

Financial Performance Dynamics Following Mergers and Acquisitions: Evidence from Indian Firms

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Abstract

This study examines the relationship between mergers and acquisitions (M&A) and the financial performance of acquiring firms in the Indian context. Mergers are widely regarded as strategic instruments in corporate finance for achieving operational synergies and enhancing shareholder wealth. Although extensive international literature has analysed post-merger performance, evidence based on accounting measures remains inconclusive. Studies conducted in India similarly report mixed and contradictory findings regarding the value creation potential of mergers for acquiring firms. Motivated by these inconsistencies, the present study investigates whether mergers lead to long-term improvements in the financial performance of acquiring companies and contribute to shareholder wealth creation. The analysis employs both accounting-based measures and cash flow indicators to assess post-merger performance. Financial ratios and a cash flow model are used to evaluate changes in firm performance over time. The study focuses on domestic mergers involving listed Indian firms during the period 2004–2023. To capture long-term effects, performance is examined over a three-year window surrounding the merger event. The empirical results indicate a noticeable improvement in the post-merger financial performance of acquiring firms over the long-run period of $[-3, +3]$ years. These findings suggest that mergers may contribute positively to shareholder value in the Indian corporate sector.

Keywords: Mergers and Acquisitions; Financial Performance; Acquiring Firms; Post-Merger Performance; Long-Term Operating Performance; Profitability; Operating Cash Flow; Indian Firms.

1. Introduction

Mergers and acquisitions (M&A) have emerged as prominent strategic instruments for corporate growth and value creation in modern financial markets. Firms increasingly pursue mergers as a means of expanding market share, achieving economies of scale, obtaining tax advantages, and generating operational and financial synergies. In emerging economies such as India, characterized by expanding capital markets and ongoing structural reforms, M&A activities have gained considerable momentum as firms seek to strengthen their competitive position and enhance shareholder wealth. The decision to engage in mergers and acquisitions has far-reaching implications. Beyond shareholders, such corporate restructuring affects managers, employees, customers, and the broader economy. Mergers often lead to substantial changes in ownership structure, governance practices, operational efficiency, and financial

policies of the acquiring firm. Consequently, evaluating whether mergers truly generate value for shareholders, particularly in the long run, remains a central question in corporate finance research.

An extensive body of empirical literature has examined post-merger performance using both market-based measures, such as stock returns, and accounting-based indicators, including profitability and efficiency ratios. While international studies provide mixed evidence regarding shareholder wealth creation, findings in the Indian context are similarly inconclusive and, at times, contradictory. These inconsistencies highlight the need for further empirical investigation, particularly in the post-financial crisis period, when firms faced new regulatory, financial, and competitive dynamics.

Against this backdrop, the present study investigates whether mergers contribute to long-term improvements in the financial performance of acquiring firms in India. The analysis focuses on domestic mergers involving listed companies and evaluates post-merger performance over a three-year period. A comprehensive sample of 198 firms out of 363 acquiring firms is examined, covering merger activities undertaken during the period 2004 to 2023, following the 2008 global financial crisis.

To capture the potential synergy effects of mergers, the study employs two complementary methodological approaches. First, financial ratio analysis is used to assess changes in profitability and operational performance. Second, a cash flow-based model is applied to evaluate improvements in financial strength and value generation capacity. By integrating both accounting-based and cash flow measures, the study provides a more robust assessment of post-merger performance and shareholder value creation.

The findings of this research aim to contribute to the ongoing debate on the effectiveness of mergers as a strategic tool for value enhancement in emerging markets. The remainder of the paper is structured as follows: the next section reviews the relevant literature, followed by the research methodology, empirical results, discussion, and concluding remarks.

2. Review of Literature on Long Run Operating Performance

Prior empirical research on post-merger performance of acquiring firms presents mixed and inconclusive evidence. Studies examining long-term operating performance have produced inconsistent findings, with some reporting significant improvements following mergers, while others document negligible or even adverse effects. In Western economies, the evidence regarding long-run performance remains particularly divided. For instance, an analysis of the U.S. generic pharmaceutical industry using accounting-based measures found that reported profits did not exhibit significant improvement following mergers (Trujillo, Garcia-Morales, Kabarriti, & Anderson, 2020). Such findings underscore the ongoing debate concerning the effectiveness of mergers in enhancing firm performance.

