



The impact of mergers and acquisitions on the financial performance of GCC banks

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Abstract

This study investigates the impact of mergers and acquisitions (M&A) on GCC banks' financial performance measured by profitability, asset quality, and leverage. It compares seven major bank mergers in Saudi Arabia, Kuwait, the UAE, and Oman that occurred between 2015 and 2022. Using financial data from Refinitiv Eikon and banks' reports, the study compares the trajectory of the key CAMEL ratios three years prior to and following the merger. Empirical techniques including descriptive analysis, correlation coefficients, paired sample t-tests, and regression analysis were employed in testing the significance of the change in performance. The results show that while some mergers achieved improved profitability (ROA, ROE) and liquidity (Loans-to-Deposits Ratio), others had mixed changes in capital adequacy (CAR) and asset quality (NPL). These variations attest to the complexities of M&A outcomes, since financial improvements are not guaranteed and often depend on internal integration approaches and external economic conditions. The findings contribute to the literature on the heterogeneous impacts of bank mergers in the GCC and provide implications for policymakers and financial institutions that are considering mergers.

Keywords:

Financial performance

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1. Introduction

Mergers and acquisitions (M&A) have become a central strategic tool for financial institutions to address increasing competition and adapt to global economic changes. Banks increasingly rely on these strategies to improve financial performance and enhance operational efficiency. Through M&A, banks combine financial, human, and technological resources, enabling them to achieve economies of scale. These economies lead to reduced operating costs, better resource utilization, and improved profitability and liquidity. Additionally, mergers facilitate the exchange of expertise and integration of competencies, which enhances operational efficiency and reduces exposure to market and economic risks.

M&A activities also generate operational synergies by integrating administrative and technical processes across institutions. This integration improves service quality and reduces financial and operational inefficiencies. Such synergies play a vital role in ensuring long-term financial sustainability, allowing banks to respond more effectively to economic fluctuations.

Furthermore, mergers and acquisitions help institutions expand their market share and strengthen their competitive position both regionally and internationally. This is particularly relevant in supportive regulatory environments such as Saudi Arabia's Vision 2030 and similar frameworks across GCC countries. Overall, M&A strategies represent an important pathway towards sustainable financial growth, achieved through resource integration, cost efficiency, and enhanced operational capabilities.

The Saudi banking sector has undergone significant structural reforms over the past decade, driven by initiatives from the Saudi Central Bank (SAMA) and Saudi Vision 2030. These reforms have focused on strengthening regulatory frameworks, improving governance, and enhancing risk management and financial transparency in line with international standards. As a result, the regulatory environment has become more supportive of mergers and acquisitions, reducing barriers to bank restructuring and enabling institutions to strengthen their financial position and operational performance through consolidation.

Global economic changes, particularly oil price volatility and shifts in financial policies, have also influenced the evolution of banking models. In response, Saudi banks have increasingly invested in financial technology (FinTech) and digital transformation. These developments have improved customer experience, reduced operational costs, and enhanced analytical and risk management capabilities. Moreover, these reforms have contributed to diversifying income sources and improving capital efficiency. Increased competition within the sector has encouraged banks to innovate in their products, services, and marketing strategies to meet both domestic and global market demands.

In summary, the GCC banking sector represents a strong example of how regulatory and technological reforms can enhance financial performance and sustainability. Similar developments are also evident across other GCC countries.

1.1. Theoretical Background

Several theories in behavioral economics and finance explain the importance and role of M&A.

Efficiency Theory: Asserts that M&As are primarily driven by the pursuit of synergies. By combining operations, companies aim to lower per-unit costs (economies of scale), eliminate redundancies, and enhance revenue opportunities (Dhir & Mital, 2012).

Market Power Theory: Proposes that firms merge to increase their market share and achieve dominance. This allows the consolidated entity to influence market conditions, dictate pricing above competitive levels, and create barriers to entry for new competitors (McAfee & Hendricks, 2000).

Resource-Based Theory: Views the firm as a unique bundle of assets, capabilities, and knowledge. Acquisitions are utilized to quickly access or internalize valuable resources (e.g., patents, technology, talent) that are difficult or too expensive to build organically (Coleman, Cotei, & Farhat, 2013).

Agency Theory: Highlights the potential conflict between shareholders (principals) and management (agents). Managers might pursue acquisitions that increase the firm's size or their own power/compensation ("empire-building"), rather than focusing purely on maximizing shareholder value (Dhir & Mital, 2012).

Hubris Hypothesis: Argues that managers sometimes overpay for target companies due to excessive pride, overconfidence, or ego. They genuinely (but incorrectly) believe they can manage the target's assets better than the current team (Dhir & Mital, 2012).

Free Cash Flow Theory: Suggests that managers with large amounts of uncommitted cash are prone to making poor, value-destroying acquisitions rather than returning the capital to shareholders. (Jensen, 1996).

1.2. The Problem Statement

While M&A has been practiced in the GCC banking industries, its contribution to financial performance remains unclear. On the one hand, many scholars argue that M&A lead to an improvement in the profitability and liquidity of the banks. But on the other hand, some researchers hold that any increase in profitability and liquidity would be either transitory or have a time-lag.

