

IMPACT OF MERGERS AND ACQUISITIONS ON ACQUIRING FIRMS' FINANCIAL PERFORMANCE IN INDONESIA DURING COVID-19 (2020-2022)

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Abstract

This study analyzes the impact of mergers and acquisitions (M&A) on the financial performance of 15 non-financial companies listed on the Indonesia Stock Exchange that conducted acquisitions during the COVID-19 pandemic (2020-2022). Based on efficiency theory, this research examines whether M&A transactions created synergy and added value for shareholders during economic instability. Using a quantitative comparative method with three-year pre- and post-acquisition comparison, data were tested with the Wilcoxon Signed Rank Test. Results indicate that profitability significantly declined post-M&A, while liquidity and solvency did not change significantly. These findings suggest acquisitions during the crisis were driven more by non-synergy motives such as empire building. For practitioners and investors, M&A decisions during economic uncertainty require more careful target evaluation. M&A is not an instant solution for corporate growth during a crisis without comprehensive synergy analysis.

Keywords: mergers and acquisitions, financial performance, COVID-19, financial ratios

INTRODUCTION

Companies generally strive to develop their business through various strategies to maintain business continuity and increase profitability. According to Rachman et al. (2025), company owners and management have an interest in improving financial performance. One effort is through corporate restructuring, which is the process of reorganizing company structure and strategies to achieve better performance. Ross, Westerfield, and Jordan (2014) view mergers and acquisitions (M&A) as one of the commonly used methods for companies to expand.

According to Utari et al. (2022), M&A is a strategic option for companies to increase profitability and strengthen competitiveness, as well as enabling companies to expand business portfolios and achieve more efficient economies of scale. Each company has different motivations in conducting acquisitions (Loura et al., 2024; Ningsih and Rahman, 2022). Generally, companies undertake M&A to obtain synergy or added value (Ali, 2020; Indriani, 2018).

The COVID-19 pandemic caused a global economic slowdown due to restrictions on community activities. Laborda and Olmo (2021) explain that lockdown policies during the pandemic caused significant decline in economic activity. Bofinger et al. (2020) state that the pandemic triggered economic shocks from both supply and demand sides. In Indonesia, the first COVID-19 case was announced on March 2, 2020, and a national emergency was declared on March 10, 2020. The Indonesian government implemented Large-Scale Social Restrictions (PSBB) which later changed to Community Activity Restrictions Enforcement (PPKM) on January 7, 2021, and was revoked on December 30, 2022 (Kemenkes, 2022).

Amid economic slowdown, M&A activities became a relevant strategy. Bi (2016) in Aggarwal and Garg (2019) states that inorganic growth through M&A can be a quick fix solution. However, the phenomenon actually showed declining M&A transaction trends during the pandemic. Zhao et al. (2025) show average M&A announcements in China dropped from 4.10 in 2019 to 1.43 in 2020. In Indonesia, M&A transactions decreased by 49% from 2019 to 2020.

Based on this phenomenon and research gap, this study aims to analyze synergy realization in non-financial companies conducting M&A during the COVID-19 pandemic (2020-2022) through financial performance measurement using financial ratios. This research contributes to enriching literature on M&A impact on financial performance in developing countries, particularly Indonesia during the economic crisis. Practically, this study benefits management in evaluating M&A effectiveness as an expansion strategy and investors in assessing post-M&A company performance.

LITERATURE REVIEW AND HYPOTHESIS FORMULATION

Efficiency Theory

Efficiency theory is the fundamental theoretical framework explaining M&A motivation. According to Trautwein (1990), this theory views M&A as rationally planned activities to achieve synergy, which is the net benefit arising from combining two entities whose combined value exceeds the sum of each entity's individual value. Weston et al. (2014) illustrate this with the formula " $2 + 2 = 5$." Expected synergy can be classified into three categories: operational synergy, financial synergy, and managerial synergy.

Operational synergy arises from efficiencies through economies of scale and economies of scope. Financial synergy includes diversification, cheaper capital access, and internal capital market formation (Trautwein, 1990). Managerial synergy is realized when acquiring management has better planning and monitoring capabilities for target performance (Rani et al., 2020).

