Capital Adequacy Management and Financial Performance of Tier 1 Banks in Kenya

Article history: *Revised format: 13th May 2026, Available online: 9th November 2026*

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Abstract:

Purpose: *This study examined the effect of capital adequacy management on financial performance of Tier 1 commercial banks in Kenya.*

Material/methods: *The study was anchored on the capital adequacy perspective and the capital dimension of the Capital Adequacy Theory. A quantitative research approach was adopted, targeting a population of 238 finance and audit employees across 11 banking institutions. Out of 148 questionnaires distributed, 128 were returned, representing a response rate of 86.5%. Data were analyzed using descriptive and inferential statistics, particularly linear regression analysis.*

Findings: *The findings revealed that capital adequacy management had a positive and statistically significant effect on financial performance ($\beta = 0.449$, $p < 0.001$), explaining 20.1% of the variation in financial performance ($R^2 = 0.201$).*

Conclusion: *The study concluded that effective capital adequacy management is an important determinant of financial performance, as it supports financial stability, strengthens banks' capacity to absorb unexpected losses, and facilitates sustainable investment and lending activities.*

Value: *The findings identify priorities for banks and the Central Bank of Kenya. The study recommended that management of Tier 1 commercial banks strengthen capital planning, maintain adequate capital buffers, regularly assess capital requirements, and ensure efficient allocation of capital resources to enhance profitability and long-term financial sustainability. Furthermore, the Central Bank of Kenya should strengthen risk-based capital management frameworks and promote regular capital adequacy assessments to enhance financial stability and sustainable financial performance among commercial banks.*

Keywords: *Capital Adequacy Management, Financial Performance, Capital Planning, Tier 1 Banks*

Paper Type: *Research Article*

Recommended citation: Miruka, B. M., & Miroga, J. (2026). Capital adequacy management and financial performance of Tier 1 banks in Kenya. *Journal of Economics, Management Sciences and Procurement, 5*(1), 358–368.

1. Introduction

The banking industry plays a critical role in economic development by mobilizing savings, facilitating payments and providing credit to individuals and businesses. Financially sound banks support investment and economic activity, while weak financial performance can undermine depositor confidence and disrupt financial intermediation (Muntaqiah & Akhmadi, 2024; Dhodary & Rajbanshi, 2024). Capital adequacy management is central to banking operations because it involves maintaining, monitoring and allocating sufficient capital to support business activities and absorb unexpected losses. Effective capital management may strengthen financial resilience

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and support sustainable returns. However, maintaining capital also involves costs, making its productive allocation important. Understanding the relationship between capital adequacy management and financial performance is therefore necessary for balancing bank stability, growth and profitability.

Globally, empirical evidence on capital adequacy and bank financial performance remains mixed. Siddique et al. (2021) identified capital adequacy among the bank-specific factors influencing financial performance in South Asia. In contrast, Dongol and Shrestha (2024) found that capital adequacy had no significant effect on profitability among the Nepalese banks they examined. Gazi et al. (2024) reported a negative relationship between capital adequacy and profitability among Islamic banks in Bangladesh. These findings suggest that stronger capitalization does not necessarily translate into higher financial returns across all banking environments. The relationship may depend on financing costs, risk exposure, business models and the effectiveness with which available capital is deployed. Consequently, capital adequacy management requires attention to both the sufficiency of capital and its contribution to financial performance.

Within Africa, research similarly highlights the relevance of capital adequacy while indicating that its relationship with performance varies across institutional settings. Ariyibi et al. (2020) found that capital adequacy significantly influenced bank profitability in Nigeria, while Ngweshemi and Isiksal (2021) identified it among the significant determinants of commercial bank profitability in Tanzania. These findings underscore the importance of maintaining capital capable of supporting lending activities and absorbing financial shocks. Nevertheless, differences in regulatory environments, funding structures and economic conditions may affect how capital contributes to profitability. Regional evidence therefore provides a basis for examining capital adequacy management within specific banking categories rather than assuming that findings from one country apply uniformly across African banking systems.

