

The Effects of Corporate Governance, Financial Efficiency on Commercial Banks Financial Performance: Evidence from Kenya

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Abstract: *Corporate governance and financial efficiency have increasingly become essential determinants of commercial banks, profitability and stability in emerging markets. We examined the effects of corporate governance and financial efficiency of Kenyan banks over a period 2015-2024. Secondary panel data obtained from audited annual reports of commercial banks and Central Bank of Kenya (CBK) supervision reports and Kenya Bankers Association (KBA) publications was analyzed. The study employed two step system Generalized method of Moments (System GMM) estimator with windmeijer-corrected robust standard errors to address endogeneity and capture the dynamic nature of banks' financial performance. The results produced a significant persistent banks profitability which indicated that the current financial performance is influence by the precious performances. Financial efficiency exerts a positive and statistically significant effect on return on asset(ROA) indicating that efficient resource utilization enhances asset based profitability in commercial banks. However, the influence of Financial efficiency on return on equity remains statistically weak implying that shareholders return may act difference to efficiency enhancements in short term. Furthermore, Interest on deposits negatively affects net interest Margin(NIM) suggesting a reduction in interest based earnings. Corporate governance mechanisms demonstrate mixed effects on financial indicators thus proves that effectiveness of governance practices varies depending on the Financial performance dimension chosen. The study extends the banking and governance literature by examining the joint role of corporate governance and financial efficiency in shaping commercial banks' financial performance an emerging market setting using dynamic panel estimation techniques.*

Keywords: Financial performance, commercial banks, stakeholder theory, Resource-based view theory, Corporate governance, Financial efficiency

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Introduction

Commercial banks play a vital role in promoting economic growth and maintaining financial system stability. This is more especially in developing economies where banking institutions serve as a primary source of financial intermediary for business and general households (Mamo et al., 2021; Luh et al., 2023). Through mobilization of savings, investments, and allocation of financial resources efficiently, commercial banks holds the backbone of economic activities and sustainable growth (World Bank,2024). Furthermore, the financial performance of banks remains an important concern for regulators, policymakers, investors, and other stakeholders since stable and profitable banking institutions contribute significantly to economic resilience and development (Nguyen & Dang, 2022). However, sustainability of banks' profitability in emerging economies has gradually become challenging due to emerging regulatory requirements, intensified competition, technological disruption, and evolving institutional environments (Banna et al., 2023; Phan et al., 2024).

Corporate governance has been regarded as a critical tool for enhancing organizational performance by strengthening oversight structures, reducing agency conflicts, and aligning managerial actions with shareholder interests (Temba et al., 2023). Governance mechanisms such as board composition, board diversity, and executive compensation improves monitoring efficiency and reduce managerial self-interests thereby contributing to positive organizational financial performance (Jensen & Meckling, 1976). Despite this expectations, empirical evidence on the relationship between corporate governance and banks Financial performance remains inconclusive, particularly in emerging market economies. While some studies reporting positive outcomes of governance mechanisms on profitability (Musah et al., 2021; Muriithi et al., 2021), others reveal weak, insignificant, or mixed relationships (Kirimi et al., 2022; Temba et al., 2023). These mixes findings suggest that governance factors that improve Financial performance in developed economies may not generate similar results in emerging markets where institutional environments may moderate their effectiveness.

The inconsistencies may be particularly relevant in developing economies characterized by institutional weaknesses, regulatory transitions, and operational constraints (Nguyen et al., 2022). Recent developments such as rapid digital transformation, increased regulatory oversight, and banking sector restructuring may have further altered traditional governance enabled financial performance relationships (Banna et al., 2023). Consequently, findings from developed economies may not fully explain bank behavior in emerging markets context. Rather, such outcomes may indicate that governance reforms alone are insufficient to improve profitability without complementary improvements in operational efficiency and institutional quality (Natto & Mokoaleli-Mokoteli, 2025; Bawuah, 2025). These findings provide an important insight into the contextual conditions under which governance mechanisms influence banks' financial performance.

Financial efficiency has increasingly been recognized as a critical determinant of banking performance (Kweh et al., 2024). It refers to bank's ability to utilize available resources effectively, control operational costs, and maximize output while maintaining service quality and profitability (Kweh et al., 2024; Ochuka et al., 2024). In banking institutions, efficient management of operational costs, assets, and strategic resources can generate competitive

advantages and enhance profitability (Hidayat et al., 2021; Kamel et al., 2022). While some studies report that efficiency improvements enhance profitability and competitiveness, others suggest that the strength and direction of this relationship depend on factors such as regulatory environments, technological capabilities, market structure, and institutional quality (Natto & Mokoaleli-Mokoteli, 2025; Ochuka et al., 2024).

Despite extensive literature examining determinants of bank Financial performance, several important gaps remain unresolved. First, existing studies frequently examine corporate governance and financial efficiency independently, thereby limiting understanding of how monitoring mechanisms and organizational resource utilization jointly influence financial outcomes. Second, many empirical studies employ static estimation techniques that inadequately capture dynamic features of banking performance such as persistence, adjustment effects, and endogeneity concerns commonly associated with profitability measures (Nguyen & Dang, 2022). Third, prior research often relies on single performance indicators, particularly return on assets (ROA) or return on equity (ROE), which may not sufficiently capture multiple dimensions of banking performance. Finally, the empirical evidence on the combined influence of corporate governance and financial efficiency on banks financial performance remains limited in emerging economies

Over the recent years, Kenya has experienced signification banking sector reforms characterized by strengthened governance requirements, increased regulatory oversight, rapid growth of digital financial services, and intensified competition among financial institutions (Central Bank of Kenya, 2023; Kenya Bankers Association, 2024). These developments prove a unique environment to reassess the relationship between corporate governance, financial efficiency and banks' financial performance within a rapid evolving banking environment.

