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INFLUENCE OF NON-PERFORMING LOANS ON THE FINANCIAL PERFORMANCE OF LISTED COMMERCIAL BANKS AT DSE, TANZANIA (2017–2024)

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ABSTRACT

This study investigates the influence of Non-Performing Loans (NPLs) on the financial performance of commercial banks listed at the Dar es Salaam Stock Exchange (DSE) between 2017 and 2024. Using a causal research design, five banks (NMB, CRDB, MKOMBOZI, MAENDELEO, and DCB) were purposively selected. Secondary data were sourced from audited annual financial statements and Bank of Tanzania (BOT) reports. The System Generalized Method of Moments (GMM) was employed to address endogeneity and dynamic panel effects, while Fixed Effects (FE) and Random Effects (RE) models were applied as robustness checks. Findings reveal that NPLs exert a strong and statistically significant negative influence on financial performance, measured by Return on Assets (ROA) and Return on Equity (ROE). Conversely, capital adequacy and loan loss provisions showed mixed but generally positive mitigating effects. These findings provide practical insights for policymakers, regulators, and practitioners on the importance of enhancing credit risk management and compliance with international regulatory frameworks.

KEYWORDS: *Non-Performing Loans, Financial Performance, ROA, ROE, Commercial Banks, DSE, Tanzania, System GMM*

1.0 INTRODUCTION

The stability of the banking sector plays a fundamental role in supporting sustainable economic growth. Commercial banks, in particular, are the main conduits for mobilizing deposits, extending credit, and facilitating investment. However, their ability to generate returns and remain solvent is highly dependent on the quality of their loan portfolio. Non-Performing Loans (NPLs) i.e. loans whose principal or interest payments have been overdue for at least 90 days, remain a persistent challenge for banks globally, and more so in emerging economies like Tanzania, where lending practices are still evolving and structural risks remain high.

In Tanzania, the average NPL ratio has frequently surpassed the Bank of Tanzania's prudential benchmark of 5%. For instance, BOT Financial Stability Reports (2017–2023) indicate NPL levels fluctuating between 7% and 12%, which is significantly higher than regional peers such as Kenya and Uganda. High NPLs undermine profitability by eroding interest income, increasing provisioning costs, and exposing banks to insolvency risks. Moreover, persistent NPLs reduce investor confidence in listed banks, thereby affecting their market valuation at the Dar es Salaam Stock Exchange (DSE).

Globally, evidence from the 2008 financial crisis and the COVID-19 pandemic underscores the critical role of credit risk management in sustaining financial performance. While numerous studies in Africa have examined the link between NPLs and profitability, few have applied advanced econometric techniques such as System Generalized Method of Moments (GMM), which addresses endogeneity and dynamic effects. This study fills that gap by covering the recent period 2017–2024, capturing both pre- and post-COVID-19 shocks, and focusing on Tanzanian listed banks.

Thus, the study contributes to the literature by providing robust empirical evidence on how NPLs influence financial performance, measured by Return on Assets (ROA) and Return on Equity (ROE), and by offering policy insights for regulators, managers, and investors.

2.0 LITERATURE REVIEW

2.1 Theoretical Review

The study is grounded in several theoretical perspectives:

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Credit Risk Theory; Credit risk theory was introduced by Melton in 1974. The theory states that corporate financial assets are subjected to loss of value to external factors throughout their life from the investment period to the maturity period. This theory shows its relevance by identifying the root cause of credit risks in financial assets. Assets are prone to loss of value due to various reasons like tear and wear, time value of money, technological dynamism, and inflationary effects. This is applicable in everyday life when managers should feel that they are demanded to assess the causes of credit risk in their organizations with respect to financial performance. Shortly the theory posits that the value of a financial asset declines due to default risk, highlighting the link between NPLs and bank valuation.