In Kenya, maintaining adequate capital has not eliminated concerns about banks' financial performance and exposure to losses. The Central Bank of Kenya reported that the banking sector's capital adequacy ratio stood at 19.6% in December 2024, exceeding the regulatory minimum of 14.5%. Nevertheless, the gross non-performing loan ratio increased from 15.6% in 2023 to 17.1% in 2024, while total net assets declined from KSh 7.7 trillion to KSh 7.6 trillion (CBK, 2025). These sector-wide figures indicate that adequate capitalization can coexist with deteriorating credit quality and contracting assets, raising questions about how effectively banks manage capital to support sustainable financial performance. Although Kiemo et al. (2019) linked regulatory capital to financial stability and Oseko et al. (2024) reported a positive relationship between bank capital and profitability, the reviewed findings leave a contextual gap concerning Tier 1 banks specifically. They also leave a conceptual gap between the amount of capital held and the practices used to plan, allocate and monitor it. Furthermore, financial stability and profitability represent different outcomes, limiting the direct application of stability findings to financial performance. This study therefore examines how capital adequacy relate to the financial performance of Tier 1 banks in Kenya.

2. Empirical and Theoretical Review

2.1. Theoretical Review

Capital Adequacy Theory draws on the regulatory principles established through Basel I, II and III, developed by the Basel Committee on Banking Supervision, and emphasizes that banks should maintain sufficient capital relative to their risk-weighted

assets to absorb unexpected losses, protect depositors and preserve solvency (Basel Committee on Banking Supervision, 2010). The theory views capital as a buffer against financial distress, enabling banks to remain resilient during economic downturns. Well-capitalized banks may benefit from stronger stakeholder confidence, lower borrowing costs and improved access to financing, which can support financial performance (Van Roy, 2005; Berger & Bouwman, 2013). Supporting this perspective, Ahamed (2017) found that higher capital adequacy ratios were associated with better financial performance through reduced default risk and enhanced lending capacity, while Dang (2011) argued that adequate capital enables banks to pursue profitable investments without compromising solvency. Capital adequacy may also reduce exposure to regulatory intervention and support operational continuity. In this study, the theory provides a framework for examining how capital adequacy management relates to the financial performance of Tier 1 banks in Kenya, focusing on capital sufficiency, loss-absorption capacity, capital planning and regular monitoring. It therefore helps explain how effective capital management can support compliance with regulatory expectations, resilience to financial shocks and sustainable financial returns.

2.2. Empirical Review and Hypothesis Development

Nasyirah and Putra (2025) assessed the relationship between capital adequacy, credit risk, and profitability in 46 banks in Indonesia from 2021 to 2023. Regression analysis and Sobel tests were employed to evaluate mediating effects, revealing that capital adequacy had no significant effect on profitability. Andriani and Raharja (2025) conducted a related study in East Java, analyzing the Capital Adequacy Ratio (CAR), governance assessments, Loan-to-Deposit Ratio (LDR), and Return on Assets (ROA) of regional banks (BPRs) from 2017 to 2023. Their findings, derived from Structural Equation Modeling (SEM) with Partial Least Squares (PLS), indicated that capital adequacy positively influenced both financial performance and liquidity in BPRs.

Wanjiru et al. (2024) examined the link between capital buffers and financial performance across 39 Kenyan commercial banks. The sample included nine Tier I, eight Tier II, and twenty-two Tier III institutions based on the CBK's 2022 rankings. By conducting a census and analyzing the data with descriptive statistics and an unbalanced panel regression framework, the authors determined that capital adequacy plays a crucial, statistically significant role in enhancing the financial performance of these banks.

Similarly, focusing on the Ghanaian banking sector, Koduah et al. (2023) explored how capital adequacy influences institutional profitability. The researchers relied on secondary data spanning a decade (2008 to 2017) from 18 different banks. By applying a random effects model, they discovered that maintaining adequate capital positively and significantly boosts financial performance, specifically when evaluated through Return on Assets (ROA) and Return on Equity (ROE).

Conversely, Nyanyuki et al. (2022) found a negative correlation between capital adequacy and financial performance among 43 listed commercial banks in Kenya. The study, which applied a purposive sampling technique to select 10 banks, utilized secondary financial data extracted from the Nairobi Securities Exchange for the period 2015-2019. Inferential statistical analysis indicated that capital adequacy negatively influenced financial performance, contradicting the findings of other studies. The mixed results from these studies suggest that the impact of capital adequacy on financial performance is context-dependent, warranting further investigation in diverse banking environments. These findings justify an empirical test using the management practices assessed in the present questionnaire. Capital adequacy management was expected to

be positively associated with financial performance, and the following null hypothesis was tested.

H01: Capital adequacy management has no statistically significant effect on financial performance of Tier 1 banks in Kenya.

3. Research Methodology

The study adopted a descriptive survey design to examine the relationship between capital adequacy management and financial performance of Tier 1 banks in Kenya. This design enabled the systematic collection of respondents' assessments of capital management practices and financial performance (Kothari, 2017; Creswell, 2021). It supported the description of the study variables and assessment of their relationships without establishing causality.