This study contributes to the literature in several ways. First, it provides contextual evidence on governance, efficiency and performance relationships within an emerging market banking environment characterized by institutional transitions and regulatory change. Second, the study uses a dynamic panel Generalized Method of Moments (GMM) framework that accounts for persistence effects and potential endogeneity associated with bank performance. Third, it employs multiple indicators of financial performance, namely return on assets (ROA), return on equity (ROE), and net interest margin (NIM), thereby providing a multidimensional assessment of profitability and inter-mediation performance. Collectively, these approaches extend understanding of how governance mechanisms and financial efficiency interact within banking institutions operating under evolving institutional conditions.

The rest of the paper is organized as follows, section 2 presents literature review, section three presents the methodology adopts, section 4 presents results and discussion while section 5 presents conclusion and recommendations based on the study findings.

Literature Review and Hypothesis Development

Theoretical review

The study is anchored on the agency theory as proposed by Jensen and Meckling(1976) and the resource-based theory proposed by Barney(1991). These theories collectively provide a framework for understanding how corporate governance mechanisms and financial efficiency influence the financial performance of commercial banks. Agency theory explains conflicts arising from the separation of ownership and control within organizations. It focuses on the relationship between principals and agents, where principals delegate decision-making authority to managers who are expected to utilize organizational resources in ways that maximize shareholders' interests (Jensen & Meckling, 1976).

In banking institutions, agency conflicts are often intensified by information asymmetry, regulatory complexity, and managerial discretion in risk-related decisions. These characteristics make governance mechanisms particularly important in the banking sector because managers possess specialized information that shareholders and depositors may not easily access. Consequently, monitoring managerial actions becomes necessary, although monitoring activities may impose substantial costs on firms and reduce shareholder returns (Fama et al., 1983).

Agency theory therefore suggests that effective governance mechanisms, including board oversight, board composition, and executive remuneration structures, play a critical role in reducing managerial opportunism and aligning managerial actions with shareholders' interests. Weak governance structures may lead to excessive risk-taking, inefficiency, and poor managerial decisions that ultimately affect financial performance and institutional stability. (Elmagrhi, 2018). In emerging economies such as Kenya, however, governance mechanisms may not always generate direct profitability improvements because institutional quality, regulatory enforcement, and monitoring effectiveness vary across contexts. Governance structures alone may therefore be insufficient to improve financial outcomes (Judijanto et al., 2024). This perspective is particularly important because it provides a theoretical explanation for potential insignificant relationships between governance variables and financial performance. To address agency concerns, banking institutions often implement governance frameworks that enhance transparency and accountability while reducing agency costs (Elmagrhi, 2018). Regulatory interventions such as Basel III requirements also support alignment between managerial actions and shareholder interests while promoting financial stability and minimizing systemic risk (Judijanto et al., 2024). Despite criticisms that agency theory primarily emphasizes shareholder interests while giving limited attention to broader stakeholder concerns, the theory remains relevant in explaining how governance mechanisms influence the financial performance of commercial banks.

The resource-based view (RBV) theory serves as a strategic management framework which shows how companies can gain competitive advantage together with improved financial results through their unique internal resources and capabilities(Barney,1991). According to this theory, firms that possess valuable, rare, inimitable, and non-sustainable resources can sustain long-term profitability and efficiency.

The theory argues that organizational growth and performance are influenced by a firm's ability to acquire, develop, and effectively utilize strategic resources (Barney, 1991; Penrose, 1959; Wernerfelt, 1984; Castanias & Helfat, 1991). Within banking institutions, these resources may include managerial expertise, board competencies, operational systems, financial capabilities, and organizational knowledge.

From the RBV perspective, board attributes such as expertise, diversity, strategic experience, and managerial competencies constitute intangible organizational resources that enhance monitoring quality, decision-making capability, and operational effectiveness. These capabilities strengthen banks' ability to respond to competitive pressures and regulatory demands while sustaining profitability (Temba et al., 2023)

Financial efficiency is particularly important within the RBV framework because it reflects an institution's capability to effectively allocate and utilize resources. Banks with stronger financial and managerial capabilities are better positioned to improve operational performance, manage financial distress, and sustain profitability over time (Sarjana, 2017; Adeniran et al., 2024).

The integration of Agency Theory and the Resource-Based View (RBV) provides a comprehensive framework for explaining how corporate governance and financial efficiency influence financial performance in commercial banks. Agency theory emphasizes monitoring and control mechanisms through governance variables such as board size, diversity, and remuneration to reduce agency conflicts and align managerial interests with organizational objectives. In contrast, RBV views board expertise, organizational capabilities, and financial efficiency as strategic resources that enhance competitive advantage and profitability. Unlike previous studies that relied mainly on agency theory, integrating RBV addresses the strategic capability dimension often overlooked, particularly in emerging economies where institutional conditions and resource utilization influence performance outcomes. Financial performance indicators such as ROA, ROE, and NIM therefore reflect the combined effects of governance mechanisms and organizational capabilities.

Previous studies examining governance and Financial performance relationships in banking institutions have predominantly relied on agency theory in isolation. Although agency theory explains monitoring and control mechanisms, it may overlook the strategic capability dimension emphasized by RBV. This limitation becomes more important in emerging economies where financial efficiency and resource utilization significantly influence competitiveness and profitability.