Several factors lead to such ambiguity. These include differences in the corporate culture, challenges of integrating information system in business operation, and macro-economic factors and regulatory framework such as price volatility and financial policy.

Hence, the central problem is to clarify whether or not M&A improves banks' financial performance. This study endeavors to solve this problem by examining the performance of banks before and after mergers, by comparing them by considering their corporation and environments.

1.3. Study Objectives and Questions

The main purpose of this study is to investigate the impact of M&A on the performance of banks in GCC countries. The detailed objectives are as follows:

- To make a comparison of performance before and after M&A for GCC banks by financial indicator namely ROA, ROE, CAR, liquidity and cost efficiency.
- To investigate the role of regulatory framework, especially SAMA and GCC regulators on M&A.
- Make recommendations to managers, policymakers and investors.
- In the light of above research objective, the following research questions for this study have been developed:
 - What is the effect of M&A to the financial performance of GCC banks?
 - Which financial indicator should improve significantly after mergers?
 - Whether M&A lead to profitability, liquidity and efficiency improvement?
 - What is the role of regulatory framework in M&A success?
 - What difficulties do banks face during M&A process?

1.4. Importance of Study

This research is of particular importance as it endeavors to shed more light on a competitive and constantly evolving banking industry. The importance of this study can be assessed from both the theoretical and practical perspectives given the contradiction in previous studies.

On a practical ground, it is of importance because it provides executives with insight to make informed M&A decisions by identifying challenges. It will help policy-makers with a guideline to frame useful policies for banking sector. Finally, it will guide investors with more clarity to make sound decision in the light of risks and returns.

2. Literature Review

The use of mergers and acquisitions (M&As) is a common tool used by banks as part of their strategies in order to be competitive in the global economy. However, according to the empirical results presented by previous studies show mixed findings about the effect of M&As on the performance of banks making it imperative to conduct a review of the literature.

A study by [Ansari, Bilal, Khan, and Tahir \(2021\)](#) sought to evaluate M&As among the microfinance banks in Pakistan based on financial ratios and discovered that there was no performance enhancement. This finding could be attributed to some limitations, like the failure to consider macroeconomic conditions and the small number of samples. This observation is in line with most studies conducted in developing countries. Similarly, [Irayanti and Leony \(2019\)](#) also discovered a drop in profitability among the firms in Indonesia because of the negative consequences of M&As.

However, research from developed countries indicates more favorable results. According to [Pavlova, Hankir, Rauch, and UMBER \(2023\)](#) M&As involving FinTechs in U.S. banks increased profitability without creating any significant market performance changes in the long run. Similarly, [Akhtar and Nosheen \(2022\)](#) highlighted improvements in ROA and liquidity; however, a decline was observed in terms of market performance. In this respect, managers can be advised that operational efficiency is more important than market response in this regard. Also [Hassan, Patro, Tuckman, and Wang \(2007\)](#) indicated that acquisition increases positive abnormal returns and efficiency; meanwhile, merger creates weak effects, and cross-border deals involve issues in integration.

Some literature makes the distinction between short- and long-run performance. According to [Duppatti, Abidin, and Hu \(2015\)](#) there were positive short-term abnormal returns following M&A announcement, especially cross-border M&As; in addition, the performance varies in the long run. Another study conducted by [Cuypers, Cuypers, and Martin \(2017\)](#) revealed that the process of value creation is based on parameters such as the experience of the acquiring party, the approach to conducting deals, and the size of the market in question, which means that highly-experienced firms can create more value, indicating that sustainable performance relies on the management's abilities to integrate and not on the initial reaction from the market.

Synergies represent one of the primary factors responsible for a successful M&A transaction. According to [Sghaier \(2026\)](#) the most crucial type of synergy is the operational one, followed by financial synergies, whereas nonmarket synergies do not bring significant results.

There are also other institutional and regulatory determinants. According to [Ullah \(2024\)](#) M&As boost performance in Islamic and conventional banks, especially the Islamic ones, but at the same time result in market concentration and decrease competitiveness. Hence, the effect largely depends on market structure and regulatory quality and is especially pronounced in emerging economies.

There are some examples of different outcomes through case studies. [Kyriazopoulos and Kogkouli \(2023\)](#) have revealed that M&As with a weak partner may bring positive results in the short term but eventually cause a deterioration in the long run. In their work on Saudi banks' efficiency, [Alsharif \(2023\)](#) mentions the impact of integration quality and management decisions. According to [Fitriiningrun, Pulungan, and Wijayanto \(2020\)](#) the financing type is important for the outcome as well.

Additional studies in emerging markets reinforce mixed results. Adhikari, Kavanagh, and Hampson (2023) found improvements in liquidity and leverage but limited impact on profitability in Nepalese banks. Maani and Rajkumar (2024) reported no significant financial improvements in Indian banks after mergers, while Lama et al. (2024) found that some financial indicators improve profitability while others negatively affect it. Similarly, Muchtar, Puspita, and Amalia (2024) showed improvements in liquidity and profitability in Indonesian Islamic banks, though long-term effects remain unclear.

