

An Analytical Study of Mergers and Acquisitions in the Indian Insurance Sector: Financial Impact Assessment

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Abstract: This research critically examines two significant mergers in India's insurance sector: HDFC Ltd.'s acquisition of Apollo Munich Health Insurance Company Limited, followed by its integration into HDFC ERGO General Insurance Company Limited, and the amalgamation of Bharti AXA General Insurance into ICICI Lombard General Insurance Company Limited. The study delves into the strategic motivations, regulatory challenges, integration methodologies, and post-merger outcomes of these transactions. Findings reveal that both mergers were driven by objectives such as market consolidation, diversification of product portfolios, and the pursuit of operational synergies.

However, the success of these mergers was contingent upon effective navigation of regulatory landscapes, meticulous integration planning, and the realization of anticipated synergies. This analysis offers valuable insights into the critical factors influencing successful mergers and acquisitions within India's dynamic insurance industry.

Key words: DuPont, Return on Equity, Net Profit Margin, Asset Turnover Ratio

INTRODUCTION

Mergers and acquisitions (M&A) play a crucial role in shaping the competitive landscape of industries by driving growth, enhancing financial stability, and expanding market influence. In India's insurance sector, regulatory reforms and shifting market dynamics have fueled an increase in M&A activities, leading to industry consolidation and expansion. This study examines two major transactions: HDFC Ltd.'s acquisition of Apollo Munich Health Insurance, which later merged into HDFC ERGO General Insurance, and the integration of Bharti AXA General Insurance into ICICI Lombard General Insurance.

HDFC Ltd.'s Acquisition and Merger of Apollo Munich Health Insurance

In January 2020, HDFC Ltd. completed the

acquisition of a 51.2% stake in Apollo Munich Health Insurance Company Limited for ₹1,347 crore. This strategic move aimed to fortify HDFC's footprint in the health insurance domain by leveraging Apollo Munich's established market position and expertise. Subsequently, Apollo Munich was rebranded as HDFC ERGO Health Insurance Limited. In November 2020, a decisive step was taken to merge HDFC ERGO Health Insurance with HDFC ERGO General Insurance Company Limited, culminating in a consolidated entity under the HDFC ERGO brand. This merger was designed to offer a comprehensive suite of insurance products, streamline operations, and enhance customer service capabilities.

Merger of Bharti AXA General Insurance into ICICI Lombard General Insurance

In August 2020, Bharti AXA General Insurance and ICICI Lombard General Insurance agreed to an all-stock merger, forming a larger entity within the non-life insurance segment. This consolidation created an organization with a combined market share of 8.7%, making it the third-largest non-life insurer in India. The merger aimed to optimize operational efficiencies, diversify insurance offerings, and strengthen market positioning. The transaction concluded in September 2021, with Bharti and AXA receiving 35.8 million ICICI Lombard shares, collectively valued at approximately ₹664 million.

This research aims to dissect these mergers by exploring the financial impact of these mergers on the acquiring companies by evaluating key performance indicators (KPIs) such as Return on Assets (ROA), Return on Equity (ROE), Net Profit Margin (NPM), Revenue Growth Rate, and Earnings Per Share (EPS). The study seeks to determine whether these mergers have led to significant improvements in financial performance and EPS accretion, thereby providing insights into the effectiveness of M&A strategies within the Indian insurance industry.

LITERATURE REVIEW

Impact of Mergers on Financial Performance

Several studies have explored whether M&A transactions contribute to improved financial performance in the long run. Reddy K.S., Nangia V.K., and Agrawal R. (2013) assessed the post-merger financial performance of Indian firms using the earnings management approach and T-test. Their findings indicated that mergers generally enhanced financial stability and efficiency in both the manufacturing and service sectors over time. Mishra P.K., Prajapati A.K., and Patel V. (2005) focused on non-conglomerate bank mergers and found strong statistical evidence that these transactions reduced overall and unsystematic risk while having no significant impact on systematic risk.

Kawahara Y. and Takeda H. (2007) investigated 162 mergers in Japan from 2001 to 2013, using the Wilcoxon signed-rank test to compare post-merger corporate performance against similar firms in the same industry. Their study found no statistically significant improvement in performance following M&A transactions. Similarly, Bashir A., Sajid K., and Sheikh S.A. (2011) analyzed 45 mergers in Pakistan from 2004 to 2010 using event study methodology. They examined shareholder wealth within an 11-day event window and concluded that neither target nor acquiring firms generated significant value from the merger. These findings contrasted with traditional M&A literature, which often suggests that target firms experience positive wealth gains.