Agency theory and the Resource-Based View (RBV) provide the theoretical foundation for explaining the relationship between corporate governance, financial efficiency, and financial performance in commercial banks. Agency theory supports governance variables including board size, board diversity, and board remuneration by emphasizing monitoring mechanisms that reduce agency conflicts and align managerial interests with organizational objectives. RBV supports financial efficiency by viewing board expertise, competencies, and organizational capabilities as strategic resources that enhance efficiency and competitive advantage. Financial

performance indicators such as ROA, ROE, and NIM represent outcomes predicted by both theories, suggesting that governance structures and financial efficiency jointly influence bank performance.

Empirical Review

Corporate Governance and Financial Performance

The organization uses corporate governance systems to create better oversight which decreases executive conflicts between managers and shareholders and establishes operational plans that drive better results for banks. Corporate governance establishes the framework which determines how organizations achieve their operational objectives and maintain organizational control (Omware et al., 2020). In the banking sector, corporate governance assumes greater significance because banks operate under high leverage conditions, face extensive regulatory oversight, and perform a critical role in maintaining financial system stability. Weak governance structures may intensify agency problems, increase risk exposure, and adversely affect bank profitability.

Empirical evidence regarding the relationship between corporate governance and financial performance remains inconclusive. Several studies suggest that larger boards negatively affect organizational performance because coordination challenges and slower decision-making processes reduce managerial effectiveness (Hordofa et al., 2025; Berhe, 2023).

Conversely, other studies argue that boards which consist of more members and different backgrounds enable organizations to obtain extra expertise which improves their financial results through better monitoring systems (Ngatno et al., 2021; Kalbuana et al., 2022). Similarly, Adnin and Anjom (2024) demonstrated that board characteristics create a major impact on bank performance which researchers measure through ROA and ROE metrics. Studies on board diversity have also generated mixed findings. Existing evidence indicates that gender-diverse boards contribute positively to organizational performance by improving governance quality, decision-making effectiveness, and risk management practices (Berhe, 2023; Dwaikat, 2021; Danbatta et al., 2019). However, the effectiveness of board diversity may depend on institutional environments and organizational characteristics that differ across banking systems

Directors' salary packages serve as an essential element which guides governance processes. Performance-based pay systems which banks design with proper structure can create both financial success for banks and increased trust from investors (Eklemet & Gyamera, 2024; Elnahass et al., 2020). However, wrongly constructed payment systems may encourage excessive risk-taking and produce unfavorable organizational outcome (Abubakar et al., 2024). The inconsistent findings reported across studies suggest that governance mechanisms may operate differently across institutional and regulatory environments. Variations in ownership structures, governance regulations, market maturity, and monitoring effectiveness may explain why governance structures improve performance in some banking systems but generate insignificant or contradictory outcomes elsewhere. Governance mechanisms that strengthen oversight in developed economies may not necessarily produce similar outcomes in emerging

markets characterized by concentrated ownership structures and evolving regulatory frameworks.

Although previous studies have extensively examined corporate governance and financial performance, empirical evidence remains fragmented, particularly within emerging banking systems. Existing studies largely emphasize direct relationship between governance and performance while overlooking how governance structures may interact with operational efficiency to influence profitability outcomes. Furthermore, changing competitive pressures and increasing digital transformation within Kenyan commercial banks may alter the relationship between efficiency and profitability beyond patterns observed in other markets. This limitation creates an important research gap, particularly in Sub-Saharan banking environments such as Kenya where institutional conditions continue to evolve.

Despite theoretical expectations that effective governance improves monitoring efficiency and enhances profitability, empirical evidence remains inconsistent across banking systems, suggesting that governance mechanisms may function differently under varying institutional conditions. Therefore, this study hypothesizes that:

H1: Corporate governance has no effect on the financial performance of commercial banks.

Finance Efficiency and Financial Performance

The efficiency structure hypothesis explains that organizational performance improves when firms operate efficiently together with their resource use and operational cost management capabilities. Financial efficiency describes how institutions deliver financial services using the lowest costs while meeting all necessary standards (Omete, 2023). Efficiency is particularly important in developing economy banking sectors because increasing competition, technological change, and operational pressures require institutions to optimize resource allocation and cost structures. (Kha et al., 2017).

Empirical findings regarding financial efficiency and financial performance remain inconsistent. Several studies report positive relationships between efficiency and profitability. Kumar et al. (2024) found that working capital efficiency improved financial performance among Indian firms, while Liao (2024) showed that operational efficiency enhanced market performance among Chinese banks. Sitienei et al. (2023) similarly reported that efficiency initiatives contributed positively to financial performance among Kenyan banks.

However, other studies report different findings. Gao et al. (2021) and Ahmed et al. (2022) found that efficiency improvements did not significantly influence organizational performance within highly volatile and competitive environments. Trumpp et al. (2017) further identified a nonlinear relationship, suggesting that efficiency gains may not automatically translate into improved profitability. Similar inconsistencies have been observed in African contexts (Sarpng-Kumankoma et al., 2017; Nyakieni et al., 2022).

These contradictory findings suggest that the impact of financial efficiency may depend on contextual factors such as market structure, regulatory conditions, institutional quality, and

competitive pressures. The inconsistent and occasionally insignificant findings further imply that efficiency improvements alone may not automatically enhance profitability, particularly in emerging economies characterized by operational constraints and evolving financial systems. Existing evidence on financial efficiency and financial performance remains fragmented because studies employ different efficiency measures, performance indicators, and methodological approaches. Furthermore, relatively few studies have jointly examined financial efficiency and corporate governance within dynamic banking environments. Prior studies have also relied heavily on static estimation techniques that may fail to capture persistence in profitability and potential endogeneity among governance, efficiency, and financial performance variables. Such methodological limitations may contribute to inconsistent empirical findings.

