



Loan Loss Provision and Financial Performance of Listed Commercial Banks in Kenya

¹Judith Andesia, ²Dr. Yasin Kuso Ghabon

Faculty of Business and Economics, Maseno University, Kenya

Email address: Judithandesia@yahoo.com

DOI : <https://doi.org/10.55248/gengpi.6.0825.3075>

ABSTRACT

The study sought to assess the effect of loan loss provision on financial performance of commercial banks Listed in NSE, Kenya. The study was anchored on the Modern portfolio theory. The study adopted longitudinal research study. The study targeted 11 listed commercial banks in Kenya for a period of five (5 years) covering between 2019 and 2023. The study conducted census of all the 11 listed commercial banks in Kenya. The researcher used data collection sheet to extract and compile the required secondary data. The study used both inferential and descriptive statistics. Descriptive statistics involved the use of standard deviation and mean. Inferential statistics involved the use of correlation and regression analysis to identify the influence of independent on the dependent variable. All inferential statistics were tested at $\alpha = 0.05$ significance level. The study also found a negative relationship between loan loss provisions and financial performance. Loan loss provisions, set aside to cover potential losses from non-performing loans, are an essential risk management tool for banks. The findings showed that listed commercial banks maintained an average Loan Loss Provision Ratio of 1.42%, which reflects prudent credit risk management. While increasing loan loss provisions is necessary for maintaining the health of the loan portfolio, it does lead to a reduction in net income, as a larger portion of revenue is allocated to cover potential defaults. The study concluded that there is no statistically significant relationship between loan loss provision and financial performance. Lowering provisions may temporarily increase net income and boost ROA, but under-provisioning poses long-term risks if non-performing loans rise unexpectedly. The study recommended that the CBK should encourage banks to adopt a more forward-looking provisioning approach, such as the Expected Credit Loss (ECL) model under IFRS 9. This model requires banks to make provisions based on expected losses rather than incurred losses, promoting early risk detection and more accurate provisioning.

Key Words: Loan Loss Provision, Financial Performance and Listed Commercial Banks in Kenya

1.0 INTRODUCTION

1.1 Background of the Study

Loan Loss Provisions (LLPs) are funds set aside by commercial banks to cover potential losses from defaulted loans, non-performing loans (NPLs), customer bankruptcies or renegotiated loans with lower-than-expected repayments, (Gurung, Jha & Kesharwani, 2023). Recorded as an expense on the income statement, LLPs reduce reported profits and are added to loan loss reserves, a balance sheet item reflecting the cumulative allowance for loan losses. This accounting practice ensures banks maintain a financial buffer to absorb credit losses, enhancing their resilience against economic downturns and borrower defaults, (Biswas, Bhattacharya, Jin, Bhattacharya & Sadarangani, 2023).

LLPs are critical for complying with regulatory requirements, such as those set by the Reserve Bank of India (RBI) or under International Financial Reporting Standards (IFRS), which mandate adequate provisioning to reflect a bank's true financial health, (Fazeelat, et al., 2023). The process involves regular assessment of loan portfolios to estimate expected credit losses, often using model-based forecasts, historical data, and managerial judgment, as outlined in expected credit loss (ECL) standards like IFRS 9 or Current Expected Credit Loss (CECL) under US GAAP, (Salem, Tahir & Aziz, 2019). By proactively recognizing potential losses, LLPs help banks present an accurate picture of their financial position, reassuring stakeholders and maintaining market confidence.

Globally, LLPs are vital for ensuring financial stability, maintaining capital adequacy, and fostering transparency, particularly in listed commercial banks subject to intense market and regulatory scrutiny, (Ahmad, Tahir & Aziz, 2019). In the United States, LLPs are a key component of banking operations for listed commercial banks, governed by the Current Expected Credit Loss (CECL) standard, which mandates forward-looking provisioning based on expected credit losses over the life of a loan, (Salem, et al., 2021). US banks, such as JPMorgan Chase and Bank of America, estimate LLPs using sophisticated models that incorporate macroeconomic forecasts, historical loss data, and current economic conditions, with provisions often increasing during periods of economic uncertainty. Ng, Tran, and Nguyen (2020) noted that US banks significantly increased LLPs during periods of economic policy uncertainty, reflecting proactive adjustments to anticipated credit risks.

In Nigeria, LLPs are central to the operations of listed commercial banks, such as Zenith Bank and First Bank, which face high NPLs due to economic volatility driven by oil price fluctuations and currency depreciation, (Adegbe, et al, 2020). The Central Bank of Nigeria (CBN) enforces provisioning requirements aligned with IFRS 9, requiring banks to use ECL models that incorporate macroeconomic variables and historical loss patterns to estimate LLPs. Ozili and Outa (2019) noted that Nigerian banks adjust LLPs in response to regulatory interventions and economic downturns, with provisioning levels often rising during periods of financial stress. Sanusi, Sani, and Adebayo (2021) highlighted that Nigerian banks frequently revise LLPs based on credit risk assessments, particularly for loans in sectors like oil and gas, which are prone to default.

In Kenya, LLPs are a critical aspect of the banking sector for listed commercial banks on the Nairobi Securities Exchange (NSE), such as Kenya Commercial Bank (KCB) and Equity Bank, regulated by the Central Bank of Kenya (CBK) under IFRS 9 guidelines. Kenyan banks estimate LLPs using ECL models, factoring in macroeconomic indicators like inflation and interest rates, as well as sector-specific risks in agriculture and real estate, which contribute to high NPL ratio, (Munguti, Omagwa & Wachiuri, 2023). Gathaiya, Mungai, and Kiai (2021) noted that listed Kenyan banks regularly update LLPs to reflect the high credit risk environment, particularly for unsecured loans tied to mobile banking. Mwangi, Muathe, and Kosimbei (2022) observed that CBK regulations drive Kenyan banks to maintain high LLP reserves, with provisioning practices tailored to mitigate NPLs in a dynamic financial market.