Previous Research

Studies conducted in India generally report positive outcomes. Aggarwal and Garg (2019) found significant improvements in profitability and liquidity following M&A transactions among non-financial firms, while Gupta et al. (2021) documented similar evidence within the construction and real estate sectors. These studies concluded that operational and financial synergies became observable approximately three to five years after acquisitions, suggesting that synergy realization requires sufficient integration time.

In contrast, empirical evidence from Indonesia remains inconclusive. Studies by Ali (2020), Firdaus and Dara (2020), and Ningsih and Rahman (2022) reported that most profitability, liquidity, and solvency ratios did not significantly improve after M&A activities. Similarly, several studies using shorter observation windows found limited evidence of financial improvement, implying that integration benefits may not materialize immediately after acquisition.

Another notable difference among previous studies lies in methodological design. Observation periods range from one year before and after acquisition to three-year windows. Shorter observation periods are likely to underestimate synergy realization because operational integration generally requires several years before affecting financial performance. Furthermore, many Indonesian studies rely on relatively small samples, resulting in lower statistical power and limited generalizability.

Most importantly, limited evidence specifically examines acquisitions completed during the COVID-19 pandemic. The pandemic created extraordinary economic uncertainty, disrupted business operations, and altered firms' strategic priorities. Consequently, acquisitions conducted during this period may exhibit different financial outcomes compared with transactions undertaken under normal economic conditions.

This study addresses these research gaps by focusing exclusively on non-financial Indonesian listed companies that completed M&A transactions between 2020 and 2022. Unlike

previous Indonesian studies, a three-year pre- and three-year post-acquisition observation window is employed to better capture long-term synergy realization.

Hypothesis Development

Effect of M&A on Profitability

Efficiency theory suggests that mergers and acquisitions improve profitability through cost reduction, operational integration, and more efficient utilization of corporate resources. By eliminating duplicated activities and exploiting economies of scale, acquiring firms are expected to generate higher returns on invested capital and shareholder equity.

Profitability in this study is represented by Return on Equity (ROE), Return on Capital Employed (ROCE), Operating Profit Margin (OPM), and Net Profit Margin (NPM). Previous studies by Aggarwal and Garg (2019) and Gupta et al. (2021) documented significant improvements in these indicators following successful acquisitions. However, Indonesian studies generally report insignificant changes, suggesting that post-merger integration remains a major challenge.

Since profitability represents the primary objective of corporate acquisitions, the first hypothesis is formulated as follows:

H1: Mergers and acquisitions positively affect the profitability of acquiring firms during the COVID-19 period.

Effect of M&A on Liquidity

M&A transactions may influence firms' liquidity through changes in working capital management, cash holdings, and short-term financial obligations. Operational integration may improve receivable collection, inventory management, and cash utilization, thereby strengthening liquidity positions.

Conversely, acquisition financing and integration costs may temporarily reduce liquidity, particularly during periods of economic uncertainty. These conflicting theoretical arguments explain why previous empirical findings remain inconsistent.

Liquidity is measured using Current Ratio (CR) and Quick Ratio (QR). Considering the mixed evidence reported in previous literature, the following non-directional hypothesis is proposed:

H2: Mergers and acquisitions significantly affect the liquidity of acquiring firms during the COVID-19 period

Effect of M&A on Solvency

Acquisitions frequently alter firms' capital structures because transactions may be financed through debt, equity issuance, or a combination of both. Consequently, solvency may either improve or deteriorate depending on financing decisions and post-acquisition capital management.

Debt-to-Equity Ratio (DER) is employed to assess changes in financial leverage following acquisition activities. Previous studies report inconsistent findings, with some observing increased leverage and others reporting no significant differences after acquisition.

Accordingly, the third hypothesis is formulated as follows:

H3: Mergers and acquisitions significantly affect the solvency of acquiring firms during the COVID-19 period.

RESEARCH METHODS

Research Design

This study adopts a quantitative research approach using a comparative research design to examine changes in corporate financial performance before and after mergers and acquisitions

(M&A). Specifically, the study employs a one-group pretest–posttest design, in which the same firms are observed over two different periods. This design enables the analysis of whether financial performance significantly changes following M&A transactions by comparing pre-acquisition and post-acquisition financial indicators.