While corporate governance and financial efficiency have independently received considerable empirical attention, limited studies have examined how these factors jointly influence financial performance within banking institutions. Governance mechanisms shape managerial oversight and strategic discipline, whereas financial efficiency reflects the institution's ability to effectively utilize resources. Examining their interaction may therefore provide deeper insights into profitability dynamics among commercial banks. Given the inconsistent empirical evidence and contextual uncertainty across banking systems, this study hypothesizes that: H2: Financial efficiency has no effect on the financial performance of commercial banks.

Research Methodology

3.1 Research Design and Sample Size

The study adopted an explanatory quantitative panel research design to examine the relationship between corporate governance, financial efficiency, and the financial performance of commercial banks in Kenya. An explanatory design was appropriate because it enabled the study to investigate causal relationships among variables and test theoretically derived hypotheses using quantitative methods (Wafula & Wabwile, 2023). Panel research designs are particularly useful because they combine cross-sectional and time-series dimensions, thereby allowing researchers to control for unobserved heterogeneity and capture changes in organizational behavior over time. The study employed a census approach involving all 38 licensed commercial banks operating in Kenya. The use of a census approach was appropriate because the banking population was manageable and inclusion of all banks minimized sampling bias while improving the comprehensiveness and representation of findings. Furthermore, panel data analysis enhances estimation efficiency by increasing observations across banks and time periods

3.2 Data Sources and Collection

The study utilized secondary data for the period 2015–2024. Data were obtained from the annual reports of commercial banks and the Central Bank of Kenya (CBK) supervision reports and Kenya Bankers Association (KBA) publications. The ten-year study period was selected because it captures substantial developments within the Kenyan banking sector, including governance reforms, increasing digital transformation, adoption of sustainability frameworks, and post-COVID-19 recovery strategies. These structural changes may influence the

relationship between corporate governance, financial efficiency, and financial performance, making the period appropriate for examining dynamic profitability behavior among banks

3.3 Operationalization and Measurement of the Variables

The study measured financial performance using Return on Assets(ROA), Return on Equity (ROE), and Net Interest Margin(NIM) (Agutu et al., 2023). The use of multiple performance indicators enabled a broader assessment of profitability by capturing operational efficiency, shareholder returns, and banking inter-mediation performance. Reliance on multiple measures minimizes potential measurement bias associated with using a single accounting indicator. Corporate governance was measured using board size, board gender diversity, and directors’ remuneration. Board size was selected because it reflects monitoring capacity and strategic oversight within organizations. Gender diversity captures heterogeneity in decision-making and governance quality, while directors’ remuneration serves as a proxy for incentive alignment between management and shareholder interests (Malik et al., 2024; Omare, 2023).

Financial efficiency was measured using operating ratio and asset turnover ratio. The operating ratio reflects cost efficiency within banking operations by assessing the relationship between operating expenses and generated income. Asset turnover captures the effectiveness with which banks utilize their assets to generate revenue (Hasanatun et al., 2025). The study further incorporated bank size, liquidity, capital adequacy, and Fin-Tech adoption as control variables because previous studies suggest that bank-specific characteristics may influence profitability outcomes.

The operationalization process of the study variables together with their measurement methods appears in Table 1

Table 1: Operationalization and measurement of the variables

Variable type	Variable	Indicator	Measurement	source
Dependent Variable	Financial performance	ROA	Net income / total assets	Agutu et al. (2023)
		NIM	(Interest Income – Interest Expense) / Average Earning Assets	
		ROE	Net income / shareholders' equity	

Independent Variable	Corporate governance	Board size Board gender diversity Directors` remuneration	Number of directors serving on the board The proportion of female board members to total directors. Total directors' remuneration as a percentage of total revenue.	Malik et al. (2024); Omare (2023)
Independent Variable	Finance efficiency	Operating ratio Asset turnover ratio	Operating expenses +Interest on Deposits / Total Income Total income divided by Average total assets.	Hasanatun et al. (2025)
Control variables	Bank size, Liquidity Asset Management Fintech	Total Assets Liquidity ratio Capital management Digital Loans	Natural log of total assets, Cash ratio, CAR Percentage of loans processed digitally	CBK(2024)

3.5 Model Specification and Analysis

The study employed the two-step System Generalized Method of Moments (System GMM) estimator with Windmeijer-corrected robust standard errors to analyze the panel data. A dynamic modeling approach was considered appropriate because bank financial performance tends to persist over time due to factors such as adjustment costs, market positioning, customer relationships, and managerial continuity, implying that current profitability may be influenced by previous performance levels. In addition, corporate governance and financial efficiency may be endogenously related to financial performance, creating potential reverse causality and omitted variable bias.

System GMM was selected because it combines equations in first differences and levels, improving estimation efficiency and making it suitable for panel data characterized by relatively small time periods and larger cross-sectional units while reducing weak instrument problems. The estimator also addressed key econometric concerns, including endogeneity, unobserved heterogeneity, heteroskedasticity, and autocorrelation. To ensure model reliability, instrument proliferation was controlled by restricting the number of instruments, while Hansen tests assessed instrument validity and Arellano-Bond AR (1) and AR (2) tests evaluated serial correlation.

Furthermore, the use of multiple financial performance indicators (ROA, ROE, and NIM) enhanced the robustness of the findings by capturing different dimensions of commercial

banks’ profitability behavior. The model specification to test hypothesis 1 and 2 are presented in equations 1 and 2 respectively.

$$FP_{it} = \alpha + \beta_1 FP_{it-1} + \sum_{k=1}^3 \beta_2 CG_{it} + \sum_{k=1}^4 \beta_3 CV_{it} + \epsilon_{it} \dots \dots \dots \text{Equation 1}$$

$$FP_{it} = \alpha + \beta_1 FP_{it-1} + \sum_{k=1}^3 \beta_2 FE_{it} + \sum_{k=1}^4 \beta_3 CV_{it} + \epsilon_{it} \dots \dots \dots \text{Equation 2}$$

where FP denotes financial performance, FP_{it-1} denotes the lag of the dependent variable, CG represents corporate governance, FE denotes financial efficiency, and CV are control variables including firm size, liquidity, fin-tech, and capital management.