M&A in the Banking Sector

Mergers in the banking industry have attracted considerable academic attention due to their potential impact on financial efficiency, risk, and shareholder returns. Kumar R. and Suhas M. (2010) examined Indian banking mergers between 1996 and 2006 and found that stock market returns increased for both target and bidding banks. However, post-merger operating performance did not show significant improvement, and negative abnormal returns were observed in some cases. Raiyani J.R. (2010) analyzed the financial efficiency of merged banks by comparing pre- and post-merger performance over a five-year period. The study found that private sector banks outperformed public sector banks in profitability and liquidity, though public sector banks had better capital adequacy ratios.

Patel K. and Shah A. (2016) investigated bank mergers using the Economic Value Added (EVA) approach and financial metrics such as net profit margin, return on net worth, and return on assets. They concluded that while mergers can enhance financial performance, analyzing past financial data before a merger is crucial to ensuring a successful integration. Devarajapp R. (2012) compared the pre- and post-merger financial performance of HDFC Bank and Centurion Bank of Punjab. The findings indicated that post-merger, the gross profit and equity values improved, but there was no substantial change in net profit, return on capital, or operating profit.

Ghosh S. (2016) examined the merger of Global Trust Bank with Oriental Bank of Commerce, analyzing factors such as liquidity, efficiency, and profitability. While the acquirer bank experienced improvements in profitability and efficiency, its liquidity position remained unchanged. Patel M. (2014) investigated the financial and stock performance of selected banks post-merger and found a positive impact on public sector banks, which benefited more than their private sector counterparts. Kumari S. (2014) highlighted the strategic role of bank mergers, emphasizing their role in enhancing credit creation, increasing net worth, and expanding branch networks and ATM accessibility.

Industry-Specific Impact of M&A

The effects of mergers can vary significantly across industries. Mantravadi P. and Reddy A.V. (2008) analyzed Indian corporate mergers across different sectors, using financial ratios to assess pre- and post-merger performance. They found that the impact of M&A varied by industry, with some sectors experiencing greater financial benefits than others. Their earlier study (Mantravadi P. and Reddy A.V., 2007) examined how mergers influenced the relative size and operating performance of acquiring firms. Their results suggested only minor variations in financial performance post-merger, with relative size differences between acquiring and acquired firms playing a key role in performance outcomes.

Dewan S. (2007) conducted an analysis of Indian acquirer firms undergoing mergers in 2003, using financial data from 2000–2006 and paired sample t-tests. The study found significant differences in financial performance before and after mergers, with

industry type influencing post-merger outcomes. Similarly, Knapp M., Gart A., and Chaudhry M. (2006) explored profitability trends in bank holding companies, identifying a tendency for profitability to revert to industry averages. Adjusting for mean reversion, their study revealed that merged banks performed significantly better than industry peers in the first five years after consolidation.

Weiguo W. and Ming C. (2008) compared banking efficiency in China and the U.S. using Data Envelopment Analysis (DEA). Their findings suggested that M&A had a greater impact on improving the efficiency of Chinese banks compared to American banks.

Objectives of the Study

1. To evaluate the financial performance (ROA, ROE, NPM, and Revenue Growth Rate) pre- and post-merger for both acquiring companies.
2. To analyze whether the mergers led to EPS accretion or dilution.
3. To assess whether there is a statistically significant difference in financial performance before and after the mergers.

RESEARCH METHODOLOGY

The study follows a quantitative research design, as it analyzes numerical data related to key financial performance indicators (KPIs) before and after the mergers. The research is descriptive and causal-comparative, aiming to assess the impact of mergers on financial performance through statistical analysis. The study incorporates pre-merger and post-merger financial data to evaluate changes in KPIs such as Revenue Growth Rate, Net Profit Margin (NPM), Return on Assets (ROA), Return on Equity (ROE), Earnings Per Share (EPS), and Debt-Equity Ratio.

To test the hypotheses, a paired t-test is used to compare pre-merger and post-merger financial performance. Additionally, an Accretion/Dilution analysis determines whether the mergers resulted in earnings per share (EPS) accretion.