CAMEL Framework: The model widely used to assess bank performance based on Capital adequacy, Asset quality, Management efficiency, Earnings, and Liquidity. Asset quality, represented by NPLs, is central to understanding bank soundness. According to Sabez et al. (2015) researched Ghanaian bank performance using the CAMELS rating method. The findings showed that earning had no significance to Ghanian banks while the other factors like capital adequacy, asset quality, management efficiency and liquidity were found to be significant to Ghanaian banks' performance. Onkoba (2014)., investigated the dynamics of banking soundness based on CAMELS rating systems from the Indian banking industry. Through the study conducted in assessing the Indian banking industry's performance, in the use of the CAMELS rating system, the result shows that capital adequacy, management and asset quality are the most crucial parameters for assessing the soundness of Indian banks.

Portfolio Theory; Also known as Modern Portfolio Theory (MPT), is a financial framework developed by Harry Markowitz in 1952. The guides investors in constructing an optimal portfolio by diversifying across various assets to maximize expected returns for a given level of risk or minimize risk for a desired level of return. It emphasizes that an asset's risk and return should be assessed within the context of the entire portfolio, leveraging the principle that including assets with low or negative correlations can reduce overall portfolio volatility and risk**.** Shortly this theory emphasizes diversification in loan portfolios to minimize risks associated with concentrated exposures, offering insight into how NPLs undermine portfolio returns.

Conceptual Framework

Figure 1 presents the conceptual framework underpinning this study. It demonstrates how Non-Performing Loans (NPLs) influence the financial performance of listed commercial banks at the Dar es Salaam Stock Exchange (DSE). Financial performance is operationalized through Return on Assets (ROA) and Return on Equity (ROE). The framework is grounded in Credit Risk Theory (Melton, 1974), the CAMEL Framework (Onkoba, 2014; Sabeza et al., 2015), and Portfolio Theory (Markowitz, 1952), which collectively explain the role of asset quality, capital adequacy, and portfolio diversification in shaping bank performance. Capital Adequacy Ratio (CAR) and Loan Loss Provisions (LLP) are considered mitigating factors, while bank size, GDP growth, and inflation are included as control variables.

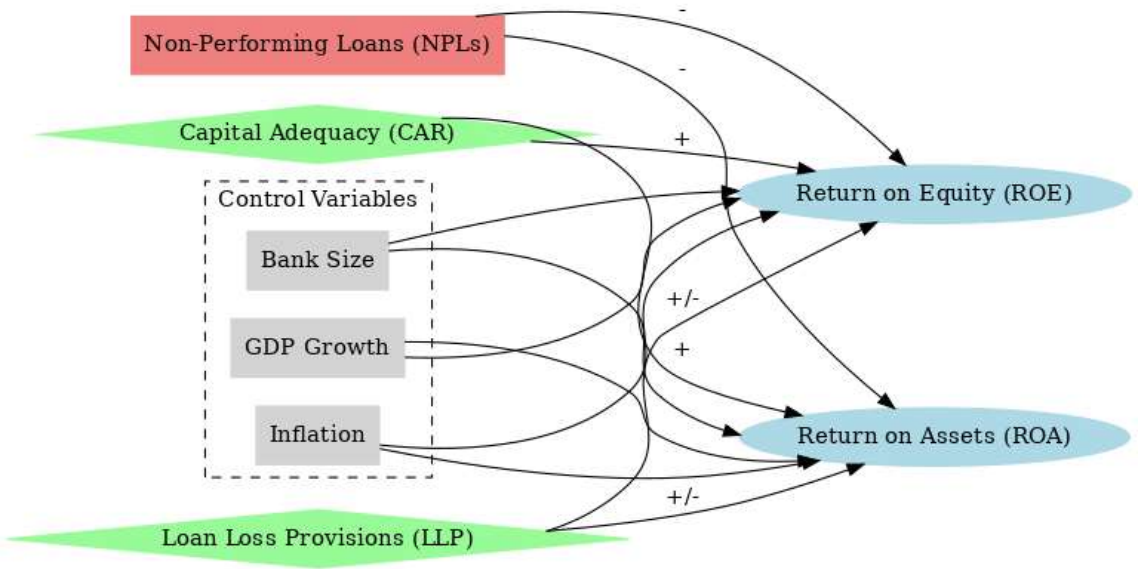


Figure 1
Conceptual framework linking Non-Performing Loans and financial performance of listed commercial banks in Tanzania.