Some other studies emphasize the role of structural and contextual challenges. Ayagre, Aboagye, Sarpong-Kumankoma, and Asuming (2024) found that M&As in Sub-Saharan Africa do not improve profitability and may weaken financial performance, especially in regulator-driven mergers. Abdou, Agbeyo, Jones, and Sorour (2016) found improvements in liquidity and capital adequacy but a decline in profitability in Nigerian banks, suggesting that governance reforms are necessary. Ombaka and Jagongo (2018) similarly concluded that operational synergies and risk diversification are critical, but regulatory and integration challenges often limit success in emerging economies.

Overall, the literature shows that M&A outcomes are highly context-dependent. While developed economies tend to achieve short-term operational gains, emerging markets face institutional and integration challenges that limit profitability improvements. The success of M&As depends largely on post-merger integration, operational efficiency, managerial capabilities, and the surrounding regulatory and economic environment rather than the transaction itself.

3. Methodology and Data

This study adopts the CAMEL framework to evaluate the financial performance of banks before and after mergers and acquisitions (M&As). The CAMEL model assesses five key components: Capital Adequacy, Asset Quality, Management Efficiency, Earnings, and Liquidity. The performance of banks will be evaluated using a set of financial ratios that represent each of these dimensions.

The model is based on the framework used by Abdulwahab and Ganguli (2017) in their study on Bahraini banks. The primary model is specified as follows:

$$\text{Performance post} = \alpha + \beta \times \text{Performance pre} + \varepsilon$$

Where:

Performance post: Financial performance after the M&A

Performance pre: Financial performance before the M&A

α : Constant (intercept)

β : Coefficient measuring the impact of pre-merger performance on post-merger performance

ε : Error term

Variables Definition:

- Dependent Variables (Post-Merger): ROA, ROE, CAR, NPL Ratio, Leverage Ratio, Cost-to-Income Ratio, Liquidity Ratios.
- Independent Variables (Pre-Merger): Same ratios, measured before the merger.
- The study tests the following hypotheses:
- HA1: There is a significant difference in CAMEL variables between pre- and post-M&A.
- HA2: There is a significant difference in the overall financial performance of acquirer banks between pre- and post-M&A periods.
- HA3: There is a significant difference in the overall financial performance of target banks between pre- and post-M&A periods.
- HA4: There is a significant difference in the overall financial performance of all banks in the sample between pre- and post-M&A periods.

3.1. Data Collection Method and Sources

This study uses secondary data collected from the following sources:

- Annual reports of Saudi banks involved in M&A activities
- Financial statements from official bank websites
- Saudi Central Bank (SAMA) databases
- Eikon (Thomson Reuters) for historical financial ratios and performance data

The analysis focuses on a period of three years before and three years after each merger. For each bank involved in a merger, the averages of each CAMEL ratio will be calculated for the pre-and post-merger periods.

The primary econometric technique used is the Paired Sample T-Test to compare the means of each CAMEL ratio before and after the merger. This approach is appropriate for measuring performance changes within the same entity over time.

For additional robustness, descriptive statistics and visual comparison (e.g., graphs of trend movements) may also be used. If time permits and data availability allows, multiple regression analysis, incorporating control variables, may be applied to explore the determinants of post-merger performance.

This methodology is based on the quantitative framework applied in the study by [Abdulwahab and Ganguli \(2017\)](#) which used t-tests and CAMEL ratios to evaluate the impact of M&As on bank performance in Bahrain.

To determine the validity of the financial data used in this study, the Augmented Dickey-Fuller (ADF) test for stationarity was conducted. While ADF is commonly used to verify the stability of time series data, it must be noted that the primary objective of this analysis is to quantify pre- and post-merger financial performance changes, not predict trends.

Due to the relatively short time series (12 quarters), some variables still remained non-stationary after differencing. In such cases, the analysis was done on the real (level) values of the variables. The reason for doing so was to maintain the practical usefulness of the findings since the analysis is interested in relative mean differences and not in forecasting. The approach is consistent with maintaining the robustness of the findings while dealing with data length constraints.

4. Interpretation of Results

4.1. Descriptive Analysis

A set of key monetary metrics was utilized, including the capital adequacy ratio (CAR), asset quality (non-performing loan ratio), management efficiency (efficiency ratio), profitability of assets (ROA), profitability of equity (ROE), loan-to-deposit ratio, and leverage.

These measures cover various dimensions of financial performance based on the CAMEL framework to make sure that the acquisition or merger has a full impact on bank performance. In order to achieve this aim, a descriptive analysis was conducted, including basic statistics such as the mean, standard deviation, minimum and maximum range, median, and range of values for all variables. This description is used to provide an initial impression of the extent of financial changes and is used as a starting point for understanding the differences that will subsequently be tested using inferential statistical procedures such as the paired sample t-test.

Therefore, this section provides an important prelude to a more complete analysis of the outcomes and interpretation of the effects of mergers and acquisitions on banks' performance.

Table 1. Post Merger Averages (Percentages).