The observation period covers three years before ($t-3$, $t-2$, and $t-1$) and three years after ($t+1$, $t+2$, and $t+3$) each acquisition. The acquisition year (t_0) is excluded because financial statements during the transaction year may contain acquisition-related costs, consolidation adjustments, and temporary accounting effects that could bias the measurement of post-merger performance.

Population and Sample

The population is all non-financial companies listed on the Indonesia Stock Exchange (BEI) that conducted M&A during the COVID-19 pandemic (2020-2022). Sampling technique used purposive sampling with criteria: (1) listed on BEI; (2) not in financial sector; (3) conducted M&A transactions during 2020-2022; (4) have complete financial ratio data for period $t-3$ to $t+3$; (5) did not conduct other M&A transactions during observation window. From 75 population companies, 15 sample companies were obtained.

Table 1. Sample Selection Process

No	Criteria	Total
1	Indonesian companies conducting M&A in period 2020-2022	75
2	Cancelled M&A transactions	-14
3	Companies in financial sector	-22
4	Companies with multiple M&A during period 2017-2025	-20
5	Companies with incomplete data	-4
Total Sample		15

Source: Processed by the author

Variable Measurement

The independent variable is the occurrence of a merger or acquisition, operationalized through the comparison between the pre-M&A and post-M&A periods. Financial performance serves as the dependent variable and is measured using seven financial ratios representing profitability, liquidity, and solvency.

Table 2. Sample Selection Process

Independent Variable	Dependent Variables	Proxy	Formula	Reference
Performance pre-M&A and post-M&A	Liquidity	Current Ratio (CR)	Total Current Assets / Total Current Liabilities	S&P Capital IQ; Aggarwal & Garg (2019); Gupta et al. (2021)
		Quick Ratio (QR)	(Total Cash and Short-term Investments + Accounts Receivable + Other Receivables) / Total Current Liabilities	S&P Capital IQ; Aggarwal & Garg (2019)
	Solvability	Debt to Equity Ratio (DER)	Total Debt / Total Equity	S&P Capital IQ; Aggarwal & Garg (2019)

Profitability	Return on Equity (ROE)	Earnings from Continuing Operations / ((Total Equity(t) + Total Equity(t-1)) / 2)	S&P Capital IQ; Aggarwal & Garg (2019); Gupta et al. (2021)
	Return on Capital Employed (ROCE)	Profit before Interest and Taxes / ((Total Capital(t) + Total Capital(t-1)) / 2)	S&P Capital IQ; Aggarwal & Garg (2019); Gupta et al. (2021)
	Operating Profit Margin (OPM)	EBIT / Total Revenues	S&P Capital IQ; Amatilah et al. (2021); Gupta et al. (2021)
	Net Profit Margin (NPM)	Net Income / Total Revenues	S&P Capital IQ; Gupta et al. (2021)

Source: Processed by the author

These financial ratios were selected because they comprehensively capture firms' profitability, short-term liquidity, and long-term financial stability, which collectively reflect the realization of operational and financial synergies following M&A activities.

Data Analysis

The analysis consists of three sequential stages. First, descriptive statistics are employed to summarize the characteristics of each financial ratio by reporting the mean, standard deviation, minimum value, and maximum value. Second, normality tests are conducted to determine the appropriate statistical procedure. Following previous M&A studies, the Kolmogorov–Smirnov test is applied when the sample size exceeds fifty observations, whereas the Shapiro–Wilk test is employed for smaller samples. Finally, hypothesis testing is conducted using paired statistical tests. When the assumption of normality is satisfied, the paired sample t-test is applied to compare the mean financial performance before and after acquisition. If normality is violated, the Wilcoxon signed-rank test is used as a non-parametric alternative. Statistical significance is evaluated at the 1%, 5%, and 10% significance levels.

RESULTS AND DISCUSSION

Descriptive Statistics

Descriptive statistics provide an overview of characteristics and distribution of 7 financial ratios from 90 observations (15 companies x 6 windows). Results are presented in Table 3.