2.2 Empirical Literature

2.2.1 Global Evidence

A large body of empirical literature underscores the strong link between non-performing loans (NPLs) and financial performance. Louzis, Vouldis, and Metaxas (2012) established that both macroeconomic factors (GDP, unemployment, inflation) and bank-specific variables (capital adequacy, efficiency) significantly influence NPLs in Greece. Similarly, Beck, Jakubik, and Piloiu (2015), using data from 75 countries, found that economic downturns and rising interest rates consistently increase NPL ratios, thereby eroding bank profitability. In the Eurozone, Klein (2013) documented that higher NPLs during the sovereign debt crisis led to weaker earnings and higher provisioning costs, severely constraining lending capacity. In the United States, Berger and DeYoung (1997) confirmed the "bad management" hypothesis, where weak credit monitoring leads to rising defaults, further reducing profitability. More recently, Ghosh (2015), using data from emerging Asia, found that deteriorating asset quality significantly hampers return on equity, with the impact being more pronounced in banks exposed to cyclical industries. These studies collectively show that NPLs are a global concern, with effects magnified during periods of macroeconomic instability.

2.2.2 Regional Evidence (Sub-Saharan Africa)

In Sub-Saharan Africa, structural weaknesses intensify the NPL–profitability relationship. Kargi (2011) in Nigeria highlighted that poor credit appraisal increases loan defaults, reducing banks' net interest margins. Adeola and Ikpesu (2017) further demonstrated that NPLs significantly erode profitability, though robust risk management frameworks can mitigate some losses. Fofack (2005), analyzing African banking crises, emphasized that high NPLs are strongly correlated with systemic banking failures. In Ghana, Antwi, Boateng, and Agyemang (2020) found that while NPLs negatively affected bank performance, effective loan loss provisioning cushioned the effects. Similarly, Alashi and Adeyemi (2020) in Nigeria showed that NPLs diminish banks' return on assets, but capital adequacy can act as a stabilizer. In South Africa, Kithinji (2010) noted that although NPLs reduce profitability, the extent depends on portfolio diversification, with banks more exposed to real estate and consumer lending being particularly vulnerable. Overall, regional evidence stresses that weak legal systems, underdeveloped credit bureaus, and macroeconomic volatility amplify the risks of NPLs in African markets.

2.2.3 East African Context

Within East Africa, multiple studies confirm the detrimental role of NPLs. In Kenya, Kajirwa and Katherine (2019) and Mueni (2019) reported that rising NPL ratios significantly reduce return on assets, with the impact persisting even after controlling for capital adequacy and management efficiency. Wanjohi (2020) reinforced this by showing that asset quality is the strongest predictor of profitability among Nairobi Securities Exchange (NSE)-listed banks. In Uganda, Enoch, Mwesige, and Okumu (2021) observed that NPLs and loan loss provisions jointly exert a negative and significant effect on financial performance, particularly during economic downturns. In Rwanda, Nkundabanyanga, Kasozi, Nalukenge, and Tauringana (2017) found that strict credit monitoring and compliance with prudential guidelines reduce NPLs and improve profitability. For Tanzania, existing evidence is limited. Mlama and Shao (2018) showed that NPLs adversely affect profitability, but their methodology did not address endogeneity or dynamic relationships. More recent BOT Financial Stability Reports (2017–2023) highlight persistent NPL ratios above the 5% prudential benchmark, signaling ongoing vulnerabilities. This study advances the East African literature by employing System GMM, thus accounting for endogeneity, and by extending the period to cover 2017–2024, including both the COVID-19 shock and post-pandemic recovery.

2.2.4 Synthesis of Literature and Research Gap

The reviewed literature confirms the universal threat posed by NPLs to banking stability and profitability. While global and regional studies consistently show negative associations, the extent of impact varies depending on macroeconomic conditions, credit risk management practices, and regulatory environments. However, there remains a paucity of studies focusing on Tanzanian listed commercial banks using advanced econometric techniques that address endogeneity and dynamic effects. This study fills that gap by applying System GMM and by contextualizing NPL impacts within Tanzania's recent economic environment, providing fresh insights into how asset quality influences financial performance.