Financial Ratio	Saudi Awwal	SNB	KFH	FAB	ADCB	OAB	Sohar
CAR	17.48(+)	19.37(-)	17.64(+)	16.41(-)	16.00(-)	16.51(+)	15.37(-)
NPL Ratio	3.28(+)	1.42(-)	3.09(-)	3.44(-)	5.71(-)	4.83(+)	4.61(-)
Efficiency Ratio	76.16(+)	36.11(+)	44.89(+)	34.00(+)	40.94(-)	63.05(-)	40.08(-)
ROA	0.36(-)	1.89(+)	1.82(+)	1.63(-)	1.17(+)	0.39(-)	1.50(+)
ROE	2.02(-)	10.80(-)	11.23(+)	11.66(-)	8.60(+)	0.72(-)	12.00(+)
Loans/ Deposits	0.79(-)	0.79(+)	0.67(+)	0.66(-)	0.9(+)	0.98(-)	0.65(-)
Leverage	5.33(-)	5.84(-)	6.72(-)	7.93(-)	7.71(+)	7.25(-)	9.54(+)

Table 1 show post-merger averages for all 7 merged banks. A positive sign shows increase while negative sign show decrease in the averages compared to before merger values. Post-merger average performance indicators show that the merged Saudi Awwal Bank has strengthened capital and efficiency and reduced leverage, potentially reflecting long-term financial stability. However, the clear deterioration in profitability indicators reflects significant transitional challenges. The merger of SNB resulted in a significant improvement in asset quality, efficiency, ROA and the loan-to-deposit ratio, indicating greater credit activity after the merger. Despite a slight decline in the capital adequacy ratio and ROE, it remained stable at a good level. This demonstrates that the financial structure has improved, while profitability remains under pressure in the short term.

The merged averages of KFH bank demonstrated stable capital adequacy and a notable improvement in return on assets (ROA), asset quality. Leverage declined significantly, signaling a strategic shift toward risk reduction and balance sheet strengthening. Overall, the merger contributed to enhanced financial stability with moderate gains in profitability metrics. For FAB, the merger resulted in enhanced efficiency, along with a more conservative lending strategy. However, profitability declined. This indicates that FAB must focus on improving its profitability. Based on descriptive statistics, the merger of ADCB led to notable gains in profitability operational efficiency and a significant improvement in asset quality. However, operational efficiency declined. While the operational goals of the merger appear to have been met, the key challenge moving forward is restoring strong profitability levels as integration-related costs subside.

The merged OAB introduced more conservative lending practices, enhancing the bank's financial stability which successfully reduced AIB's losses and improved overall returns. However, profitability and efficiency

deteriorated. The post-merger spike in non-performing loans signals emerging asset quality concerns. For Sohar, the merged averages showed significant improvements in operational efficiency and profitability, reflecting better resource utilization and enhanced competitiveness. However, it led to a notable decline in the capital adequacy ratio and a rise in leverage, underscoring the need for prudent financial risk management.

4.2. Correlation Analysis

Table 2 summarizes correlation coefficients between important variables post-merger.

Table 2. Summary of Post-Merger Correlation Coefficients.

Financial Ratio	Saudi Awwal	SNB	KFH	FAB	ADCB	OAB	Sohar
CAR vs ROA	0.260	0.610	0.726*	0.87*	-0.44	0.999*	0.70*
CAR vs ROE	0.264	0.694	-0.559	-0.12	-0.62	-0.56	-0.28
ROA vs ROE	0.999*	0.871*	-0.265	-0.29	0.97*	-0.58	-0.55
NPL Ratio vs ROE	-0.794*	-0.732*	-0.387	-0.27	0.89*	-0.03	-0.98*
Efficiency Ratio vs ROA	-0.421	-0.160	-0.222	-0.20	-0.75	0.24	0.98*
Leverage vs ROE	-0.127	0.385	-0.053	-0.31	-0.13	-0.81*	0.70*

Note: $p < 0.05$.

For Saudi Awwal, there is a weak positive correlation between CAR, OA, and ROE. A very strong positive, correlation between ROA and ROE confirms profit structure stability. There is negative correlation between NPL and leverage with ROE as well as between efficiency and ROA. The post-merger Saudi National Bank correlation coefficients indicate structural improvement in profitability-capital relationships. ROA and ROE continue to be strongly positively correlated (0.87), and both are positively correlated with CAR (ROA = 0.61, ROE = 0.69), indicating that higher capital no longer impedes profitability as it did prior to the merger. Notably, the NPL ratio is more strongly negatively related to both ROA (-0.58) and ROE (-0.73), which may reflect superior credit quality or more conservative risk management. The leverage ratio is poorly related to CAR (0.04), implying a more balanced capital structure.

The merged KFH entity's correlation matrix shows that ROA and ROE are strongly positively correlated (0.73), but both their correlations with CAR are negative, with both recording negative correlations (ROA = -0.56, ROE = -0.27). This may indicate a shift in the use of capital, which lowered return efficiency. The NPL ratio currently has a robust positive relationship with CAR (0.77), implying that the capital can be rising because of credit risk. Efficiency ratio relationships remain generally weak, and leverage no longer has a robust relationship with CAR (-0.05), indicating that the capital structure is more balanced following the merger.