Table 3. Descriptive Statistics Result

Variable	Mean	Std. Dev.	Min	Max
ROE	0.0757	0.1609	-0.2155	0.7644
ROCE	0.0452	0.0910	-0.1349	0.4597
OPM	0.0889	0.1896	-0.5612	0.7357
NPM	0.0803	0.2781	-0.3574	2.2529
CR	1.9293	1.7247	0.2459	13.3988
QR	0.9473	0.7578	0.0565	3.8524
DER	0.6354	0.8755	0.0000	4.2766

Source: Processed by the author

Overall, profitability ratios exhibited substantial variation among acquiring firms, indicating that post-acquisition performance differed considerably across companies. Liquidity ratios also demonstrated relatively high dispersion, reflecting differences in firms' working capital

management and cash positions during the observation period. Similarly, the debt-to-equity ratio displayed considerable variability, suggesting heterogeneous financing structures among acquiring firms.

The relatively large standard deviations indicate that firms experienced different post-merger adjustment processes. Some companies successfully improved their financial performance following acquisitions, whereas others experienced temporary declines due to integration costs and economic uncertainty during the COVID-19 pandemic.

Unlike previous Indonesian studies that primarily examined short-term performance, the three-year observation window adopted in this study provides a broader picture of post-acquisition financial adjustment.

Normality Tets

The Shapiro-Wilk Test was used because sample size was less than 50 ($n = 15$). From 42 variable windows (7 ratios x 6 windows), only 15 windows were normally distributed. Since most data were not normally distributed, hypothesis testing used the Wilcoxon Signed Rank Test. Summary results are presented in Table 4.

Table 4. Summary of Normality Test Results (Shapiro-Wilk Test)

Variable	Period	N	W	V	z	Prob>z	Keterangan
ROE	(t-3)	15	0.90839	1.776	1.136	0.12791	Normal
	(t-2)	15	0.86126	2.690	1.957	0.02516	Tidak Normal
	(t-1)	15	0.90415	1.859	1.226	0.11014	Normal
	(t+1)	15	0.71821	5.464	3.358	0.00039	Tidak Normal
	(t+2)	15	0.90186	1.903	1.272	0.10161	Normal
	(t+3)	15	0.87701	2.385	1.719	0.04283	Tidak Normal
ROCE	(t-3)	15	0.65335	6.721	3.768	0.000	Tidak Normal
	(t-2)	15	0.87515	2.421	1.748	0.040	Tidak Normal
	(t-1)	15	0.80134	3.852	2.667	0.004	Tidak Normal
	(t+1)	15	0.72482	5.336	3.312	0.000	Tidak Normal
	(t+2)	15	0.88566	2.217	1.575	0.058	Normal
	(t+3)	15	0.77866	4.292	2.881	0.002	Tidak Normal
OPM	(t-3)	15	0.82532	3.387	2.413	0.008	Tidak Normal
	(t-2)	15	0.87911	2.344	1.685	0.046	Tidak Normal
	(t-1)	15	0.88066	2.314	1.659	0.049	Tidak Normal
	(t+1)	15	0.93897	1.183	0.333	0.370	Normal
	(t+2)	15	0.83827	3.136	2.260	0.012	Tidak Normal
	(t+3)	15	0.95829	0.809	-0.420	0.663	Normal
NPM	(t-3)	15	0.91866	1.577	0.901	0.18376	Normal
	(t-2)	15	0.82905	3.315	2.370	0.00889	Tidak Normal
	(t-1)	15	0.52146	9.279	4.406	0.00001	Tidak Normal
	(t+1)	15	0.57702	8.201	4.162	0.00002	Tidak Normal
	(t+2)	15	0.94883	0.992	-0.016	0.50620	Normal
	(t+3)	15	0.91306	1.686	1.033	0.15084	Normal
CR	(t-3)	15	0.62334	7.303	3.932	0.00004	Tidak Normal
	(t-2)	15	0.86093	2.696	1.962	0.02489	Tidak Normal
	(t-1)	15	0.86660	2.587	1.879	0.03009	Tidak Normal
	(t+1)	15	0.94276	1.110	0.206	0.41829	Normal
	(t+2)	15	0.79870	3.903	2.693	0.00354	Tidak Normal
	(t+3)	15	0.88613	2.208	1.566	0.05863	Normal
QR	(t-3)	15	0.82049	3.480	2.467	0.007	Tidak Normal
	(t-2)	15	0.85090	2.891	2.100	0.018	Tidak Normal
	(t-1)	15	0.95718	0.830	-0.368	0.644	Normal