In the Indian context, research focusing on post-merger performance particularly using accounting ratios also reflects divergent outcomes. Several studies report improvements in post-merger performance (Kumar & Rajib, 2007; Ramakrishnan, 2008; Azhagaiah & Ramachandran, 2007; Rani, Yadav, & Jain, 2012; Srinivasa Reddy, Nangia, & Agrawal, 2013; Kalra, 2013). Conversely, other empirical investigations find no significant enhancement in operating or financial performance following mergers (Pawaskar, 2001; Beena, 2004; Mantravadi, 2007; Singh & Mogla, 2008; Kumar, 2009). These contrasting findings indicate the absence of a clear consensus on whether mergers consistently create value for acquiring firms in India.

Methodologically, Indian studies primarily adopt two broad approaches to evaluate post-merger performance. Some researchers rely on financial ratio analysis, while others employ cash flow-based measures to assess performance changes. Comparative frameworks typically involve pre- and post-merger

matching techniques or industry-adjusted benchmarks to isolate merger effects. Regarding statistical testing, parametric methods particularly the paired sample t-test are most commonly used to examine differences between pre-merger and post-merger performance indicators. Overall, the heterogeneity in findings and methodological approaches highlights the need for further comprehensive and robust investigation into the long-term performance consequences of mergers in the Indian corporate sector.

2.1 Objective of the study

This study examines the relationship between mergers and acquisitions (M&A) and the financial performance of acquiring firms in the Indian context

2.2 Hypotheses of the study

This is generally accepted in the literature from which we can conclude that synergy is the cause for mergers and acquisitions. If the synergy is created in the form of financial as well as operating, it must be reflected in the profitability or cash flow of the acquiring firms. Hence two hypotheses have been proposed based on this argument.

H 1 = There is a significant difference in the profitability of acquiring firms between the pre-merger and post-merger period

H 2 = There is a significant difference in cash flow to total assets between the pre-merger to post-merger period.

3. Data and Methodology

3.1 Sample selection

The dataset underpinning this study was sourced from the Centre for Monitoring Indian Economy (CMIE) Prowess database, a comprehensive repository widely utilized in corporate finance research within the Indian context. The study encompasses a sample period spanning from 2004 to 2023, deliberately selected to capture post-merger long-term performance dynamics within the contemporary Indian economic landscape, while also accounting for the structural shifts that followed the global financial crisis of 2008. Sample selection criteria required that complete financial data be available for each acquiring firm across a symmetric window of three years prior to and three years subsequent to the respective merger year. The analysis is restricted exclusively to domestic mergers, thereby ensuring comparability across transactions and eliminating cross-border confounding factors. Following the application of these criteria, the final sample comprises 198 acquiring firms out of 363 selected firms due to overlapping in data, partial and missing data. To maintain analytical integrity and avoid distorted performance attribution, cases involving overlapping merger events have been systematically excluded from the study.

3.2 Methodology of the Study

The present study employs an accounting-based analytical framework to evaluate the post-merger profitability of acquiring firms. Four key financial ratios Return on Assets (ROA), Return on Capital Employed (ROCE), Return on Net Worth (RONW), and Profit Margin serve as the primary performance indicators, collectively enabling a comprehensive assessment of profitability changes attributable to merger activity.

To establish a meaningful performance benchmark, the acquiring firms' pre- and post-merger financial outcomes are evaluated against a set of matched firms defined as comparable companies that did not undertake any acquisition during the sample period. This matched-firm approach mitigates the influence of industry-wide trends and macroeconomic fluctuations on observed performance changes.

The temporal framework adopted for performance comparison spans three fiscal years prior to the merger ($t-1$, $t-2$, $t-3$) and three fiscal years following the merger ($t+1$, $t+2$, $t+3$). The merger year itself ($t=0$) is deliberately excluded from the analysis to avoid the confounding effects of transitional adjustments and one-time merger-related costs. Furthermore, industry-adjusted performance measures are incorporated to control for sector-specific variations, thereby isolating the firm-level impact of the merger transaction. For hypothesis testing, a paired sample t-test is employed to determine whether statistically significant differences exist between the pre-merger and post-merger mean values for each of the financial performance variables outlined above.