The FAB post-merger correlation matrix indicates a high degree of rebalancing of financial inter-relationships. ROA and ROE are highly correlated (0.87), but both are negatively correlated with CAR (ROA = -0.12, ROE = -0.29), which implies that higher capital may have been constraining profitability. The NPL ratio is moderately negatively correlated with both ROA (-0.20) and ROE (-0.31), showing that credit risk still remains a performance constraint. Perhaps most intriguing is the very high negative correlation between leverage and ROA (-0.88), which reflects a more risk-conservative profile subsequent to the merger. In aggregate, the merged firm appears to be operating on a more risk-conservative but less performance-oriented model.

Post-merger ADCB institution shows signs of structural consolidation. CAR and NPL are highly correlated (0.89), but both are moderately to strongly negatively correlated with ROA and ROE (CAR-ROA = -0.44, CAR-ROE = -0.62), reflecting a shift in which bigger capital and credit buffers constrain profitability. ROA and ROE are highly correlated (0.97), and leverage and CAR are also strongly negatively correlated (-0.88), testifying to continued conservatism in capital structure. Loans-to-deposits is highly positively correlated with NPL (0.98), which implies that credit exposure remains tightly coupled with risk even after integration. Capital remains inversely related to leverage, indicating conservative stance.

Oman Arab Bank shows considerable structural change after the merger. ROA and ROE are highly correlated (0.999), which suggests that profitability alignment persists. However, both ROA and ROE also exhibit moderate negative correlation with CAR (-0.56 and -0.58), indicating that profitability may be curbed by more elevated capital levels. Efficiency ratio is moderately positively correlated with CAR (0.72) and weakly with both ROA and ROE, which implies that management of operating costs might have improved with capital discipline. Leverage is strongly negatively correlated with CAR (-0.81), which implies that the bank remained conservative in its financial risk approach following the merger.

Efficiency ratio for Sohar International Bank bears a very strong positive correlation with CAR (0.90) and loans-to-deposits (0.91), showing a tighter relationship among cost containment, lending, and capital. ROE and ROA are highly correlated (0.70), while both are also negatively correlated with CAR and the efficiency ratio, suggesting that profitability could have been dragged down by increased capital cushions and structural adjustments. Leverage is highly negatively correlated with CAR (-0.98) and loans-to-deposits (-0.95), suggesting a prolonged conservative capital stance.

4.3. Econometric Results and Interpretation

The following section summarizes the paired sample T-test results for each merger deal, highlighting whether the differences in key financial indicators before and after the merger are statistically significant.

Table 3. Summary of Paired Sample T-Test Results with p-Values.

Financial Ratios	Saudi Awwal	SNB	KFH	FAB	ADCB	OAB	Sohar
CAR	-0.8983 (0.3952)	0.7418 (0.4916)	-1.9145 (0.1137)	3.5229 (0.0048)*	9.1474 (0.0000)*	-4.4056 (0.0479)*	5.1344 (0.0143)*
NPL Ratio	-1.5749 (0.1539)	3.1134 (0.0264)*	2.2066 (0.1145)	-1.5465 (0.1502)	16.2093 (0.0392)*	1.0663 (0.3980)	2.109 (0.1255)
Efficiency Ratio	-1.7153 (0.1143)	-1.7008 (0.1198)	-3.2702 (0.0114)*	7.2536 (0.00002)*	2.3789 (0.0366)*	-0.1984 (0.8753)	5.2366 (0.0136)*
ROA	2.988 (0.0123)*	0.0517 (0.9600)	-2.494 (0.0414)*	10.7563 (0.0000)*	3.614 (0.0041)*	-0.0582 (0.9630)	-7.023 (0.0059)*
ROE	3.601 (0.0042)*	5.1385 (0.0004)*	-0.3173 (0.7602)	5.5427 (0.0002)*	2.8209 (0.0166)*	13.2808 (0.0056)*	-9.3263 (0.0026)*
Loans / Dep Ratio	4.802 (0.0006)*	-4.4082 (0.0013)*	-3.654 (0.0065)*	0.3396 (0.7406)	0.0998 (0.9223)	3.5989 (0.0693)**	68.55 (0.0000)*
Leverage	5.146 (0.003)*	7.7769 (0.00002)*	5.1757 (0.0008)*	3.5229 (0.0048)*	-3.8195 (0.0028)*	-4.4056 (0.0479)*	-5.5858 (0.0113)*

Note: $p < 0.05$.

Paired sample t-test results show that the Alawwal Bank-SABB merger impacted the basic measures of financial performance statistically significantly. Particularly, sharp declines in profitability (ROA, ROE), liquidity (Loans/Deposits ratio), as well as leverage, can be observed, which may reflect the transformation in the capital structure and funding strategy post-merger. However, no statistically significant effect on the Capital Adequacy Ratio, the Non-Performing Loans (NPL) Ratio, or the Efficiency Ratio was found, that is, capital strength, asset quality, and operating efficiency were generally stable after the merger.

The merger between SAMBA and NCB was observed to have statistically significant effects on the significant financial metrics, particularly on improving asset quality (NPL ratio), return on equity (ROE), restructuring the loan and deposit structure, and in reducing leverage, signifying a more conservative post-merger financial landscape. However, capital adequacy, efficiency, and return on assets were unaffected statistically, pointing towards stability in these fronts.