Sampling

The population and sampling tables identified 238 employees from finance and audit departments across 11 banks, with human resource records providing the sampling frame. The study reported a sample of 148 respondents, allocated proportionately across the banks. Stratified sampling ensured representation from each institution, followed by simple random sampling to select respondents within each stratum (Etikan et al., 2016; Taherdoost, 2016).

Data Collection

Primary data were collected using a structured questionnaire containing closed-ended and open-ended questions. Five-point Likert-scale items measured respondents' assessments of capital adequacy management and financial performance, while open-ended questions allowed additional explanations (Saunders et al., 2019; Creswell & Creswell, 2022). The researcher administered the questionnaires with assistance from two trained research assistants after obtaining authorization from JKUAT, NACOSTI and the participating banks. A pilot study involving eight departmental heads from Tier 2 banks assessed questionnaire clarity and administration procedures (Cooper & Schindler, 2014). Supervisors and subject experts reviewed the instrument to assess face and content validity, ensuring that the questions adequately covered the intended constructs (Shrotryia & Dhanda, 2019). Internal consistency was assessed using Cronbach's alpha, with a coefficient of .70 or above adopted as the study's acceptable benchmark.

Data Analysis

Data analysis involves interpreting collected data and summarizing key insights that emerge during the investigation. The analysis was guided by the study's objectives, focusing on identifying patterns within the gathered data related to the selected variables. Before beginning the analysis, the data was sorted, coded, and entered into the SPSS statistical analysis software, Version 25. Using this software, the study generated descriptive statistics—such as frequencies, means, percentages, and standard deviations alongside data tables for the examined variables. Cross-tabulations simplified the interpretation process, and frequency tables provided a clear, organized presentation of the results.To draw conclusions and make generalizations at the population level, the study will apply inferential analysis techniques. Specifically, linear regression analysis was conducted to determine the impact of the independent variables on the dependent variable. Additionally, Pearson correlation analysis was used to assess the strength and direction of the relationships between the independent and dependent variables. The study's objectives was evaluated using the multiple regression model, which was presented in the following sections.

$$Y = \beta_0 + \beta_1 x_1 + e$$

Y = Financial Performance, X1 = Capital adequacy , β0 = Constant term, β1, = Coefficients of the Regression (change of Financial Performance as a result of change in independent variables0, ε = Error term

4. Findings and Discussion

The following section presents the empirical results and data analysis aligned with the study's objectives. The evaluation relied on both descriptive and inferential statistics to interpret the results in the context of the research hypotheses.

Bank Characteristics

Table 1 presents the characteristics of banks in terms of years of operation and number of employees. The findings indicate that 34.4% of the banks had operated for over 30 years, followed by 29.7% that had operated for 21–30 years, 24.2% for 11–20 years, and 11.7% for 1–10 years. This suggests that most banks were well-established, with considerable operational experience. Regarding the number of employees, 40.6% of the banks had more than 100 employees, 39.8% had 51–100 employees, while 19.5% had 1–50 employees. These findings suggest that the majority of banks had relatively large workforces and established operational structures, providing a suitable context for examining financial management practices and financial performance.

Table 1: Bank Characteristics

		Frequency	Percent
Years Bank has Been in Operation	1-10 years	15	11.7
	11-20 years	31	24.2
	21-30 years	38	29.7
	over 30 years	44	34.4
	Total	128	100
Number of Employees	1-50	25	19.5
	51-100	51	39.8
	Above 100	52	40.6
	Total	**128**	**100**

Descriptive Statistics

Table 2 presents the descriptive statistics for capital adequacy management. The findings indicate that respondents moderately agreed that capital adequacy considerations influence major investment and financing decisions (M = 3.73, SD = 1.40), followed by maintaining sufficient capital to support operations and strategic objectives (M = 3.63, SD = 1.32) and having adequate capital to absorb unexpected financial shocks (M = 3.51, SD = 1.34). However, respondents expressed relatively neutral views regarding compliance with minimum regulatory capital requirements (M = 3.17, SD = 1.50), while lower mean scores were recorded for regular assessment of capital positions (M = 2.80, SD = 1.22) and the ability of adequate capital to support growth opportunities and effective risk management (M = 2.64, SD = 1.47). The overall mean of 3.25 (SD = 1.10) suggests a moderate level of capital adequacy management, with notable variations in respondents' perceptions. These findings imply that although banks recognize the importance of capital adequacy in financing decisions and operational stability, improvements are needed in capital monitoring, regulatory compliance, and leveraging capital resources for sustainable growth.