Table 1: Variable description for analysis

Return on Assets	ROA= PAT/TA*100
Return on Net worth	RONW= PAT/ NETWORTH*100
Return on Capital Employed	ROCE= PAT/ROCE*100
Profit margin	EBITDA/SALES*100

3.3 Cash flow measure

In the present study, operating performance is primarily measured using pre-tax operating cash flow. This measure is defined as the sum of operating income, depreciation, interest expenses, and taxes, and is considered relatively unaffected by variations in accounting methods. Consequently, it provides a more consistent indicator for evaluating firm performance. To capture the cash flow performance of acquiring firms, the study employs Earnings Before Interest, Taxes, Depreciation, and Amortization (EBITDA) as a proxy for operating cash flow. In order to ensure comparability across firms of different sizes, EBITDA is scaled by total assets. This normalization helps control for firm size differences and allows for a more meaningful comparison of performance across companies. Furthermore, to assess changes in profitability following mergers, the study applies a cross-sectional regression model. This model enables the analysis of variations in profitability measures across firms and facilitates the evaluation of the impact of mergers on post-acquisition financial performance.

$$\text{Model One: } P O M D C F = \alpha + \beta P R E M D C F + \epsilon$$

Where,

$P O M D C F$ = Post median industry adjusted cash flow to total assets

$P R E M D C F$ = Pre median industry adjusted cash flow to total assets

In the regression model, the slope coefficient captures the relationship between cash flow returns in the pre-merger and post-merger periods. It reflects the extent to which variations in pre-merger cash flow performance are associated with corresponding changes in post-merger performance. The y-intercept (α) represents the change in annual control-adjusted performance attributable to the merger, independent of the firm's pre-merger performance. In other words, it measures the average shift in performance following the merger after controlling for prior performance levels. This parameter indicates the magnitude of change in the dependent variable, POMDCF, associated with the merger effect.

The term ϵ denotes the error term in the regression equation, capturing random disturbances or unexplained variations around the regression line. It represents factors influencing performance that are not explicitly included in the model.

Table 2: Premerger to post-merger financial performance of selected variables of sampled firms

Variables	N	Pre- Mean	Post Mean	Mean Difference	t-Value	P-Value
ROA	198	4.9260	3.5191	-1.40689	2.110	.036*
ROCE	198	8.3943	6.0866	-2.30770	2.382	.018*
RONW	198	10.9816	5.5771	-5.40450	2.461	.015*
Profit Margin	198	-21.6206	1.8251	23.44570	-1.288	.199

Source: Compiled by the author based on CMIE Data

Table 2 presents the results of four profitability indicators for the sample of 198 acquiring firms included in the study. With regard to Return on Assets (ROA), the mean value during the pre-merger period is 4.92, whereas the post-merger mean value declines to 3.51. The mean difference between the post-merger and pre-merger periods is -1.40 . The calculated t-value of 2.110 with a p-value of 0.036 indicates that this difference is statistically significant at the 5 percent level. Similarly, for Return on Capital Employed (ROCE), the pre-merger mean is 8.3943, while the post-merger mean decreases to 6.0866. The mean difference between the two periods is -2.3077 , with a t-value of 2.382 and a p-value of 0.018, which is also statistically significant at the 5 percent level. This result suggests a decline in post-merger performance in terms of capital efficiency.

In the case of Return on Net Worth (RONW), the pre-merger mean is recorded at 10.981, whereas the post-merger mean falls to 5.577. The mean difference is -5.5771 , and the associated t-value of 2.461 with a p-value of 0.015 indicates statistical significance at the 5 percent level. Overall, among the four profitability indicators examined, three show negative mean differences when comparing the post-merger period with the pre-merger period. These findings suggest a decline in profitability for acquiring firms following the merger.

Table 3: Paired comparison of Pre-post-performance of cash flow to total assets of merger and acquiring firms

Paired Variables	Pre-Mean	Post Mean	Mean Difference	t-Value	P-Value
Average of [t-3, t-2, t-1], [t+1, t+2, t+3]	2.22	1.33	-0.89	1.35	0.178
[t-3, t+1]	12.35	11.19	-1.16	1.55	.124
[t-3, t+2]	12.35	10.73	-1.62	2.15	.033*
[t-3, t+3]	12.35	10.50	-1.85	2.31	.022*
[t-2, t+1]	12.22	11.19	-1.03	1.47	.143
[t-2, t+2]	12.22	10.73	-1.49	2.01	.046*
[t-2, t+3]	12.22	10.50	-1.72	2.28	.024*
[t-1, t+1]	12.10	11.19	-0.92	1.08	.282