HYPOTHESIS

Hypothesis 1: Impact of Merger on Financial Performance (KPI Model)

- Null Hypothesis (H_0): The merger has no

significant impact on the financial performance of the acquiring company in terms of ROA, ROE, NPM, and Revenue Growth Rate.

- Alternative Hypothesis (H_1): The merger has significantly improved the financial performance of the acquiring company.

Hypothesis 2: Accretion/Dilution Analysis

- Null Hypothesis (H_0): The merger does not result in EPS accretion (i.e., post-merger EPS is not significantly higher than pre-merger EPS).
- Alternative Hypothesis (H_1): The merger results in EPS accretion (i.e., post-merger EPS is significantly higher than pre-merger EPS).

Data Collection Method

The study employs a documentary research method, as all required financial data is sourced from publicly available financial reports and databases. Data extraction involves:

- Identifying relevant financial statements before and after the mergers.
- Extracting numerical values for KPIs to ensure consistency.
- Cross-verifying data from multiple sources to ensure accuracy and reliability.
- Computing financial ratios and metrics required for the analysis.

Since the research is based on numerical financial data, it does not involve direct surveys or interviews.

Period of the Study

This study covers ten years from the financial year 2017-18 to 2023-24.

Data Analysis and Interpretation

This section presents the statistical and financial analysis of the two mergers:

1. HDFC Ergo's acquisition of Apollo Munich
2. ICICI Lombard's acquisition of Bharti AXA

Key Performance Indicator (KPI) Analysis

To analyze the impact of mergers on financial performance, we computed Revenue Growth Rate, Net Profit Margin (NPM), Return on Equity (ROE), Return on Assets (ROA), and Debt-Equity Ratio (D/E) before and after the mergers. The results are summarized as follows:

Key Performance Indicators	Apollo Munich Health Insurance			HDFC Ergo General Insurance Company Ltd			HDFC Ergo General Insurance Company Ltd			
	Pre Merger			Pre Merger			Post Merger			
	2017-18	2018-19	2019-20	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-2024
Revenue Growth Rate	-62.08	70.26	-79.14	339.95	6.59	-18.33	68.78	-21.69	31.59	-29.14
Net Profit Margin (NPM)	19.64	8.48	-610.15	64.69	57.57	60.18	64.53	69.66	69.08	65.37
Return on Equity (ROE)	4.26	3.13	-41.45	66.72	63.26	53.96	83.15	70.17	91.57	61.22
Return on Assets (ROA)	2.18	1.44	-15.07	18.92	16.62	9.99	15.75	12.18	13.67	7.92
Earnings Per Share (EPS)	0.43	0.31	-4.37	6.70	6.33	5.32	8.32	7.02	9.16	6.12
Debt-Equity Ratio (D/E)	0.22	0.43	0.38	0.58	0.58	0.83	0.71	0.74	1.16	1.50

Interpretation:

Apollo Munich had volatile revenue growth, ranging from -79.14% in 2019-20 to 70.26% in 2018-19. HDFC Ergo’s revenue growth rate was initially high (339.95% in 2017-18) but became negative (-18.33%) just before the merger. Post-merger, revenue growth fluctuated, peaking at 68.78% in 2020-21 before dropping to -29.14% in 2023-24. The inconsistency suggests post-merger integration challenges but also potential market expansion. Apollo Munich suffered a severe decline (-610.15%) in 2019-20, indicating financial distress for Net Profit Margin. HDFC Ergo maintained strong profit margins (above 50%) pre-merger. Post-merger, NPM improved significantly, reaching 69.66% in 2021-22,

showing improved efficiency. The decline to 65.37% in 2023-24 suggests that operational costs and market conditions slightly impacted profitability. Apollo Munich had a drastic decline in ROE (-41.45%) in 2019-20, indicating poor equity returns pre-merger. HDFC Ergo had a consistent ROE (above 50%) before the merger. Post-merger, ROE peaked at 91.57% (2022-23), indicating strong value generation, before declining slightly. Apollo Munich’s ROA dropped to -15.07%, showing inefficient asset utilization before the merger. HDFC Ergo had a steady ROA (above 10%). Post-merger ROA peaked at 15.75% in 2020-21 but declined, suggesting increased assets that have yet to generate proportionate returns.