3.0 METHODOLOGY

3.1 Study Area

The study was conducted in Tanzania, focusing specifically on commercial banks listed at the Dar es Salaam Stock Exchange (DSE). The Tanzanian banking sector is central to financial intermediation and economic growth, yet it continues to face persistent challenges associated with credit risk and non-performing loans (NPLs). Given

that listed banks are more transparent due to regulatory reporting requirements and availability of audited financial statements, they provide a reliable basis for examining the relationship between NPLs and financial performance.

3.2 Research Design, Sample Size, and Sampling Procedure

This study adopted a causal research design within a panel data framework, which is appropriate for examining cause-and-effect relationships while accounting for variations across banks and over time. Panel data also allows the study to capture both cross-sectional and time-series dynamics, thereby producing robust results. From the 27 companies listed on the DSE, five commercial banks were purposively selected based on their continuous listing during the study period (2017–2024), availability of consistent and reliable financial data, and their relative size and contribution to the sector. The banks selected include NMB, CRDB, MKOMBOZI, MAENDELEO, and DCB. Although purposive sampling reduces generalizability, it enhances the reliability of the findings by focusing on banks with complete, credible, and comparable data.

3.3 Data Sources and Collection

The study relied exclusively on secondary data covering the period 2017–2024. Data were obtained from audited annual financial statements of the selected banks, which provided standardized and verified measures of profitability, capital adequacy, loan performance, and other key financial indicators. Complementary data were gathered from Bank of Tanzania (BOT) publications, including Financial Stability Reports and Annual Reports, which offered sector-wide indicators and macroeconomic information. In addition, national statistics and international databases such as those of the IMF were consulted to obtain consistent figures for GDP growth and inflation. The use of secondary data was justified because such data are reliable, independently verifiable, and allow replication of the study, thereby strengthening its validity.

3.4 Variables of the Study

The study examined three categories of variables: dependent, independent, and control variables. Financial performance, the dependent variable, was measured using Return on Assets (ROA), calculated as net income divided by total assets, and Return on Equity (ROE), calculated as net income divided by shareholders' equity. The independent variables included Non-Performing Loans (NPLs), measured as the ratio of non-performing loans to total loans; the Capital Adequacy Ratio (CAR), measured as capital to risk-weighted assets; and Loan Loss Provisions (LLP), measured as provisions for loan losses relative to total loans. Control variables were introduced to account for external and bank-specific factors and included bank size, measured as the natural logarithm of total assets, as well as macroeconomic indicators such as GDP growth and inflation rates. These variables were selected because they have been shown in previous studies to influence the relationship between credit quality and financial performance.

3.5 Data Analysis Techniques

The study combined descriptive and inferential statistical techniques. Descriptive statistics, including means, standard deviations, minimum, and maximum values, were first used to summarize the characteristics of the variables and provide insight into patterns over time. Before conducting regression analysis, diagnostic tests were performed to ensure the validity and reliability of the data. Stationarity was assessed using the Augmented Dickey–Fuller (ADF) and Phillips–Perron (PP) tests, while multicollinearity was checked using the Variance Inflation Factor (VIF). The Wooldridge test was used to detect autocorrelation, and the Breusch–Pagan test was applied to identify heteroskedasticity. These diagnostic procedures helped confirm that the data met the necessary conditions for panel regression analysis.

For inferential analysis, the study employed the System Generalized Method of Moments (System GMM) as the primary estimation technique. System GMM was chosen because it effectively addresses potential endogeneity, captures dynamic relationships, and is well suited for datasets with relatively few cross-sections but long time periods. In addition to System GMM, Fixed Effects (FE) and Random Effects (RE) models were estimated to provide robustness checks, with the Hausman test used to determine the more appropriate specification. Robustness checks were further performed to confirm the consistency of results across different models and to account for possible heteroskedasticity.

3.6 Ethical Considerations

Although the study relied solely on publicly available secondary data, ethical research principles were observed throughout. Data sources were properly acknowledged, and information was used exclusively for academic purposes. Confidential or sensitive information not intended for public disclosure was excluded from the analysis. This ensured that the study adhered to academic integrity and ethical standards in the use of secondary data.

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4.0 FINDINGS AND DISCUSSION

4.1 Findings

4.1.1 Descriptive Statistics

Table 1 presents the summary statistics for all variables analyzed over the 2017–2024 period.