Results and discussion

4.1.1 Descriptive analysis

Table 2: Descriptive results on Corporate Governance and Financial Performance

VARIABLE	MEAN	STD.DEV	MIN	MAX
TND	9.208	2.992	0	23
GENDER DIVERSITY	0.197	0.138	0	1
DIRECTORS REMUNERATION	0.058	0.179	-0.285	2.163
OE	1.26e+07	4.84e+07	0	4.71e+08
IOD	2.15e+07	2.54e+08	-2283000	4.88e+09
TINCOME	4.19e+07	4.17e+08	-5.43e+07	5.98e+09
AVERAGE TA	3.69e+07	2.52+08	-3.22e+07	2.99e+09
FINTECH	0.401	0.293	0	0.98
LQUIDITY	13.679	144.448	-0.054	2558.333
CAPITAL MANAGEMENT	0.294	0.505	-0.058	8.300
FIRM SIZE	7.498	0.928	4.0006	9.337
ROA	2.320	24.694	-29.689	411.373
NIM	412.826	11145.950	-115829.700	163593.800
ROE	5.023	80.010	-281.283	1480.352

The descriptive statistics in table 2 above reveals a substantial heterogeneity among the banks in terms of governance structures, operational characteristics, and financial performance. The average board size of approximately nine (9) members suggests moderate board representation across the banking sector, while the low mean gender diversity ratio indicates limited female participation in corporate leadership structures. The moderate Fin-Tech adoption rate further suggests that although banks are increasingly embracing digital transformation, technological integration remains uneven across institutions.

The large standard deviations observed in operational efficiency, total income, liquidity, and asset-related variables reflect considerable disparities in bank scale, operational capability, and financial strategies. Similarly, the wide dispersion in profitability indicators (ROA, ROE, and NIM) implies substantial differences in performance outcomes across banks, potentially arising from variations in managerial efficiency, governance effectiveness, market positioning, and technological capability. These variations justify the use of dynamic panel estimation (System

GMM), which effectively account for heterogeneity, endogeneity, and dynamic profitability behavior in banking institutions.

Table 3: Corporate governance and ROA

ROA	Coeff.	Std.Err.	z	P> z
L1	-0.169***	0.045	-3.75***	0.000
TND	0.169	0.467	0.360	0.717
GENDER DIVERSITY	-4.130	7.586	-0.54	0.586
DIRECTORS REMUNERATION	3.024	3.824	0.790	0.429
FINTECH	18.276*	10.963	1.670*	0.096
LIQUIDITY	-.002	0.005	-0.340	0.737
CAPITAL MANAGEMENT	-0.837	1.016	0.820	0.410
FIRMSIZE	-12.837*	7.018	-1.830*	0.067
CONS	90.426*	48.210	1.880*	0.061
WALD CHI2(8)	295.350***			0.000
Number of instruments = 16				Number of groups =38

(Significance levels: $p < 0.10$, $p < 0.05^{**}$, $p < 0.01^{***}$)

Table 3 shows the dynamic estimation results where lagged ROA has a negative and statistically significant effect ($L1 = -0.169$, $p < 0.01$), indicating mean reversion in bank profitability over time. This suggests that unusually high profitability levels may not be sustainable in subsequent periods due to competitive pressures, regulatory adjustments, and market corrections within the banking sector.

The governance variables, including board size, gender diversity, and directors' remuneration, do not exhibit statistically significant relationships with ROA. However, this does not necessarily imply that governance mechanisms are irrelevant. Rather, the findings suggest that traditional governance structures alone may be insufficient to independently drive profitability in emerging banking markets characterized by institutional constraints, evolving regulatory environments, and operational inefficiencies.

Fin-Tech adoption demonstrates a positive and weakly significant effect on ROA ($p < 0.10$), implying that digital transformation may increasingly contribute to operational efficiency and profitability enhancement within the banking sector. Conversely, firm size exhibits a weak negative relationship with ROA, suggesting possible dis-economies of scale and managerial inefficiencies among larger banking institutions. Overall, the significant Wald χ^2 statistic confirms the joint explanatory power and overall validity of the estimated model.

Table 4: Corporate governance and ROE

ROE	Coeff.	Std.Err	z	P> z
L1	-0.434***	0.072	-6.040***	0.000
TND	0.563	2.303	0.240	0.807
GENDER DIVERSITY	6.505	59.872	0.110	0.913
DIRECTORS REMUNERATION	15.097**	7.103	2.120**	0.034
FINTECH	36.307***	8.544	4.250***	0.000
LIQUIDITY	-0.002	0.004	-0.230	0.822
CAPITAL MANAGEMENT	5.277	6.291	0.840	0.402
FIRM SIZE	-27.296***	8.443	-3.230***	0.001
CONS	189.257***	40.096	4.720***	0.000
WALD CHI2(8)	145.00***			0.000
Number of instruments = 16				Number of groups = 38

(Significance levels: $p < 0.10$, $p < 0.05^{**}$, $p < 0.01^{***}$)

The ROE model in table 4 reveals a negative and highly significant coefficient for lagged ROE ($L1 = -0.434$, $p < 0.01$), suggesting strong mean reversion in shareholder returns over time. This indicates that exceptionally high returns may gradually adjust toward equilibrium levels due to market competition and financial sector dynamics.