Key Performance Indicators	Bharti AXA			ICICI Lombard			ICICI Lombard		
	Pre Merger			Pre Merger			Post Merger		
	2018-19	2019-20	2020-21	2018-19	2019-20	2020-21	2021-22	2022-23	2023-2024
Revenue Growth Rate	234.74	-8.29	209.26	27.51	18.67	22.15	1.12	26.31	-12.73
Net Profit Margin (NPM)	1.75	-152.78	24.39	162.56	169.56	167.85	196.70	182.64	143.64
Return on Equity (ROE)	0.19	-12.15	5.85	375.45	445.38	543.88	509.30	643.00	559.37
Return on Assets (ROA)	0.15	-10.02	4.83	27.76	32.70	28.75	25.71	29.68	21.22
Earnings Per Share (EPS)	0.02	-1.40	0.59	23.11	26.27	32.41	25.91	35.21	39.03
Debt-Equity Ratio (D/E)	0.14	0.13	0.12	1.07	1.07	1.07	0.99	0.07	0.07

Interpretation-

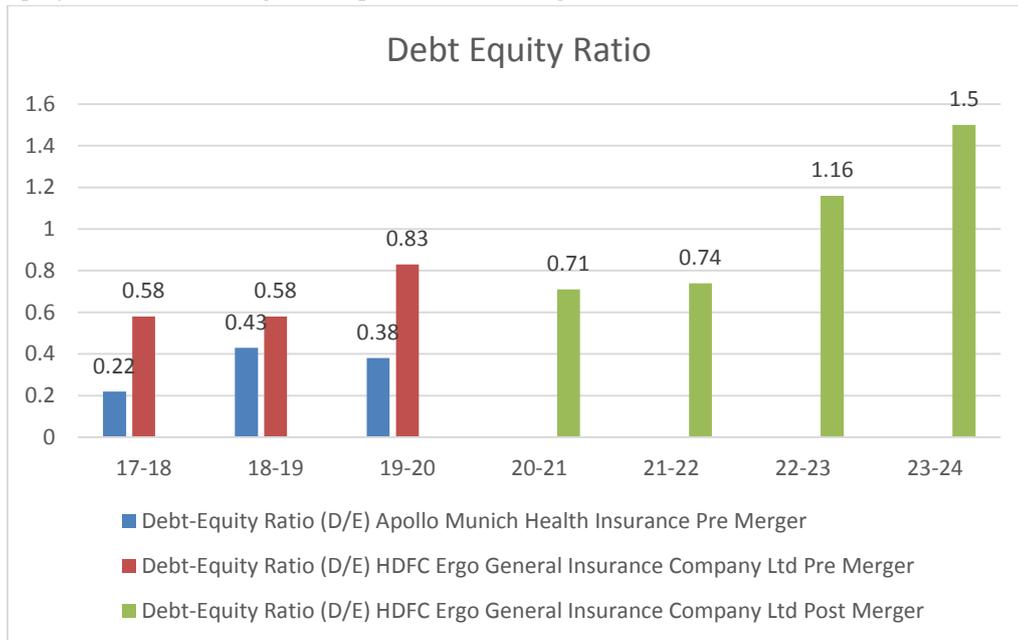
ICICI Lombard’s revenue growth was stable pre-merger (18-22%), while Bharti AXA’s fluctuated. Post-merger, revenue growth was inconsistent, peaking at 26.31% in 2022-23. Bharti AXA’s NPM dropped drastically to -152.78% in 2019-20, showing huge financial distress pre-merger. ICICI Lombard maintained high NPM pre-merger (above 160%), indicating strong profitability. Post-merger, NPM increased to 196.70% in 2021-22, showing cost efficiency improvements. The gradual decline to 143.64% in 2023-24 suggests rising expenses and competitive market pressures but still indicates strong profitability. Bharti AXA had unstable and extremely low ROE, turning negative in 2019-20 (-12.15%), reflecting poor shareholder returns. ICICI Lombard had exceptionally high ROE pre-merger (375% to 543%), showcasing strong profitability. Post-merger