	(t+1)	15	0.95732	0.827	-0.374	0.646	Normal
	(t+2)	15	0.86812	2.557	1.857	0.032	Tidak Normal
	(t+3)	15	0.93421	1.276	0.481	0.315	Normal
DER	(t-3)	15	0.72045	5.420	3.343	0.00041	Tidak Normal
	(t-2)	15	0.61137	7.535	3.994	0.00003	Tidak Normal
	(t-1)	15	0.71810	5.466	3.359	0.00039	Tidak Normal
	(t+1)	15	0.83462	3.207	2.304	0.01060	Tidak Normal
	(t+2)	15	0.87905	2.345	1.686	0.04593	Tidak Normal
	(t+3)	15	0.89385	2.058	1.428	0.07671	Normal

Source: Processed by the author

The results indicate that several financial ratios satisfy the normality assumption, while others do not. Consequently, paired sample t-tests were applied to variables with normally distributed differences, whereas Wilcoxon signed-rank tests were employed for variables violating the normality assumption. This mixed testing approach enhances the robustness of the statistical analysis by ensuring that each hypothesis is evaluated using the most appropriate method.

Hypothesis Testing

Hypothesis testing used Wilcoxon Signed Rank Test with significance levels of 1%, 5%, and 10%. Significant results are presented in Table 5

Table 5. Wilcoxon Signed Rank Test Results

Comparison	P-value	Z	Direction	Conclusion
ROE t+1 vs t-1	0.1252	-1.533	Negative	Not significant
ROE t+2 vs t-1	0.0356**	-2.101	Negative	Significant negative (5%)
ROE t+3 vs t-1	0.0995*	-1.647	Negative	Significant negative (10%)
ROE t+2 vs t-2	0.0884*	-1.704	Negative	Significant negative (10%)
ROE t+3 vs t-3	0.0609*	-1.874	Negative	Significant negative (10%)
ROCE t+1 vs t-1	0.6909	-0.398	Negative	Not significant
ROCE t+2 vs t-1	0.4265	-0.795	Negative	Not significant
ROCE t+3 vs t-1	0.3066	-1.022	Negative	Not significant
ROCE t+2 vs t-2	0.7333	-0.341	Negative	Not significant
ROCE t+3 vs t-3	0.0995*	-1.647	Negative	Significant negative (10%)
OPM t+1 vs t-1	0.3942	-0.852	Negative	Not significant
OPM t+2 vs t-1	0.1914	-1.306	Negative	Not significant
OPM t+3 vs t-1	0.7333	-0.341	Negative	Not significant
OPM t+2 vs t-2	0.3343	-0.966	Negative	Not significant
OPM t+3 vs t-3	0.3343	-0.966	Negative	Not significant
NPM t+1 vs t-1	0.6092	-0.511	Negative	Not significant
NPM t+2 vs t-1	0.0268**	-2.215	Negative	Significant negative (5%)
NPM t+3 vs t-1	0.0995*	-1.647	Negative	Significant negative (10%)
NPM t+2 vs t-2	0.1728	-1.363	Negative	Not significant
NPM t+3 vs t-3	0.0691*	-1.817	Negative	Significant negative (10%)
CR t+1 vs t-1	0.4603	-0.738	Negative	Not significant
CR t+2 vs t-1	0.6496	-0.454	Negative	Not significant
CR t+3 vs t-1	0.7333	-0.341	Negative	Not significant
CR t+2 vs t-2	0.4955	-0.682	Negative	Not significant
CR t+3 vs t-3	0.9096	-0.114	Negative	Not significant
QR t+1 vs t-1	0.0199**	-2.329	Negative	Significant (5%)
QR t+2 vs t-1	0.0884*	-1.704	Negative	Significant (10%)
QR t+3 vs t-1	0.1118	-1.590	Negative	Not significant
QR t+2 vs t-2	0.1398	-1.477	Negative	Not significant
QR t+3 vs t-3	0.2330	-1.193	Negative	Not significant
DER t+1 vs t-1	0.7333	-0.341	Negative	Not significant

DER t+2 vs t-1	0.5321	-0.625	Negative	Not significant
DER t+3 vs t-1	0.6496	-0.454	Negative	Not significant
DER t+2 vs t-2	0.6092	-0.511	Negative	Not significant
DER t+3 vs t-3	0.3066	-1.022	Negative	Not significant

Source: Processed by the author

Note: ***, **, and * represent significance levels at the 1%, 5%, and 10% levels, respectively.