Directors' remuneration demonstrates a positive and statistically significant relationship with ROE, implying that incentive-based compensation structures may enhance managerial motivation and improve shareholder value creation. This finding is consistent with agency theory, which argues that properly aligned incentives can reduce managerial opportunism and improve organizational performance. Similarly, FinTech adoption exerts a strong positive influence on ROE, reinforcing the argument that digital innovation and technological capability are becoming increasingly important drivers of financial performance within modern banking systems.

In contrast, board size and gender diversity remain statistically insignificant, suggesting that structural governance characteristics alone may not directly translate into improved shareholder returns within emerging banking environments. This finding supports arguments that governance effectiveness depends not only on board composition but also on institutional quality, regulatory effectiveness, and strategic managerial capabilities.

Firm size exhibits a negative and statistically significant relationship with ROE, implying that larger banks may experience operational complexity and inefficiencies that weaken shareholder returns. The significant Wald χ^2 statistic further confirms the overall explanatory strength of the model.

Table 5: Corporate Governance and NIM

NIM	Coeff	Std. Err.	z	P> Z
L1	0.518	0.255	0.200	0.839
TND	17.685	132.387	0.130	0.894
GENDER DIVERSITY	-3199.819	3090.730	-1.040	0.301
DIRECTORS REMUNERATION	15791.830	14408.640	1.100	0.273
FINTECH	1494.040	1704.606	0.880	0.381
LIQUIDITY	-0.172	0.137	-0.130	0.900
CAPITAL MANAGEMENT	-721.067	745.999	-0.970	0.334
FIRM SIZE	203.993	411.900	0.500	0.620
CONS	-1971.671	2897.735	-0.680	0.496
WALD CHI ²	3.61			0.891
Number of instruments = 16				Number of groups = 38

(Significance levels: $p < 0.10$, $p < 0.05^{**}$, $p < 0.01^{***}$)

The System GMM results reveal that corporate governance variables in table 5 above do not exhibit statistically significant effects on net interest margin (NIM). However, this finding should not be interpreted as evidence that governance mechanisms are entirely irrelevant to banking performance. Rather, the results suggest that NIM may be more strongly influenced by broader market and macroeconomic conditions such as interest rate movements, monetary policy dynamics, asset-liability management structures, and competitive pressures within the banking industry.

The insignificant governance coefficients may further imply that governance mechanisms influence profitability indirectly through operational efficiency, risk management quality, and strategic decision-making rather than directly affecting interest margin performance. This finding contributes to the growing literature suggesting that traditional governance structures may have limited direct influence on financial outcomes in emerging banking markets characterized by institutional and regulatory transitions.

Furthermore, the insignificant Wald statistic indicates that the explanatory variables collectively provide limited explanatory power for variations in NIM, reinforcing the possibility that external macro-financial factors play a more dominant role in determining banks' interest margin performance.

Table 6: Financial efficiency and Financial Performance(ROA)

ROA	Coeff.	Std.Err.	z	P> z
L1	-.165***	.0420	-3.900 ***	0.000
OE	1.23e-07 ***	4.25e-08	2.880***	0.004

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IOD	-4.46e-08	2.77e-08	-1.610	0.108
TINCOME	4.27e-09	3.61e-09	1.180	0.237
AVERAGETA	-8.47e-09	5.98e-09	-1.420	0.156
FINTECH	17.445	11.720	1.490	0.137
CAPITALMANAGEMENT	-0.227	1.574	-0.140	0.885
LIQUIDITY	-0.004	0.003	-1.450	0.148
FIRM SIZE	-13.546*	7.143	-1.900*	0.058
CON	97.251*	51.136	1.900*	0.057
WALD CHI2(9)	354.450***			0.000
Number of instruments = 18				Number of groups = 38

(Significance levels: $p < 0.10$, $p < 0.05^{**}$, $p < 0.01^{***}$)

The findings in table 6 above indicates that lagged ROA maintains a negative and statistically significant relationship with current profitability, confirming the dynamic nature and mean-reverting behavior of bank performance. Operating efficiency exhibits a positive and highly significant effect on ROA, suggesting that efficient resource utilization and cost management significantly enhance bank profitability. This finding strongly supports the Resource-Based View (RBV), which emphasizes operational capability and efficient resource deployment as critical sources of sustained competitive advantage.

Although interest on deposits and total income display expected directional relationships with profitability, their effects are not statistically significant, implying that short-term profitability may be shaped more by operational efficiency than by isolated income or funding components. FinTech adoption also shows a positive but insignificant relationship with ROA, suggesting that the profitability benefits of digital transformation may require longer adjustment periods before becoming fully realized.

The weak negative relationship between firm size and profitability may further indicate diseconomies of scale and managerial inefficiencies among larger banking institutions. Collectively, these findings imply that operational capability may be more influential than traditional governance structures in driving profitability within emerging banking systems.

Table 7: Financial Efficiency and Financial performance(ROE)

ROE	Coeff.	Std.Err	z	P> z
L1	.008	.028	0.320	0.752
OE	-2.57e-08	5.56e-08	-0.460	0.644
IOD	-5.16e-08	4.97e-08	-1.040	0.299
TINCOME	4.80e-09	4.94e-09	0.970	0.331
AVERAGETA	-1.48e-08	1.21e-08	-1.220	0.224
FINTECH	34.639	25.573	1.350	0.176
LIQUIDITY	-.000	.005	-0.040	0.966
CAPITALMANAGEMENT	4.809	11.949	0.400	0.687

FIRM SIZE	-28.400	22.894	-1.240	0.215
CONS	204.014	165.057	1.240	0.216
WALD CHI2(9)	439.690***			0.000
Number of instruments = 18				Number of groups = 38

(Significance levels: $p < 0.10$, $p < 0.05^{**}$, $p < 0.01^{***}$)

The ROE estimation results in table 7 above suggests weak persistence in shareholder returns, as indicated by the insignificant lagged ROE coefficient. Operating efficiency demonstrates a negative but statistically insignificant relationship with ROE, implying that efficiency gains may not immediately translate into shareholder value enhancement in the short run. This may occur because efficiency improvements often require substantial technological investment and organizational restructuring before financial benefits fully materialize.