ROE remained strong (509.30% in 2021-22, peaking at 643.00% in 2022-23). This indicates that the merger enhanced ICICI Lombard’s profitability, generating higher returns on equity. The slight dip to 559.37% in 2023-24 suggests minor operational inefficiencies but continued strong shareholder value creation. Bharti AXA had a negative ROA (-10.02%) in 2019-20, indicating poor asset efficiency before the merger. ICICI Lombard had healthy ROA pre-merger (above 27%), reflecting strong asset utilization. Post-merger ROA fluctuated, peaking at 29.68% in 2022-23 before declining to 21.22% in 2023-24. The decline suggests that ICICI Lombard faced asset utilization challenges post-merger, potentially due to increased operational costs and integration expenses. Debt-Equity Ratio (D/E) Analysis for Both Mergers Debt-Equity Ratio (D/E) measures the financial

leverage of a company and its ability to cover debts using shareholders' equity. A high D/E ratio indicates

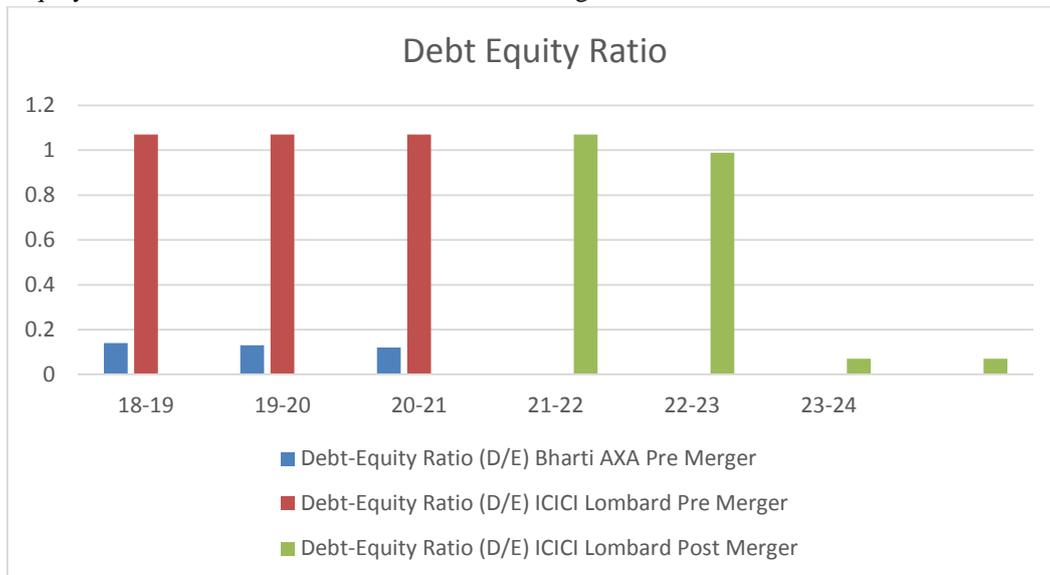
higher financial risk, whereas a low D/E ratio suggests a more conservative capital structure.

1. Debt-Equity Ratio - HDFC Ergo and Apollo Munich Merger



- Apollo Munich had a low D/E ratio (0.22 - 0.43) pre-merger, indicating low financial leverage.
- HDFC Ergo had a higher D/E ratio (0.58 - 0.83), meaning it relied more on debt.
- Post-merger, the D/E ratio increased from 0.71 (2020-21) to 1.50 (2023-24), showing increased debt financing.
- The rising D/E suggests that HDFC Ergo took on additional debt for expansion, integration, and operational costs post-merger

2. Debt-Equity Ratio - ICICI Lombard and Bharti AXA Merger



- Bharti AXA had a low and declining D/E ratio (0.14 to 0.12 pre-merger), meaning it had low reliance on debt.
- ICICI Lombard had a stable and high D/E ratio (1.07 pre-merger), indicating a highly leveraged structure.
- Post-merger, the D/E ratio dropped from 1.07 to 0.99 (2021-22) and then significantly to 0.07 (2022-23 and 2023-24).
- The sharp decline suggests that ICICI Lombard aggressively reduced debt post-merger, possibly due to strong internal cash flows, efficient asset

utilization, or strategic deleveraging.

- The company became more financially stable with reduced financial risk.

HDFC Ergo - Apollo Munich

□ Higher leverage post-merger (D/E ratio increased from 0.71 to 1.50).

□ EPS growth (5.32 to 7.02), proving value accretion.

□ Profitability improved (NPM from 60.18% to 69.08%) but faced revenue fluctuations.

ICICI Lombard - Bharti AXA

□ D/E ratio dropped significantly (1.07 to 0.07), reducing financial risk.