Discussion

Profitability (H1)

H1 is rejected. Three of four profitability ratios showed significant negative changes post-M&A. ROE was significantly negative in four comparison windows (p-value 0.0356 at t+2 vs t-1; 0.0995 at t+3 vs t-1; 0.0884 at t+2 vs t-2; 0.0609 at t+3 vs t-3). NPM was significantly negative in three comparisons (p-value 0.0268; 0.0995; 0.0691). ROCE was significantly negative in the long-term comparison (t+3 vs t-3, p-value 0.0995). OPM was not significant across all windows.

The significant decline in ROE and NPM indicates M&A transactions during the crisis were driven more by non-synergy motives such as empire building or overpayment due to hubris, rather than value creation predicted by efficiency theory. The COVID-19 context creating an economic slowdown impacted economic activity and consumption, causing post-acquisition revenue decline. From agency theory perspective, the ROE decline indicates conflict of interest between management and shareholders (Jensen and Meckling, 1976).

Liquidity (H2)

H2 is rejected. Mixed results in the liquidity dimension: QR showed significant negative differences in two comparison windows (t+1 vs t-1, p-value 0.0199; t+2 vs t-1, p-value 0.0884), but CR was not significant across all windows. The QR decline indicates a liquidity-profitability tradeoff where operational cash flows are diverted for acquisition financing and integration costs (Eljelly, 2004). This finding strengthens the agency theory argument that managers tend to use company resources for personal expansion interests at the expense of short-term financial security.

Solvency (H3)

H3 is rejected. DER did not differ significantly across all comparison windows. The non-significant change in DER provides a moderate conclusion regarding structural M&A impact during the pandemic. This result is attributed to varying acquisition payment methods across companies and limited access to external funding due to COVID-19. These findings confirm that the COVID-19 context created unique conditions differentiating this study from research in India (Aggarwal and Garg, 2019; Gupta et al., 2021).

CONCLUSION

The findings confirm that M&A activities during periods of economic uncertainty do not automatically create synergy and value creation for shareholders. Profitability actually had a negative impact post-transaction, indicating dominance of non-synergy motives during the COVID-19 pandemic. Realization of operational, financial, and managerial synergy requires conducive conditions and effective integration management. M&A is not a panacea in crisis conditions, but requires strategic acquisition timing and post-transaction integration execution capability for efficiency theory to be realized in practice.

Implications

Practically, acquisition decisions during economic uncertainty require more careful target evaluation, more conservative valuation, and more thorough integration planning. For investors, M&A announced during crises should not be automatically interpreted as a positive signal. Investors

need to evaluate target industry context, acquisition timing relative to economic recovery, integration plan quality, and potential impact on short-term liquidity positions. Theoretically, this study contributes to accounting science development related to financial statement analysis and enriches literature on M&A impact on financial performance in developing countries

Limitations

This study has several limitations that should be acknowledged. First, the geographical scope of this study is limited to Indonesia. As a result, the number of eligible observations is relatively limited, and the findings may not be fully generalizable to M&A activities in other countries or regions. Second, this study focuses primarily on the financial dimension of post-merger performance. Other factors, such as firm-specific (microeconomic) factors, macroeconomic conditions, political dynamics, and other contextual variables, are not explicitly incorporated into the analysis. These factors may provide additional insights into understanding the complexity of the relationship between M&A activities and corporate financial performance.

Future Research

Based on the findings and limitations of this study, several recommendations are proposed for future research. First, future studies are encouraged to expand the geographical scope by examining M&A transactions across Southeast Asian countries. A cross-country comparative approach would provide a more comprehensive understanding of M&A dynamics in emerging markets while increasing the sample size and improving the statistical validity of the findings. Second, future research should investigate the influence of additional factors, particularly microeconomic and macroeconomic variables, on the relationship between M&A activities and corporate financial performance. These factors may become increasingly important in explaining post-merger outcomes, especially during periods of economic crisis and heightened uncertainty.

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