[t-1, t+2]	12.10	10.73	-1.38	1.49	.137
[t-3, t+3]	12.10	10.50	-1.60	1.67	.096

Source: Compiled by the author based on CMIE Data

The table 3 presents the results of paired comparisons between the pre-merger and post-merger performance of acquiring firms across different time windows surrounding the merger event. The analysis compares the average values of performance indicators during the pre-merger period [t-3,t-2,t-1] with corresponding post-merger periods [t+1,t+2,t+3] using a paired sample t-test. When the overall average of the three-year pre-merger period [t-3,t-2,t-1] is compared with the three-year post-merger period [t+1,t+2,t+3], the pre-merger mean value is 2.22, while the post-merger mean declines to 1.33, resulting in a mean difference of -0.89. However, the calculated t-value of 1.35 with a p-value of 0.178 indicates that this difference is not statistically significant. A similar pattern is observed in the comparison between [t-3, t+1], where the pre-merger mean of 12.35 decreases to 11.19 in the post-merger period. Although the mean difference is -1.16, the result is statistically insignificant with a p-value of 0.124.

In contrast, statistically significant declines in performance are observed in several other comparisons. For example, in the [t-3, t+2] window, the mean decreases from 12.35 to 10.73, producing a mean difference of -1.62 with a t-value of 2.15 and a p-value of 0.033, which is significant at the 5 percent level. Similarly, the [t-3, t+3] comparison shows a reduction from 12.35 to 10.50, with a mean difference of -1.85, and the result is statistically significant (t = 2.31, p = 0.022). Further comparisons also indicate a decline in post-merger performance. The [t-2, t+2] and [t-2, t+3] windows show statistically significant decreases, with mean differences of -1.49 (p = 0.046) and -1.72 (p = 0.024), respectively. However, other shorter time-window comparisons such as [t-1, t+1] and [t-1, t+2] do not demonstrate statistically significant changes.

Overall, the results suggest that the post-merger performance of acquiring firms tends to decline relative to the pre-merger period in several time windows, and some of these declines are statistically significant. This pattern indicates that mergers may not consistently lead to immediate improvements in firm performance and, in some cases, may be associated with reduced operational outcomes in the years following the merger.

Table 4: Regression analysis of pre-merger and post-merger operating cash flow performance of acquiring firms

	Beta value	t	Sig.
A	0.48	0.935	0.3510
MDIACFTA	0.38*	7.435	0.0000
R Square	0.221		
F	55.27*		0.0000

Source: Compiled by the author based on CMIE Data

Table 4 presents the results of the regression analysis conducted to examine the relationship between pre-merger and post-merger operating cash flow performance of acquiring firms. The estimated regression model is expressed as:

$$\text{MDIACFAPOST} = 0.48 + 0.385 \text{MDIACFAPRE} + \varepsilon$$

The intercept (α) has a value of 0.48, with a t-statistic of 0.935 and a significance value of 0.351. Since the p-value is greater than the conventional 5 percent significance level, the intercept is statistically insignificant. This indicates that the baseline change in post-merger performance, independent of pre-merger cash flow performance, is not statistically different from zero. The coefficient of the independent variable MDIACFAPRE (pre-merger operating cash flow measure) is 0.38, and it is statistically significant at the 1 percent level ($t = 7.435$, $p = 0.000$). The positive coefficient suggests that firms with higher pre-merger operating cash flow performance tend to maintain relatively better post-merger cash flow performance. In other words, the pre-merger financial strength of acquiring firms plays an important role in explaining their post-merger performance. The R-squared value of 0.221 indicates that approximately 22.1 percent of the variation in post-merger operating cash flow performance is explained by the model. Although this suggests a moderate explanatory power, it still indicates that pre-merger performance contributes meaningfully to explaining post-merger outcomes. Furthermore, the F-statistic of 55.27, which is significant at the 1 percent level ($p = 0.000$), confirms that the overall regression model is statistically significant. This implies that the explanatory variable included in the model jointly contributes to explaining variations in post-merger cash flow performance. Overall, the regression results indicate a positive and statistically significant relationship between pre-merger and post-merger operating cash flow performance. This finding suggests that firms with stronger financial performance prior to the merger are more likely to sustain better performance following the merger.