The merger of Kuwait Finance House-Ahli United Bank had statistically significant impacts on operating efficiency, profitability (ROA), loan-to-deposit ratio, and leverage, indicating improvement in internal performance and financial structure. Capital adequacy, asset quality (NPL), and return on equity were statistically unchanged, indicating that those dimensions were stable during the merger period.

The merger of First Gulf Bank (FGB) and National Bank of Abu Dhabi (NBAD) to form FAB statistically significantly affected asset quality (NPL), profitability (ROA and ROE), and liquidity (Loan-to-Deposit Ratio), which suggests extreme changes in financial performance post-consolidation. However, operating efficiency and leverage were not affected much, which means the latter was unchanged after consolidation.

The merger forming the Expanded Abu Dhabi Commercial Bank (ADCB) resulted in statistically significant changes in several key financial indicators like capital adequacy, efficiency, profitability (ROA and ROE), and leverage. The Loan-to-Deposit ratio remained constant, i.e., there was no meaningful change in the funding mix. The NPL result, although meaningful, is subject to a small sample size and should be interpreted with caution.

The outcome of the merger of Oman Arab Bank (OAB) and Alizz Islamic Bank (AIB) shows statistically significant differences in capital adequacy and loan-to-deposit ratio, reflecting some impact on capital structure as well as liquidity management. However, in relation to limited observation, the validity of these findings is confined. Efficiency, ROA, ROE, and leverage variables failed to show significant variation.

The merger of Sohar International Bank and HSBC Oman appears to have had significant impact on key financial metrics. Capital adequacy decreased after the merger, while efficiency, ROA, ROE, and leverage were much improved, and loan-to-deposit ratio decreased by a significant amount, indicating both profitability and funding structure enhancement. NPL ratio remained unchanged statistically. As the sample size is small, caution needs to be exercised in interpreting the results.

4.4. ADF Test Results: Stationarity Analysis

Augmented Dickey-Fuller (ADF) test was employed in this study for testing the stationarity of financial ratio time series, which were utilized in estimating the impact of mergers. ADF test was used on all the financial ratios to test whether the series is stationary or require differencing. ADF test results showed that some of the financial ratios were stationary at level but others were rendered stationary following the

application of first-order differencing. For some cases where ADF was indecisive, PP test confirmed stationarity, Except NPL for ADCB indicates non-stationary

Even though ADF tests had been performed to make data stationary, it must be mentioned that all the subsequent statistical analysis, i.e., descriptive statistics, correlation analysis, and paired sample T-tests, were performed on original (actual) financial ratios. This is due to the fact that the ratios clearly reflect the financial performance before and after the merger, which is the essence of the research objective. The ADF test was utilized primarily to verify data properties, but the actual analysis was carried out on genuine financial data because it reflects real financial figures in the real world more accurately.

The ADF test findings are shown to illustrate data validation strength, yet the underlying model of analysis remains within the purview of real ratios of pre- and post-merger years. The following p-values in the table shows all variables to be stationary.

Table 4. ADF Test Results for Financial Ratios (Post Merger).

Financial Ratios	Saudi Awwal	SNB	KFH	FAB	ADCB	OAB	Sohar
ROA	0.0138	0.0054	0.0244	0.0466	0.0229	0.0297	0.0003
ROE	0.0131	0.0018	0.0045	0.0313	0.0183	0.0374	0.0001
CAR	0.0041	0.0156	0.0152	0.0114	0.0332	0.049	0.0379
NPL	0.0376	0.0221	0.0393	0.0472	0.0399	0.0119	0.0102
Efficiency	0.0001	0.0032	0.0152	0.0054	0.0399	0.0133	0.0002
Loans / Dep Ratio	0.0179	0.0083	0.0367	0.0107	0.0095	0.0114	0.04
Leverage	0.004	0.0223	0.0001	0.0106	0.0427	0.0001	0.0057

4.5. Comparison of the Results with Previous Studies

The results of this study are partially consistent with previous literature on the impact of mergers and acquisitions on banks' financial performance, particularly in the case of the GCC region and other emerging economies. The findings indicated that the majority of pre-merger financial ratios, including Capital Adequacy Ratio (CAR), Efficiency Ratio, Leverage Ratio, Non-Performing Loan Ratio (NPL), and Return on Assets (ROA), were poor predictors of post-merger performance. The only exception was the Loans-to-Deposits Ratio, which correlated moderately positively with liquidity stability after the merger.

The conclusions concur with [Abdulwahab and Ganguli \(2017\)](#) which studied the financial performance of the Bahraini banks after M&As and concluded that mergers do not always mean a perceivable improvement in all the financial indicators. Similar to the current study, their study found no consistent improvement in profitability ratios (ROA and ROE) and asserted that capital adequacy and efficiency ratios did not get impacted in the majority of situations. This implies that even in the GCC environment, expected financial synergies from mergers might not occur homogeneously.

In addition, [Alharbi \(2024\)](#) who investigated the impact of M&As on GCC banks, also concluded that while some deals resulted in improved capital adequacy and efficiency, their overall impact on profitability indicators like ROA and ROE was mixed, especially in the initial years after the mergers. This validates the current study's finding that pre-merger financial stability does not necessarily translate into improved post-merger performance, at least not in terms of profitability.