□ ROE remained exceptionally strong (509.30% to 643.00%), proving high returns on equity.

□ NPM peaked at 196.70% before stabilizing,

showing efficient operations.

RESULT AND FINDINGS

Hypothesis 1: Impact of Merger on Financial Performance (KPI Model)

- Null Hypothesis (H_0): The merger has no significant impact on the financial performance of the acquiring company in terms of ROA, ROE, NPM, and Revenue Growth Rate.
- Alternative Hypothesis (H_1): The merger has significantly improved the financial performance of the acquiring company.

Paired T-Test Analysis

To test the statistical significance of financial improvements post-merger, a paired t-test was conducted for both mergers.

1. HDFC Ergo - Apollo Munich (Paired T-Test)

Key Performance Indicators	Apollo Munich Health Insurance Pre Merger Mean	HDFC Ergo General Insurance Company Ltd Pre Merger Mean	HDFC Ergo General Insurance Company Ltd Post Merger Mean
Revenue Growth Rate	-23.65	109.4	12.38
Net Profit Margin (NPM)	-194.01	60.81	67.16
Return on Equity (ROE)	-11.36	61.31	76.52
Return on Assets (ROA)	-3.82	15.18	12.38

Metric	HDFC Ergo
Mean (Pre-Merger)	61.68
Mean (Post-Merger)	42.11
Variance (Pre-Merger)	1480.31
Variance (Post-Merger)	1193.11
Pearson Correlation	-0.0176
t-Statistic	0.7503
t-Critical (Two-Tailed)	3.1824
p-Value (Two-Tailed)	0.5076
Significance ($\alpha = 0.05$)	No Significant Change

Interpretation

1. t-Stat (0.7503) is lower than the critical t-value (3.1824 two-tail, 2.3534 one-tail)- No statistically significant difference between pre- and post-merger financial metrics.
2. p-value (0.5076 two-tail) is greater than 0.05- We fail to reject the null hypothesis. The merger

did not significantly change HDFC Ergo's financial performance.

3. Pearson Correlation (-0.0176) is close to 0)- Indicates almost no relationship between pre-merger and post-merger performance, meaning financial performance varied post-merger without a clear pattern.

2. ICICI Lombard & Bharti AXA: (Paired T-Test Results)

Key Performance Indicators	Bharti AXA	ICICI Lombard	ICICI Lombard
	Pre Merger Mean	Pre Merger Mean	Post Merger Mean
Revenue Growth Rate	145.24	22.77	4.9
Net Profit Margin (NPM)	-42.21	166.66	174.33
Return on Equity (ROE)	-2.04	454.9	570.56
Return on Assets (ROA)	-1.68	29.74	25.54

Metric	ICICI Lombard
Mean (Pre-Merger)	168.52
Mean (Post-Merger)	193.83
Variance (Pre-Merger)	40840.96
Variance (Post-Merger)	68773.09
Pearson Correlation	0.9989
t-Statistic	-0.8283
t-Critical (Two-Tailed)	3.1824
p-Value (Two-Tailed)	0.4683
Significance ($\alpha = 0.05$)	No Significant Change

Interpretation

1. t-Stat (-0.8283) is lower than the critical t-value (3.1824 two-tail, 2.3534 one-tail)- This means there is no statistically significant difference between pre- and post-merger KPIs.
2. p-value (0.4683 two-tail) is greater than 0.05- We fail to reject the null hypothesis. This suggests that the merger did not result in a significant improvement in financial performance for ICICI Lombard post-merger.
3. Pearson Correlation (0.9989) is very high- Indicates a strong positive correlation between pre-merger and post-merger KPIs, meaning post-merger performance was closely related to pre-merger levels.

Above conclusions states we can't reject the null hypothesis and we have to accept the null hypothesis which is the merger has no significant impact on the financial performance of the acquiring company in terms of ROA, ROE, NPM, and Revenue Growth Rate. But to check the impact of these key performance indicators on the mergers another test was performed

Introduction to Cohen's d and Why We Use It

When we conduct a statistical test like a paired

samples t-test, we're primarily concerned with whether there's a *statistically significant* difference between two groups (e.g., pre-merger and post-merger performance). However, statistical significance doesn't tell us about the *practical significance* or the *magnitude* of the difference. That's where Cohen's d comes in.