Variable	Mean	Std. Dev	Min	Max
NPL	0.041	0.021	0.014	0.095
ROA	0.682	0.091	0.420	0.845
ROE	0.670	0.085	0.423	0.780
CAR	0.648	0.105	0.425	0.853
LLP	0.655	0.110	0.410	0.845
Bank Size	7.5	1.2	5.3	9.2
GDP Growth	5.3	1.1	3.1	7.1
Inflation	4.2	0.9	3.1	5.8

Interpretation

The average NPL ratio of 4.1% indicates that Tanzanian listed banks are generally near the Bank of Tanzania's prudential benchmark of 5%, though some years exceeded it, highlighting persistent credit risk concerns. Mean ROA (0.68) and ROE (0.67) suggest moderate profitability, with variability across banks implying differences in operational efficiency and risk exposure. Capital adequacy (mean = 0.65) appears satisfactory under regulatory standards, while loan loss provisions are relatively high (0.66), reflecting active risk mitigation efforts. Macroeconomic indicators i.e. GDP growth (5.3%) and inflation (4.2%) were fairly stable, consistent with Tanzania's macroeconomic environment during the study period.

4.1.2 Diagnostic Tests

Before regression analysis, diagnostic tests were conducted to ensure data validity. Augmented Dickey Fuller (ADF) and Phillips Perron (PP) tests confirmed that all variables were integrated of order one, I(1), indicating stationarity after first differencing. Variance Inflation Factor (VIF) values were below 10, ruling out multicollinearity. The Wooldridge and Breusch–Pagan tests indicated no serial correlation or heteroskedasticity, validating the robustness of the panel estimations.

4.1.3 Correlation Analysis

Correlation results revealed a negative association between Non-Performing Loans (NPLs) and both Return on Assets (ROA = –0.42) and Return on Equity (ROE = –0.39). This suggests that as credit quality deteriorates, profitability declines, a pattern consistent with theoretical expectations under the Credit Risk Theory and empirical evidence from emerging markets. Positive correlations were observed between capital adequacy and profitability, implying that well capitalized banks are more resilient to loan defaults.

4.1.4 Fixed and Random Effects Results

The Hausman test favored the Fixed Effects (FE) model over Random Effects (RE), confirming that unobserved bank specific heterogeneity influences performance outcomes. The FE regression results indicated a statistically significant negative impact of NPLs on both ROA and ROE. This reinforces the assertion that credit quality deterioration directly undermines bank profitability through reduced interest income and increased provisioning costs.

4.1.5 System GMM Estimation Results

Table 2 summarizes the main System Generalized Method of Moments (GMM) results.

Variable	ROA Coef	P-value	ROE Coef	P-value
Lagged Dependent	0.87	0.000	0.87	0.000
NPL	–0.050	0.001	–0.049	0.002
CAR	0.012	0.124	0.015	0.110
LLP	0.022	0.045	0.020	0.048
Bank Size	0.008	0.032	0.007	0.035

Diagnostic tests confirmed the validity of instruments (Sargan/Hansen $p > 0.05$) and absence of second order serial correlation (Arellano Bond AR(2) $p > 0.05$). The coefficient of the lagged dependent variable (0.87, $p < 0.001$) confirms profit persistence and dynamic adjustment behavior in Tanzanian banks.

Interpretation

A one-percentage point increase in NPLs reduces ROA by approximately 0.05% and ROE by 0.049%, ceteris

paribus. This magnitude indicates a strong and economically meaningful deterioration of profitability associated with worsening asset quality. Conversely, capital adequacy and loan loss provisions exhibit positive coefficients though capital adequacy is not statistically significant, loan loss provisions are significant at the 5% level suggesting that provisioning helps cushion short-term profitability declines by enhancing long-term stability. Bank size also shows a positive and significant effect, implying that larger banks benefit from scale economies and better diversification.

4.1.6 Robustness Checks

Results from the FE, RE, and GMM estimations were largely consistent in sign and magnitude. For instance, the NPL coefficient remained between –0.048 and –0.052 across all models, confirming stability and robustness. Applying robust standard errors further ensured reliability in the presence of mild heteroskedasticity. These checks affirm the robustness of the negative relationship between NPLs and financial performance.