Fin-Tech adoption similarly exhibits a positive but insignificant relationship with ROE, suggesting that digital transformation may generate long-term strategic benefits even though immediate effects on equity returns remain limited. The insignificant effects of liquidity, capital management, and firm size further indicate that shareholder returns within the banking sector may be influenced by broader market dynamics and macroeconomic conditions beyond internal operational adjustments alone.

Nevertheless, the significant Wald χ^2 statistic confirms the joint significance and overall validity of the estimated model.

Table 8: Financial Efficiency and Financial Performance (NIM)

NIM	Coeff	Std. Err	z	P> z
L1	.0316	.0919	0.34	0.731
OE	.000	.000	1.35	0.178
IOD	-.000***	3.27e-06	-30.49***	0.000
TINCOME	-1.75e-06	3.97e-06	-0.44	0.660
AVARAGETA	5.10e-06	.000	0.47	0.635
FINTECH	663.983	1103.44	0.60	0.547
LIQUIDITY	-.509	.9367	-0.54	0.587
CAPITAL MANAGMENT	44.701	535.324	0.08	0.933
FIRMSIZE	176.988	429.979	0.410	0.681
CONS	-1377.831	3294.809	-0.420	0.676
WALD CHI2(9)	2273.460***			0.000
Number of instruments = 18				Number of groups = 38

(Significance levels: $p < 0.10$, $p < 0.05^{**}$, $p < 0.01^{***}$)

The results indicate that lagged NIM in table 8 does not exhibit significant persistence, suggesting that banks' interest margin performance is relatively unstable and responsive to changing market conditions. Operating efficiency demonstrates a positive but statistically insignificant association with NIM, implying that short-term efficiency improvements may not immediately influence interest margin generation.

Interest on deposits exerts a strong negative and statistically significant effect on NIM, indicating that increased dependence on deposit financing may compress banks' interest margins through higher funding costs. This finding highlights the importance of effective liability management and funding structure optimization within banking operations.

The insignificant effects of Fin-Tech adoption, liquidity, capital management, and firm size suggest that NIM is likely driven more strongly by external macroeconomic conditions, monetary policy dynamics, and competitive market structures than by internal governance or operational characteristics alone. The significant Wald χ^2 statistic nevertheless confirms the overall joint significance of the model variables.

4.2 Robustness Check

The robustness test was carried out using post diagnostic test that is wald χ^2 , Arellano Bond and Hansen test to determine the joint significance of the model variables the validity of the instruments.

Table 9: Arellano Bond test Serial correlation

a) Model 1(Corporate governance and Financial performance)

	ROA		ROE		NIM	
Order	Z-statistic	Prob>z	Z-statistic	Prob>z	Z-statistic	Prob>z
AR1	-1.02	0.310	-0.99	0.322	-1.35	0.178
AR2	-1.13	0.259	0.99	0.323	-0.18	0.856

b) Model 2(Finance Efficiency and Financial performance)

	ROA		ROE		NIM	
Order	Z-statistic	Prob>z	Z-statistic	Prob>z	Z-statistic	Prob>z
AR1	-1.32	0.188	-0.99	0.321	-1.08	0.278
AR2	-0.22	0.829	0.99	0.322	-1.26	0.208

Table 9: Hansen Test for Over-Identifying Restrictions

	ROA		ROE		NIM	
	Z-statistic	Prob>z	Z-statistic	Prob>z	Z-statistic	Prob>z
Model 1	1.37	0.245	0.36	0.549	2.56	0.109
Model 2	0.04	0.846	0.33	0.564	1.44	0.229

Model 1 (Corporate governance and Financial performance) and Model 2(Finance Efficiency and Financial performance)

The study employed two-step System GMM estimation with Windmeijer-corrected robust standard errors and collapsed instruments to address heteroskedasticity, autocorrelation, endogeneity, and instrument proliferation concerns. The diagnostic results generally confirm the validity and consistency of the estimated models. Specifically, the insignificant AR (2) statistics indicate absence of second-order serial correlation in the differenced residuals. Furthermore, the Hansen test results fail to reject the null hypothesis of instrument validity across the estimated models, confirming that the selected instruments are appropriate and reliable for dynamic panel model.

4.3 Discussion Of The Findings

The System GMM estimates reveal that corporate governance mechanisms exert varying effects across different dimensions of bank financial performance, including return on assets (ROA), return on equity (ROE), and net interest margin (NIM). The negative and statistically significant coefficients of the lagged profitability variables indicate the presence of mean reversion in bank performance, suggesting that exceptionally high profitability levels are unlikely to persist over time due to competitive pressures, regulatory adjustments, and market correction dynamics. This finding is consistent with Nguyen and Dang (2022), who argue that banking profitability in emerging markets tends to adjust toward equilibrium over time.

The findings further reveal that board size and gender diversity do not exhibit statistically significant relationships with ROA, ROE, or NIM. However, these insignificant relationships should not be interpreted as evidence that governance mechanisms are irrelevant to banking performance. Rather, the results suggest that traditional governance structures alone may be insufficient to independently drive profitability within emerging banking environments characterized by institutional weaknesses, evolving regulatory systems, and operational inefficiencies. The finding aligns with Kumbirai and Webb (2024) and Nguyen and Dang (2022), who argue that governance effectiveness in emerging economies is often constrained by broader institutional and market conditions. Furthermore, the insignificant effect of gender diversity may imply that board representation alone is insufficient to influence financial outcomes unless accompanied by substantive participation in strategic decision-making and institutional support mechanisms.