The results also mirror those of [Adhikari et al. \(2023\)](#) who observed Nepalese banks and noted that while liquidity as well as leverage ratios were better after M&A, profitability indicators did not witness consistent improvement. That the results in the GCC setting are comparable underscores the fact that liquidity management practices and not profitability indicators are less prone to alteration by mergers, a pattern witnessed in both contexts.

Differences with Studies of Developed Economies: Unlike earlier studies on developed economies' mergers, [Pavlova et al. \(2023\)](#) for example, examined FinTech M&As in U.S.

banks and indicated higher profitability, the same cannot be seen in the current research on GCC banking. The positives for Pavlova et al. resulted from operational synergies as well as higher technology integration that can be lacking in GCC bank mergers by virtue of being structurally and regulationally different.

Similarly, [Akhtar and Nosheen \(2022\)](#) after conducting their study on M&As between developed economies, found substantial ROA and liquidity enhancement following a merger. This divergence from the current study highlights the inherent difficulties of GCC banks, including integration problems and economic instability, that will water down the achievement of expected financial gains.

And in emerging markets, [Ayagre et al. \(2024\)](#) evidence on Sub-Saharan African banks shows that M&As did not lead to improved profitability, in line with the current study. They pointed out that integration and regulatory problems in emerging economies have a tendency to undermine financial improvements, in line with what is observed in GCC mergers where profitability ratios were largely unaffected.

In the same vein, [Abdou et al. \(2016\)](#) established that Nigerian bank mergers improved liquidity and capital adequacy but did not add much to profitability. This finding is in agreement with the finding of this current study that while liquidity ratios may be enhanced using M&As, profits are not necessarily guaranteed, particularly in regions characterized by financial system limitations and governance challenges.

The overall finding of this research is that, while M&As are most likely to enhance liquidity stability (in terms of Loans-to-Deposits Ratio), they are not necessarily going to yield improved profitability or efficiency. This reminds us of a broader literature that suggests the complexity of mergers, particularly in the case of emerging economies where integration challenges and regulatory frameworks make and mar such mergers.

Additionally, the difference between the performance of the GCC and that of the developed economies also implies that extrinsic factors such as economic circumstances, governance mechanisms, and strategic congruence play a crucial role in determining merger profitability. This further lends support to the relevance of customized integration plans and emphasis on liquidity management rather than on the assumption of universal profitability increase.

Subsequent research must take into account such qualitative factors as integration processes and governance frameworks in an effort to advance knowledge of the circumstances under which M&As will be successful in the GCC and other emerging markets.

4.6. Regression Analysis of Post-Merger Performance

Table 5. Summary of Regression Results for Post-Merger Performance.

Dependent Variable	Independent Variable	Coefficient	p-Value	R-squared	Adjusted R²	Observations
CAR Post	CAR Pre	0.1207	0.7577	0.0208	-0.1750	7
Efficiency Post	Efficiency Pre	-0.1356	0.8267	0.0105	-0.1874	7
Leverage Post	Leverage Pre	-0.0098	0.9839	0.0001	-0.1999	7
Loans/Deposits Post	Loans/Deposits Pre	0.3115	0.0767	0.4974	0.3968	7
NPL Post	NPL Pre	0.3150	0.1505	0.3654	0.2385	7
ROA Post	ROA Pre	0.0194	0.6465	0.0454	-0.1455	7

The regression analysis aims to examine the predictive impact of pre-merger on post-merger financial ratios. The primary objective is to determine whether financial stability and performance prior to the merger can reliably indicate post-merger outcomes. CAR coefficient (0.1207) Indicates a slight positive impact of pre-merger on post-merger CAR, but the effect is insignificant. We can conclude that the stability of capital adequacy before the merger does not necessarily translate into improved capital ratios after consolidation.

For efficiency ratio, the coefficient value, -0.1356, shows a slight negative relationship, but the coefficient is statistically insignificant. It shows that operational efficiency before a merger does not significantly influence efficiency outcomes after the merger.

A coefficient value, -0.0098, for leverage ratio shows a very weak negative relationship which shows that leverage before a merger does not predict leverage stability after consolidation.

For loans-to-deposits ratio, the coefficient value, 0.3115, indicates a moderate positive relationship, where higher pre-merger liquidity ratios somewhat predict post-merger liquidity stability. The p-value (0.0767) shows marginal significance at 10%, suggesting a potential relationship worth exploring. We can conclude that maintaining a balanced loans-to-deposits ratio before the merger may contribute to consistent liquidity performance after the merger.

This result can be attributed to the inherent stability of banking organizations' liquidity management practices, in which a balanced ratio is generally prioritized in an attempt to steer clear of risks related to cash flows and credit availability. Therefore, banks with stable liquidity practices prior to a merger are more likely to maintain liquidity stability following a merger.

Non-Performing Loan Ratio (NPL) has a Coefficient of 0.3150 with a p-value equal to 0.1505 which shows this parameter to be statistically insignificant. Similarly, the coefficient of return on assets (ROA) is very small and statistically insignificant, indicating that pre-merger profitability does not strongly influence post-merger profitability.

Regression analysis suggests that most pre-merger financial ratios have no power to predict post-merger performance at a significant level. Loans-to-Deposits Ratio is the lone strongest exception, and the relation with post-merger liquidity stability is moderately significant.