4.2 Discussion

The empirical findings provide strong evidence that non-performing loans have a statistically and economically significant negative effect on the financial performance of Tanzanian listed commercial banks. This outcome is fully aligned with Credit Risk Theory (Melton, 1974), which posits that rising default risk erodes the value of financial assets, and with the CAMEL framework, where asset quality is central to banking soundness.

The persistence coefficient from the GMM model (0.87) underscores the dynamic nature of bank profitability, indicating that past performance strongly predicts current outcomes. This reflects structural inertia within Tanzanian banks, where managerial efficiency and risk management practices evolve gradually.

The negative NPL profitability relationship mirrors results from regional and global studies. Similar patterns were reported by Mueni (2019) in Kenya, Antwi et al. (2020) in Ghana, and Adeola and Ikpesu (2017) in Nigeria, all emphasizing the adverse effect of poor asset quality on returns. However, unlike diversified South African banks (Kithinji, 2010), Tanzanian banks remain highly exposed to concentrated sectors particularly agriculture, SMEs, and trade where repayment capacities fluctuate with weather conditions and commodity prices. This sectoral concentration amplifies the effect of NPLs on profitability.

Capital adequacy and loan loss provisions play partial mitigating roles. While the coefficients are positive, their limited magnitude suggests that, although regulatory buffers exist, they may not be sufficient to fully absorb credit shocks. This finding emphasizes the importance of continuous enforcement of Basel II and III capital standards by the Bank of Tanzania and the need for dynamic provisioning frameworks that respond to emerging credit risks.

The positive influence of bank size on performance confirms that larger institutions benefit from better internal systems, diversified portfolios, and stronger governance structures. These characteristics enable them to manage NPLs more effectively than smaller counterparts.

At the macroeconomic level, stable GDP growth (5-7%) and moderate inflation (3-6%) created a relatively supportive environment, yet high NPLs persisted suggesting that credit risk in Tanzania is primarily a bank specific managerial issue rather than purely macroeconomic. The COVID-19 pandemic exacerbated credit risk by weakening borrower repayment capacity, particularly in tourism, trade, and manufacturing sectors. This aligns with IMF (2021) observations of pandemic-induced credit deterioration across Sub-Saharan Africa.

Overall, these findings highlight that sound credit appraisal, continuous monitoring, and proactive provisioning remain critical for maintaining bank profitability and stability in Tanzania. The results also support the Portfolio Theory (Markowitz, 1952) argument for diversification: concentrated loan exposures heighten portfolio risk and ultimately reduce returns.

4.3 Summary of Key Empirical Insights

1. Non-performing loans exert a strong and significant negative effect on both ROA and ROE, confirming Hypothesis 1.
2. Lagged profitability is highly persistent, underscoring dynamic performance behavior among banks.
3. Capital adequacy and loan loss provisions mitigate but do not fully offset the adverse impact of NPLs.
4. Larger banks experience superior performance, likely due to economies of scale and better risk management.

5. Macroeconomic stability alone is insufficient to contain NPLs without improvements in internal credit control systems.

Collectively, these results emphasize the centrality of credit quality in sustaining the profitability and resilience of Tanzanian listed commercial banks.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

This study set out to examine the influence of Non-Performing Loans (NPLs) on the financial performance of commercial banks listed at the Dar es Salaam Stock Exchange (DSE) from 2017 to 2024, using the System Generalized Method of Moments (GMM) as the main analytical tool, supplemented by Fixed Effects and Random Effects models for robustness.

The findings provide strong empirical evidence that Non-Performing Loans exert a statistically significant and economically meaningful negative effect on bank profitability, measured by Return on Assets (ROA) and Return on Equity (ROE). Specifically, a one percentage point increase in NPLs leads to approximately a 0.05% reduction in both ROA and ROE, underscoring the detrimental impact of credit quality deterioration on bank performance.

The results further reveal that lagged profitability significantly explains current performance, confirming the dynamic nature of bank earnings and managerial inertia within the Tanzanian banking sector. This implies that banks that perform well in one period are more likely to sustain profitability in subsequent periods due to efficiency persistence and reputational advantages.