Table 5: Regression results of acquiring firms

Variables	Stock return	ROE
RD	1.344	0.0343
	(2.834)	(0.133)
Leverage	0.434	-0.294**
	(0.917)	(0.131)
Size	-0.242** (0.115)	0.0270** (0.0114)
Sales growth	9.62e-06 (1.49e-05)	-4.67e-06*** (1.19e-06)
Cash reserve	-0.755	-0.0181
	(0.962)	(0.0971)
Constant	3.704***	0.0744
	(1.083)	(0.0865)
Observations	116	116
R-squared	0.044	0.092
Robust standard errors in parentheses		
*** p<0.01, ** p<0.05, * p<0.1		

Source: Compiled by the author based on CMIE Data

The table 5 presents the regression results examining the relationship between R&D intensity (RD), firm characteristics, and two dependent variables: stock return and return on equity (ROE). The model includes

leverage, firm size, sales growth, and cash reserves as control variables. Robust standard errors are reported in parentheses, and statistical significance is indicated by conventional levels.

Effect on Stock Return

The coefficient of R&D (RD) on stock return is 1.344, and it is statistically significant ($t = 2.834$). This suggests that higher investment in research and development is associated with higher stock returns. In other words, firms that allocate more resources to innovation tend to generate better market performance. Leverage shows a positive coefficient (0.434), but the result is not statistically significant, indicating that the firm's debt level does not have a meaningful influence on stock returns in this model.

The coefficient for firm size is negative (-0.242) and statistically significant at the 5% level. This indicates that larger firms tend to experience slightly lower stock returns compared to smaller firms, possibly reflecting slower growth opportunities. Sales growth has a very small positive coefficient ($9.62e-06$) and is statistically insignificant, suggesting that sales expansion does not significantly influence stock returns in this model. Similarly, cash reserves show a negative but statistically insignificant coefficient (-0.0181), implying that liquidity levels do not play a major role in explaining stock return variations. The constant term is positive and statistically significant (3.704^*), indicating the baseline level of stock return when other variables are held constant.

Effect on Return on Equity (ROE)

In the second model where ROE is the dependent variable, the coefficient of RD is 0.0343, but it is statistically insignificant. This implies that R&D investment does not have a strong direct effect on the accounting profitability of firms. Leverage has a negative and statistically significant coefficient (-0.294), suggesting that higher debt levels reduce firms' return on equity, likely due to higher financial obligations. Sales growth exhibits a positive and significant coefficient (0.0270), indicating that firms experiencing higher sales growth tend to achieve better profitability. Cash reserves have a negative and highly significant coefficient ($-4.67e-06^*$), implying that holding excess cash may slightly reduce return on equity, possibly due to inefficient utilization of financial resources. The constant term in the ROE model is positive but statistically insignificant.

Model Fit

The R-squared values for the two models are 0.044 and 0.092, respectively. These values indicate that the explanatory variables account for approximately 4.4% of the variation in stock returns and 9.2% of the variation in ROE. Although the explanatory power is relatively modest, the results still provide insights into the factors influencing firm performance. Overall, the findings suggest that R&D investment contributes positively to stock market performance but does not significantly affect accounting profitability (ROE). Firm characteristics such as leverage, size, and sales growth play varying roles in influencing financial performance, highlighting the complex relationship between innovation investment and firm outcomes.

5. Conclusion

The primary objective of this study is to examine the long-term performance of acquiring firms involved in mergers and acquisitions in India. The empirical findings indicate that the performance of acquiring firms tends to decline in the post-merger period when compared with the pre-merger phase. This decline is observed across both profitability indicators and cash flow measures, suggesting that mergers do not necessarily lead to immediate financial improvements for acquiring firms.

In addition, the study attempts to identify the factors that influence the post-merger performance of acquiring firms. The results suggest that firm size and sales growth are significant determinants in explaining variations in post-merger performance. These factors appear to play an important role in shaping the outcomes of merger activities and the ability of firms to sustain financial performance following acquisition.

The findings of this study provide important implications for corporate managers, investors, and policymakers by highlighting the potential challenges associated with merger activities in the Indian corporate sector. Future research may extend this analysis by incorporating a larger sample of firms and a longer time horizon to gain deeper insights into the performance dynamics of acquiring companies following mergers and acquisitions.

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