid ratios consistently exceeding one. In terms of profitability, there has been a noticeable enhancement post-merger when compared to the pre-merger scenario. Key return indicators such as Return on Net Worth (RoNW) and Return on Capital Employed (RoCE) have demonstrated positive growth following the merger. Both Earnings Per Share (EPS) and Dividend Per Share (DPS) exhibit an upward trend after the merger, although Jay Prakash Associates reported a DPS of zero due to the absence of distributable profits. The debt-equity ratio has declined across the post-merger period, indicating a reduction in reliance on interest-bearing debt and thereby suggesting a lowered financial risk. Additionally, the interest coverage ratio (ICR) for ACC and Ambuja has improved and remains at a comfortable level, signalling better debt servicing capacity. While the ICR for Dalmia and Jay Prakash is comparatively lower, it remains positive, indicating they are meeting their interest obligations. Overall, the ratio analysis confirms that the operational efficiency of the firms studied has improved post-merger, underscoring the financial and structural benefits realized through these consolidation activities.

Event study analysis displays the Abnormal Return (AR) of Ambuja cement post-merger on 1 (2.7997), day 5 (2.7977), day 7 (4.9123), and day 10 (5.6520) are statistically significant, indicating a sustained investor confidence and strong abnormal returns post-event. ACC also exhibits significant positive abnormal returns, particularly on day 5 ( $t = 2.5979$ ) and day 7 ( $t = 2.9974$ ), suggesting that the event was favourably received by the market, though the effect is slightly more moderate compared to Ambuja. In summary,

Ambuja and ACC emerged as the strongest performers with statistically significant and consistent abnormal returns post-event, reflecting strong investor optimism. Meanwhile, Dalmia and Jay Prakash did not exhibit clear or sustained significant responses, implying either investor hesitation or weak perceived impact of the event.

### Conclusion

In alignment with the stated research objectives and based on the dual-method approach employed in this study, the findings offer a well-rounded understanding of the short-term market reaction and long-term operational outcomes of mergers and acquisitions in the Indian cement sector.

Addressing the first objective, the event study analysis clearly demonstrates that shareholders of companies like Ambuja Cements and ACC responded positively to the M&A announcements. The abnormal returns observed on multiple event days—especially days 1, 5, 7, and 10—were statistically significant and reflect a strong market perception of value creation through these deals. This provides credible evidence to reject Null Hypothesis  $H_{01}$ , confirming that M&A announcements do, in fact, lead to significant abnormal returns in the short run.

Turning to the second objective, the ratio analysis presents a compelling case for improved operational performance post-merger. Companies reported better liquidity with current and liquid ratios above one, stronger profitability metrics such as RoNW and RoCE, and upward trends in EPS and DPS—except in the case of Jay Prakash Associates, which did not declare dividends due to negative distributable profits. Additionally, the declining debt-equity ratios and improved interest coverage for ACC and Ambuja further indicate enhanced financial stability. These findings justify rejecting Null Hypothesis  $H_{02}$ , suggesting that mergers have positively influenced the operational efficiency and long-term value of the firms.

In essence, the research concludes that mergers and acquisitions have not only been met with optimism in the stock market but have also contributed meaningfully to the financial and structural improvement of the acquiring firms. This dual impact—immediate investor confidence and sustained operational gains—highlights the strategic value of consolidation in the cement industry.

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