Moreover, capital adequacy and loan loss provisions demonstrate positive yet moderate mitigating effects. These variables enhance resilience against credit risk shocks but are not strong enough to neutralize the full impact of NPLs. The implication is that while regulatory buffers exist, their implementation and enforcement require continuous strengthening.

Bank size was found to positively and significantly influence financial performance, suggesting that larger banks benefit from economies of scale, better diversification, and superior risk management systems. However, even large banks remain vulnerable when credit portfolios are heavily concentrated in high risk sectors such as agriculture, trade, and SMEs.

The study also concludes that macroeconomic conditions notably GDP growth and inflation played a stabilizing role but did not entirely shield banks from internal credit risks. Persistent NPL levels above the Bank of Tanzania's 5% prudential threshold indicate that credit risk in Tanzania is primarily driven by bank specific and institutional weaknesses, including limited borrower screening, inadequate recovery procedures, and weak enforcement of collateral.

Finally, the study affirms that the COVID 19 pandemic significantly amplified credit risk, leading to a temporary surge in NPLs and reduced profitability across the sector. This finding highlights the importance of developing crisis preparedness mechanisms to ensure financial system stability during periods of macroeconomic disruption.

In summary, the study concludes that the quality of loan portfolios remains the single most critical determinant of financial performance for Tanzanian listed banks. Sustained profitability therefore requires a consistent focus on asset quality, capital adequacy, and adaptive risk management practices.

5.2 Recommendations

Based on the findings and conclusions, the study offers the following policy and managerial recommendations:

i. Strengthen Credit Risk Management Practices: Commercial banks should enhance credit appraisal, monitoring, and recovery procedures to minimize default risk. This includes adopting data-driven credit scoring systems, regular loan portfolio stress testing, and early warning mechanisms for deteriorating loans. Risk based internal auditing should be institutionalized to ensure adherence to prudential standards.

ii. Enhance Regulatory Oversight and Enforcement by the Bank of Tanzania: The Bank of Tanzania (BOT) should intensify supervisory oversight and ensure strict compliance with Basel II and III regulatory frameworks, particularly regarding capital adequacy, provisioning, and liquidity management. Periodic

stress tests should be mandated to evaluate banks' resilience to macroeconomic shocks and sectoral exposures.

iii. Strengthen Legal and Institutional Frameworks: The government and policymakers should expedite reforms in collateral enforcement, debt recovery, and insolvency resolution processes. A more efficient legal framework would reduce loan recovery delays, lower NPL ratios, and improve credit discipline in the financial sector. Expanding and integrating credit information sharing systems across financial institutions would also help in identifying high risk borrowers and reducing repeated defaults.

iv. Promote Portfolio Diversification and Innovation: Banks should reduce overexposure to a few high risk sectors by diversifying loan portfolios into less volatile and emerging areas such as digital lending, renewable energy finance, and retail banking. Diversification not only mitigates credit risk but also enhances profitability through new market segments and innovation driven products.

v. Build Crisis Preparedness and Resilience Mechanisms: Given the lessons from the COVID-19 pandemic, banks should institutionalize contingency plans and shock absorption mechanisms to cope with systemic crises. This includes maintaining countercyclical capital buffers, developing business continuity frameworks, and leveraging technology to sustain service delivery during economic disruptions.

vi. Foster Macroeconomic Stability and Policy Coordination: The government, in collaboration with the central bank, should maintain macroeconomic stability particularly low inflation and steady GDP growth to support a favorable lending environment. Coordination between monetary and fiscal authorities is essential to manage systemic risks and promote financial sector stability.

5.3 Areas for Further Research

To broaden the scope and deepen understanding of credit risk dynamics, future studies should:

- Include **non-listed and smaller banks**, which may face different risk exposures and governance challenges.
- Examine the **impact of macroeconomic volatility**, such as exchange rate fluctuations and interest rate shocks, on NPL behavior.
- Explore **comparative regional studies** across East African economies to identify cross country policy lessons.
- Employ **mixed method approaches**, integrating quantitative econometric analysis with qualitative insights from bank managers and regulators to better understand institutional factors affecting NPL management.

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