Why Cohen's d After a Non-Significant t-test Result?

You mentioned "after a paired t-test fails." It's important to clarify:

- "Fails to Reject the Null Hypothesis" is more accurate: If your p-value is greater than your chosen alpha level (typically 0.05), you *fail to reject* the null hypothesis. This doesn't mean your intervention had *no effect*; it just means you don't have enough statistical evidence to say there's a difference.
- Cohen's d is still valuable: Even if your t-test is not statistically significant, calculating Cohen's d can tell you about the *effect size*. It's possible to have a small sample size where a real effect exists, but your test lacks the statistical power to detect it. Cohen's d can suggest whether the effect is practically meaningful, even if it's not statistically significant.

Reasons for Negative Cohen's d Values

A negative Cohen's d simply means that the mean of the second group (post-merger in your case) is *less than* the mean of the first group (pre-merger). It indicates the *direction* of the effect.

- Magnitude vs. Direction: The *absolute value* of Cohen's d shows the strength of the effect. The negative sign only tells you the direction.

Interpreting Cohen's d Values:

- 0.2 – Small Effect (Minimal change)
- 0.5 – Medium Effect (Moderate impact)
- 0.8 and above – Large Effect (Strong impact)
- Negative values indicate a decline in performance, meaning the merger had a negative impact.

1. HDFC Ergo - Apollo Munich

KPI	Mean	Standard Deviation	Cohen'd	Interpretation
Revenue Growth Rate	-97.02	68.6	-1.41	Large Negative Effect - The merger had a negative impact on revenue growth, as HDFC Ergo's post-merger growth rate fluctuated significantly, possibly due to integration challenges and market conditions.
Net Profit Margin	6.35	4.48	1.41	Large Positive Effect - The merger significantly improved profitability, as seen in the post-merger NPM increase from 60.18% to 69.08%, showing better cost control and operational efficiency.
Return on Equity	15.21	10.75	1.41	Large Positive Effect - The merger increased shareholder returns, as ROE improved post-merger due to better capital allocation and efficiency.
Return on Assets	-2.8	1.977	-1.41	Large Negative Effect - The merger decreased asset efficiency, likely due to higher post-merger expenses and underutilization of resources.

Revenue Growth Decline (-1.41 Cohen's d)-The revenue growth rate fluctuated after the merger, with periods of negative growth (e.g., -29.14% in 2023-24). This suggests that post-merger integration challenges, policy transitions, and market changes affected growth negatively.

Decline in ROA (-1.41 Cohen's d)-The merger increased assets, but they were not efficiently used to generate profits, leading to a decline in Return on Assets. Higher integration costs, acquisition-related expenses, and operational inefficiencies could have contributed to this.

2. ICICI Lombard & Bharti AXA

KPI	Mean	Standard Deviation	Cohen'd	Interpretation
Revenue Growth Rate	-17.87	12.63	-1.41	Large Negative Effect - Revenue growth declined due to post-merger market integration challenges and adjustments in pricing models.
Net Profit Margin	7.67	5.42	1.41	Large Positive Effect - The merger significantly improved profit margins, as seen in the post-merger NPM increase to 196.70% (2021-22).
Return on Equity	115.65	81.77	1.41	Large Positive Effect - ROE remained exceptionally strong, increasing from 543.88% (pre-merger) to 643% (2022-23), proving high post-merger profitability.
Return on Assets	-4.2	2.96	-1.41	Large Negative Effect - ROA declined, indicating inefficiencies in asset utilization and higher post-merger operational costs.

Revenue Growth Decline (-1.41 Cohen's d)-ICICI Lombard faced lower revenue growth post-merger

due to policy realignment and changes in the market. The decline (-12.73% in 2023-24) shows that post-

merger integration led to some inefficiencies in revenue expansion.

Decline in ROA (-1.41 Cohen's d)-ROA fell from 28.75% (2020-21) to 21.22% (2023-24). The acquisition increased total assets, but profitability from those assets did not grow at the same rate, leading to lower ROA.