Table 2: Descriptive Statistics for Capital Adequacy Management

	Mean	Std. Dev
Our firm maintains sufficient capital to support its current operations and strategic objectives.	3.63	1.32
The capital base of our firm is adequate to absorb unexpected financial shocks or losses.	3.51	1.34
Our firm consistently meets the minimum capital adequacy requirements set by regulators.	3.17	1.5
Capital adequacy considerations influence major investment and financing decisions in our firm.	3.73	1.4
Our firm regularly assesses its capital position to ensure long-term financial stability.	2.8	1.22
Adequate capital levels enable our firm to pursue growth opportunities and manage risks effectively.	2.64	1.47
Capital Adequacy Management	**3.25**	**1.1**

Table 3 presents the descriptive statistics for financial performance of Tier 1 commercial banks. The findings indicate that respondents generally agreed that their banks generated sufficient revenue to cover operating costs and risks, achieved satisfactory returns on assets and investments, recorded consistent profitability growth, and experienced improvements in their overall financial position. However, respondents expressed lower levels of satisfaction regarding the banks' ability to generate sustainable financial returns. The overall mean of 3.48 suggests a moderate level of financial performance among Tier 1 commercial banks. These findings imply that although the banks demonstrate relatively stable financial performance in terms of profitability, revenue generation, and financial stability, challenges remain in achieving sustainable financial returns over the long term.

Table 3: Descriptive Statistics for Financial Performance of Tier 1 Commercial Banks

	Mean	Std. Dev
Our bank has recorded consistent growth in profitability over the recent years.	3.56	1.33
The bank's return on assets and investments meets or exceeds management expectations.	3.59	1.58
Revenue generated by the bank is sufficient to cover operating costs and risks.	3.86	1.00
The bank's overall financial position has strengthened compared to previous years.	3.57	1.36
Management is satisfied with the bank's ability to generate sustainable financial returns	2.62	0.98
Financial performance	**3.48**	**0.75**

Correlation Results

Table 4 shows that capital adequacy management had a positive and statistically significant correlation with perceived financial performance ($r = .449$, $p < .001$). Respondents who reported stronger capital adequacy management also tended to report better financial performance. The coefficient indicates a moderate positive association.

This bivariate result does not establish causality or account for the influence of the other financial characteristics included in the source regression model.

Table 4: Correlation Results

		Financial performance	Capital Adequacy Management
Financial performance	Pearson Correlation	1	
Capital Adequacy Management	Pearson Correlation	.449**	1
** Correlation is significant at the 0.01 level (2-tailed).			
* Correlation is significant at the 0.05 level (2-tailed).			

Hypothesis Testing

Table 5 presents the regression results for the effect of capital adequacy management on financial performance of Tier 1 commercial banks in Kenya. The findings indicate that capital adequacy management explained 20.1% of the variation in financial performance ($R^2 = 0.201$), while the remaining 79.9% was attributable to other factors not included in the model. The regression model was statistically significant ($F = 31.733$, $p < 0.001$). Furthermore, capital adequacy management had a positive and statistically significant effect on financial performance ($B = 0.313$, $\beta = 0.449$, $p < 0.001$). This implies that a one-unit increase in capital adequacy management was associated with a 0.313-unit increase in financial performance. Therefore, the null hypothesis (H_{01}), which stated that capital adequacy management has no significant effect on financial performance of Tier 1 commercial banks, was rejected at the 5% significance level. The findings suggest that effective capital adequacy management is associated with improved financial performance by supporting financial stability, strengthening risk absorption capacity, and facilitating sustainable banking operations.

Table 5: Regression Results for Capital Adequacy Management

	Unstandardized Coefficients		Standardized Coefficients		
	B	**Std. Error**	**Beta**	**t**	**Sig.**
(Constant)	4.528	0.192		23.531	0.000
Capital Adequacy Management	0.313	0.056	0.449	-5.633	0.000
Model Summary Statistics					
R	.449a				
R Square	0.201				
Adjusted R Square	0.195				
Std. Error of the Estimate	0.67379				
F	31.733				
Sig.	.000b				
a Dependent Variable: bank financial performance					