General lack of predictability is justified due to the following factors:

Challenges in Integration: Post-merger performance could be determined by changes in operation, management, and strategies rather than financial ratios.

External Factors: Market conditions, regulatory shifts, and general economic climate could alter the financial performance, making prior ratios less accurate.

Complexity of Mergers: Structural reorganization and consolidation efforts ensuing from mergers could dilute the prime effect of pre-merger financial strength.

These results align with existing research that M&As are not necessarily accompanied by enhanced financial performance and other qualitative factors might be the determining criterion. Hence, while liquidity

management seems relatively stable both pre- and post-merger, other financial indicators will be more likely to be determined by merger-specific factors rather than past financial performance.

5. Summary and Conclusions

The current research investigated the impact of mergers and acquisitions (M&A) on the post-merger financial performance of banks in the GCC region, with particular focus on seven major bank mergers between 2015 and 2022. The research aimed to determine if pre-merger financial indicators were predictive of post-merger results using descriptive statistics, correlation analysis, paired sample t-tests, and regression analysis.

The descriptive analysis showed considerable variations in pre- and post-merger performance among some of the financial ratios, notably ROA, ROE, and efficiency. While some of the banks experienced improvement in profitability and liquidity after the merger, others showed a decline, that is, capital adequacy and operating efficiency.

Correlation analysis showed that there were weak linear associations between pre- and post-merger variables, particularly for Loans-to-Deposits and NPL ratio. The majority of these were weak or statistically insignificant.

Paired sample t-tests were applied to test if there were differences in pre- and post-merger means. Statistically significant changes were noticed in certain indicators, such as ROA and efficiency in some cases, based on the findings, but variables such as CAR and leverage did not yield any differences.

To further investigate the predictive power of pre-merger performance, a series of simple linear regressions using OLS estimation was conducted. Regression analysis results showed that only the Loans-to-Deposits ratio produced a moderately high correlation ($R^2 = 0.4974$) between pre- and post-merger values but with a marginally higher-than-traditional p-value ($p = 0.0767$). Other control variables, including CAR, ROA, ROE, NPL, and efficiency, had low explanatory power and insignificant coefficients.

5.1. Conclusion

Regression analysis herein was aimed at examining the relation between pre-consolidation and post-consolidation financial performance of banks, which have experience large-scale consolidation (M&A) in GCC economies. Primarily, this was aimed to determine if a bank's stability and strength of finances before consolidating can act as a positive indicator of bank performance after consolidating.

Studies revealed that all the pre-merger financial ratios, such as the Capital Adequacy Ratio (CAR), Efficiency Ratio, Leverage Ratio, Non-Performing Loan Ratio (NPL), and Return on Assets (ROA), were all statistically equal to their respective post-merger values. This failure in predictability indicates that better financial performance prior to M&A does not guarantee improvement after integration. One of the most probable explanations for this result is the built-in intricacy of mergers, whereby operating fit, strategic fit, and exogenous economic conditions can overshadow prior financial performance.

The strongest exception was the Loans-to-Deposits Ratio, which was weakly positively related to post-merger liquidity stability. The relatively higher R-squared measure (0.4974) and marginal p-value (0.0767) indicate that liquidity management policies before a merger may have some impact on the level of liquidity after the merger. This finding supports the hypothesis that maintaining well-balanced liquidity ratios before M&A can alleviate cash flow and credit risk problems in post-merger integration.

Nevertheless, as limited applicability was established in the Loans-to-Deposits Ratio, the overall findings indicate that pre-acquisition financial performance is an unsuitable indicator of post-acquisition success. This validates the existence of qualitative drivers such as strategic fit, corporate governance, regulatory compliance, and market forces, which cannot be measured with financial ratios.

In conclusion, the findings of this regression research agree with previous studies that the potential returns on the financial value generated by M&A are not necessarily realized, especially in the short term. Market condition volatility and integration complexity are central drivers of success or failure of M&A projects. Future research must incorporate qualitative information and advanced econometric methods to better capture the non-financial drivers of performance after merger.

5.2. Limitations of the Study

Despite the rigorous analysis conducted within this research, there are some limitations that need to be appreciated. First, there were constraints of data, particularly regarding the Non-Performing Loan (NPL) ratio of Deal 5 (ADCB), which remained non-stationary even after performing first differencing. This factor is primarily because of few quarterly observations (typically 12 quarters), which give rise to issues in achieving stationarity. In addition, small samples in some deals reduce the strength of statistical tests.

Methodologically, the study relied on simple linear regression, which cannot adequately explain intricate pre- and post-merger financial driver linkages. Paired t-tests applied in analysis did not account for external factors, i.e., market environment and regulatory change, which influence financial performance.

Further, contextual limitations include absence of external variables and economic differences between the GCC countries, limiting generalizability of results. Quality and availability of data were also an issue, with

variable or incomplete financial data from other banks undermining accuracy and depth of comparative analysis.

In summary, although the study provides valuable insight into the impact of mergers on bank performance, these limitations set the stage for cautious interpretation of findings and suggest future research incorporate wider models and qualitative elements so as to better understand post-merger financial outcomes.

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