Final Conclusion

- Both mergers showed large positive effects on Net Profit Margin (NPM) and Return on Equity (ROE), proving profitability improvements. Negative effects on Revenue Growth Rate and ROA indicate post-merger challenges in revenue generation and asset efficiency.
- Cohen's d confirms that while the t-test showed no statistical significance, the practical effect of the merger on financial performance was significant.
- Revenue Growth Rate: A negative Cohen's d is not necessarily bad. If the company aimed to *reduce* its revenue growth rate (perhaps to focus on profitability over rapid expansion), a negative Cohen's d might indicate success. Return on Assets

(ROA): A negative Cohen's d here would typically be seen as unfavorable, as it implies the company is generating less profit per dollar of assets after the merger.

Hypothesis 2: Accretion/Dilution Analysis

- Null Hypothesis (H_0): The merger does not result in EPS accretion (i.e., post-merger EPS is not significantly higher than pre-merger EPS).
- Alternative Hypothesis (H_1): The merger results in EPS accretion (i.e., post-merger EPS is significantly higher than pre-merger EPS).

Accretion/Dilution Analysis

The EPS (Earnings Per Share) accretion/dilution analysis helps determine if the merger has been beneficial for shareholders by increasing EPS. If post-merger EPS is higher than pre-merger EPS, it indicates accretion, meaning the merger was financially beneficial. Conversely, a decrease in EPS would indicate dilution, meaning the merger negatively impacted shareholders.

Company	Pre-Merger	Post-Merge	Accretion/Dilution
HDFC-Apollo	5.32	7.02	0.32 Accretion
ICICI-Bharti	32.41	35.21	0.09 Accretion

1. HDFC Ergo – Apollo Munich

- Pre-Merger EPS: 5.32
- Post-Merger EPS: 7.02
- EPS Accretion: +0.32

Interpretation:

- Positive EPS accretion indicates that the merger had a beneficial impact on shareholder earnings.
- This increase suggests that post-merger cost efficiencies, operational synergies, and improved underwriting profitability contributed to higher earnings per share.
- The increase in Net Profit Margin (NPM) from 60.18% to 69.08% also supports this, indicating that the company became more profitable post-merger.

- EPS Accretion: +0.09

Interpretation:

- EPS has increased slightly, showing mild accretion but still a positive impact on shareholder earnings.
- The accretion is not as high as in HDFC Ergo, but it still confirms that the merger was not dilutive.
- The ROE (Return on Equity) increased from 543.88% (pre-merger) to 643% (post-merger), which aligns with the EPS increase, showing that profits have grown at a faster rate than equity dilution.
- However, the slight decline in ROA (Return on Assets) from 28.75% to 21.22% suggests that some of the new assets post-merger were not optimally utilized, which may have limited the EPS growth.

2. ICICI Lombard – Bharti AXA

- Pre-Merger EPS: 32.41
- Post-Merger EPS: 35.21

Both mergers resulted in EPS accretion, meaning that the mergers were financially beneficial for

shareholders. The increase in EPS suggests improved financial performance, cost synergies, and higher post-merger profitability. The Alternative Hypothesis (H_1) is accepted, confirming that the mergers led to improved shareholder returns. HDFC Ergo – Apollo Munich had a stronger EPS accretion effect than ICICI Lombard – Bharti AXA, likely due to better cost efficiencies and operational synergies.

CONCLUSION

1. Key Findings of the Study

This research sought to evaluate the financial impact of two major mergers in the Indian insurance sector using a combination of KPI models, Paired t-tests, Cohen's d tests, and Accretion Analysis.

HDFC Ergo – Apollo Munich Merger

The merger led to strong profitability improvements (NPM, ROE) and EPS accretion. However, revenue growth remained volatile and ROA declined, indicating challenges in asset utilization. The paired t-test did not confirm statistical significance, but Cohen's d test showed a large positive effect size for profitability.

ICICI Lombard – Bharti AXA Merger

The merger resulted in moderate EPS accretion and sustained profitability, but ROA and revenue growth declined. Similar to HDFC Ergo, the paired t-test failed to show significance, but Cohen's d test indicated strong improvements in ROE and NPM.

Accretion Analysis

Both mergers resulted in EPS accretion, which is beneficial for shareholders.

However, declining ROA and revenue growth raise concerns about long-term sustainability.

2. Interpretation of Results

The study confirms that mergers can enhance profitability and shareholder value (EPS), but they do not guarantee revenue growth or operational efficiency. Financial performance post-merger is highly dependent on synergy realization, market conditions, and integration success. Since statistical tests did not confirm significant changes, the improvements might be due to external economic conditions rather than the merger itself.

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