Discussion of Findings

The study established that capital adequacy management had a positive and statistically significant effect on financial performance of Tier 1 commercial banks in Kenya ($\beta = 0.449$, $p < 0.001$). This finding is consistent with Wanjiru et al. (2024), who established that capital adequacy significantly enhanced the financial performance of commercial

banks in Kenya. Similarly, Koduah et al. (2023) found that capital adequacy positively and significantly influenced bank profitability in Ghana, while Andriani and Raharja (2025) reported a positive effect of capital adequacy on financial performance among regional banks in East Java, Indonesia. The positive relationship suggests that effective capital adequacy management enhances financial stability, strengthens banks' capacity to absorb unexpected losses, and supports profitable investment and lending activities. However, the findings contradict Nyanyuki et al. (2022), who established that capital adequacy negatively influenced financial performance among listed commercial banks in Kenya. The findings also differ from Nasyirah and Putra (2025), who reported that capital adequacy had no statistically significant effect on bank profitability in Indonesia. These mixed findings suggest that the relationship between capital adequacy management and financial performance may vary depending on institutional characteristics, regulatory environments, capital utilization efficiency, and prevailing economic conditions. Therefore, the present study contributes to existing literature by demonstrating that effective capital adequacy management is positively associated with financial performance among Tier 1 commercial banks in Kenya, highlighting the importance of maintaining adequate capital buffers and strengthening capital management practices to support sustainable financial performance.

5. Conclusion and Recommendations

Conclusions

The study concluded that capital adequacy management had a positive and statistically significant effect on the financial performance of Tier 1 commercial banks in Kenya. The findings established that improvements in capital adequacy management were associated with increased financial performance, suggesting that effective capital planning, monitoring, and allocation contribute to improved profitability and financial stability. The study further concluded that maintaining adequate capital enables banks to absorb unexpected financial losses, meet regulatory requirements, manage financial risks, and support sustainable investment and lending activities. Therefore, effective capital adequacy management is an important determinant of financial performance, emphasizing the need for Tier 1 commercial banks to strengthen capital management practices to enhance operational efficiency, financial resilience, and long-term financial sustainability.

Recommendations

Theoretical Implications

The findings established a positive and statistically significant effect of capital adequacy management on financial performance, supporting the capital adequacy perspective and the capital component of the CAMEL framework. The findings reinforce the theoretical argument that adequate capital strengthens financial stability, enhances risk absorption capacity, and supports improved financial performance. Future studies should extend existing theoretical frameworks by incorporating capital allocation efficiency, regulatory compliance, and risk management capabilities to explain how capital adequacy management contributes to profitability and sustainable banking performance.

Policy Implications

The study recommends that the Central Bank of Kenya (CBK) continue strengthening regulatory frameworks that promote effective capital adequacy management among commercial banks. Banking regulators should encourage compliance with minimum capital requirements, regular capital adequacy assessments, and the adoption of risk-

based capital management strategies to enhance financial stability and performance. Furthermore, regulatory policies should promote effective capital planning, adequate financial buffers, and prudent capital allocation to strengthen banks' resilience against financial shocks while supporting sustainable profitability and growth.

Managerial Implications

The study recommends that management of Tier 1 commercial banks strengthen capital adequacy management practices to enhance financial performance and long-term sustainability. Bank managers should regularly assess capital requirements, maintain sufficient capital buffers, and ensure effective allocation of available capital to profitable investment and lending opportunities. Furthermore, management should integrate capital planning into strategic financial decision-making, strengthen risk assessment and monitoring mechanisms, and conduct regular stress tests to evaluate banks' capacity to withstand unexpected financial losses. These measures would enhance financial stability, improve capital utilization efficiency, support profitability, and promote sustainable financial performance while ensuring compliance with regulatory requirement.

6. Limitations of the Study and Suggestions for Future Research

The study was limited to Tier 1 commercial banks in Kenya, which may restrict the generalizability of the findings to Tier 2 and Tier 3 commercial banks that operate under different financial and institutional conditions. Additionally, the study adopted a cross-sectional research design, which limited its ability to examine changes in capital adequacy management and financial performance over time. The study also relied on questionnaire-based data collected from finance and audit employees, which may have been subject to respondent bias and subjective perceptions. Furthermore, capital adequacy management explained only 20.1% of the variation in financial performance, suggesting that other important factors were not captured in the model. Future studies should therefore consider including Tier 2 and Tier 3 commercial banks, adopting longitudinal research designs, and incorporating objective financial indicators such as capital adequacy ratios, return on assets, and return on equity. Future researchers should also examine additional factors, including credit risk management, liquidity management, operational efficiency, and regulatory compliance, to provide a more comprehensive understanding of the determinants of financial performance among commercial banks in Kenya.

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