The positive and statistically significant effect of directors' remuneration on ROE suggests that properly structured compensation mechanisms may enhance managerial incentives and improve shareholder value creation. The finding supports Agency Theory, which posits that incentive-aligned compensation structures help reduce agency conflicts between managers and shareholders, thereby improving organizational performance. The result is also consistent with prior studies suggesting that performance-based remuneration systems strengthen managerial commitment toward profitability enhancement.

The findings additionally indicate that FinTech adoption positively influences bank performance, particularly ROE, while also exhibiting a modest positive contribution to ROA. These results suggest that digital transformation and technological capability are becoming increasingly important strategic resources within the banking sector. The findings support the Resource-Based View (RBV), which emphasizes that firms achieve competitive advantage

through the development of valuable organizational capabilities and technological resources. Improved digital banking systems may enhance operational efficiency, customer service delivery, financial innovation, and revenue diversification, thereby strengthening profitability over time.

Firm size demonstrates a negative relationship with ROE and a weak negative relationship with ROA, implying that larger banks may experience dis-economies of scale arising from administrative complexity, bureaucratic inefficiencies, and monitoring challenges. This finding suggests that expansion alone may not guarantee improved financial performance unless accompanied by effective managerial coordination and operational efficiency improvements. The findings further reveal that corporate governance variables do not exhibit significant direct effects on net interest margins. However, this outcome may indicate that NIM is influenced more strongly by external market conditions, monetary policy dynamics, interest rate structures, banking competition, and macroeconomic factors than by internal governance mechanisms alone. This interpretation is consistent with Claessens et al. (2021), who argue that interest margin behavior in banking systems is heavily shaped by broader financial market conditions and regulatory environments.

The dynamic GMM estimates also demonstrate that operational efficiency exerts a positive and statistically significant effect on ROA, suggesting that efficient resource utilization and cost management significantly enhance bank profitability. This finding strongly supports the Resource-Based View, which emphasizes operational capability and efficient resource deployment as important sources of sustained competitive advantage. The result is consistent with Menicucci and Paolucci (2021) and Sufian and Chong (2023), who found that operational efficiency improvements contribute positively to banking sector profitability.

In contrast, operational efficiency does not exhibit a statistically significant effect on ROE. This finding may imply that shareholder returns are influenced more strongly by leverage decisions, capital structure, and risk-taking behavior than by short-term operational improvements alone. Similar observations were reported by Ozili (2022) and Trujillo-Ponce (2021), who argue that ROE performance is often shaped by broader financial structure decisions and market dynamics.

Interest on deposits (IOD) demonstrates a strong negative relationship with NIM, indicating that increased reliance on deposit financing may raise funding costs and intensify pricing competition, thereby compressing banks' interest margins. This finding is consistent with Claessens et al. (2021) and Demirgüç-Kunt et al. (2023), who argue that funding structure and liability management play critical roles in determining banking sector profitability and margin sustainability.

Although Fin-Tech adoption does not consistently produce statistically significant short-term effects across all profitability indicators, the positive coefficient signs suggest that digital investments may generate long-term strategic benefits. This may occur because digital transformation initiatives often require substantial initial investment costs, organizational restructuring, and capability development before profitability gains become fully realized.

Similar findings were reported by (Elmahdy et al. (2025) and Mabe and Simo-Kengne (2025), who observed that the financial benefits of digital innovation may materialize gradually over time.

The findings suggest that profitability within emerging banking markets is increasingly driven by operational efficiency, technological capability, and broader market dynamics rather than traditional governance structures alone. While governance mechanisms remain institutionally important, their direct influence on profitability appears constrained by regulatory limitations, institutional weaknesses, and evolving competitive conditions.

4.4 Recommendations

The findings suggest that banks should prioritize operational efficiency improvement strategies through cost optimization, process automation, and effective resource utilization in order to enhance profitability performance. Since operational efficiency demonstrated a significant positive relationship with ROA, bank management should strengthen internal operational systems, improve cost management practices, and invest in technologies that enhance service delivery and productivity.

The study further recommends that banks adopt long-term digital transformation strategies aimed at strengthening fin-tech capability, improving customer experience, and enhancing operational flexibility

Governments and financial regulators should therefore support digital banking expansion through investment in digital infrastructure, cyber-security enhancement, and innovation-friendly regulatory frameworks.

The findings also imply that banks should strengthen governance effectiveness rather than focusing exclusively on formal governance structures such as board size or gender composition. Regulatory authorities, particularly central banks, should emphasize accountability, risk oversight, managerial effectiveness, and governance quality as opposed to relying solely on structural governance indicators.

Furthermore, banking associations and regulatory institutions should encourage knowledge sharing, capacity building, and training programs related to operational efficiency, risk management, and fin-tech integration. Such initiatives may strengthen institutional capability and improve the banking sector's adaptability to changing technological and market conditions. Overall, the findings suggest that sustainable bank profitability within emerging markets is increasingly driven by operational capability, technological adaptation, and efficient resource management rather than traditional governance structures alone. Consequently, policymakers and bank management should adopt integrated strategies that combine governance effectiveness, operational efficiency, digital transformation, and prudent risk management in order to improve long-term banking sector performance and financial sustainability.

4.5 Suggestions for further study

The study was restricted to one nation which requires researchers to conduct cross-country and regional studies to determine if the governance performance link established in this research persists across various regulatory and institutional settings.

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