1.2 Statement of the Problem

The performance of listed commercial banks in Kenya, such as KCB, Equity Bank, and Co-operative Bank, has been significantly challenged by rising non-performing loans (NPLs), economic volatility and stringent regulatory requirements, which collectively undermine profitability, capital adequacy and investor confidence. Central Bank of Kenya reported that NPLs in the banking sector reached a record KSh 717 billion, reflecting a substantial increase from KSh 614 billion in December 2023, driven by economic slowdown and high interest rates, (Central Bank of Kenya, 2024; The Star Kenya, 2025). This escalation in NPLs has strained the financial performance of listed banks, with KCB reporting a 10% decline in net profit to KSh 37.1 billion in 2023 due to increased credit losses, while Equity Bank's profit after tax fell by 5% to KSh 42 billion, partly attributed to higher provisioning costs (Equity Bank, 2023; KCB Group, 2023). The economic growth in Kenya slowed to 4.7% in 2024 from 5.7% in 2023, impacted by high interest rates and reduced development spending, has constrained private sector credit growth to a mere 0.2% in March 2025, limiting banks' lending capacity and interest income (Standard Investment Bank, 2025). Furthermore, the CBK's tight monetary policies and IFRS 9 requirements have compelled banks to maintain higher provisions, with total loan loss provisions for listed banks reaching KSh 17.9 billion in Q1 2025, a 20.3% reduction from the previous year, indicating cautious optimism but still reflecting significant credit risk exposure (Standard Investment Bank, 2025). These challenges highlight the need to investigate the financial performance of listed commercial banks, as high NPLs and economic pressures continue to erode profitability and market stability. The elevated NPLs necessitate increased Loan Loss Provisions, which reduce banks' net income and constrain their ability to lend, further exacerbating financial performance issues. This study was critical to understanding how loss provision influence financial performance of listed commercial banks in Kenya loan.

1.3 Objectives of the Study

To assess the effect of loan loss provision and financial performance of listed commercial banks in Kenya.

1.4 Hypothesis of the Study

H0: There is no relationship between loan loss provision and financial performance of listed commercial banks in Kenya.

2.0 LITERATURE REVIEW

2.1 Theoretical Framework

The study will be anchored on the modern portfolio theory. Modern Portfolio Theory (MPT), introduced by Harry Markowitz in 1952. The theory focuses on the concept of diversification to reduce risk, emphasizing that an investor can achieve an optimal portfolio by selecting a combination of assets whose returns are not perfectly correlated. MPT employs the mean-variance optimization model, where the expected return of a portfolio is maximized for a specified level of risk, measured by the variance or standard deviation of returns. Markowitz's framework introduced the efficient frontier, a set of optimal portfolios offering the highest expected return for a given risk level, and the concept of the risk-free rate to balance risky and riskless assets, (Martellini, Milhau & Tarelli, 2018).

Kolm, Tütüncü, and Fabozzi (2015) highlighted that MPT's diversification principle allows investors to construct portfolios that minimize volatility while maintaining expected returns, making it a cornerstone of institutional investment strategies. Another strength is the introduction of the efficient frontier, which provides a clear visual and mathematical tool for identifying optimal portfolios, enabling investors to make informed decisions based on their risk tolerance. Ang, Goetzmann, and Schaefer (2016) noted that MPT's mean-variance framework remains highly effective for institutional investors managing large, diversified portfolios, as it provides a structured method to balance risk and return.

Despite its widespread adoption, Modern Portfolio Theory faces several critiques that highlight its limitations in practical application. One major criticism is its reliance on the assumption of rational investor behavior and normally distributed returns, which often does not hold in real-world markets characterized by irrational behavior and fat-tailed return distributions. Barberis, Huang, and Thaler (2019) argued that MPT fails to account for behavioral biases, such as overconfidence or loss aversion, which significantly influence investment decisions. Another critique is the sensitivity of MPT's mean-variance optimization to input errors, as small changes in expected returns or covariance estimates can lead to drastically different portfolio allocations, undermining its reliability.

Modern Portfolio Theory was highly relevant to the current study, which aims to assess the effect of LLPs on the financial performance of listed commercial banks in Kenya. The specific objective of assessing the impact of LLPs on financial performance aligns with MPT's principle of balancing risk and return, as LLPs represent a cost that reduces profitability (ROA) but mitigates credit risk, akin to diversifying a portfolio to minimize volatility. By applying MPT, the study can evaluate whether Kenyan banks optimize their loan portfolios by allocating provisions to high-risk loans (in agriculture or real estate) while maintaining expected returns from performing loans.

2.2 Empirical Review

Biswas, Bhattacharya, Jin, Bhattacharya, and Sadarangani (2023) investigated the effect of Loan Loss Provisions on bank stability in BRICS countries' commercial banks, including Brazil, Russia, India, China, and South Africa. Employing a panel data research design, the study analyzed data from 78 commercial banks over the period 2014–2020, sourced from financial statements and the FitchConnect database. The researchers used a two-step system Generalized Method of Moments (GMM) estimator to explore the relationship between LLPs and bank stability, measured by the Z-score, which indicates insolvency risk. The findings revealed that higher LLPs, when used for income smoothing, positively influenced bank stability in BRICS nations, particularly under IFRS adoption, as they signaled prudent risk management to investors. This study focused on bank stability across BRICS countries rather than financial performance in Kenyan listed commercial banks and covered a broader international context over a shorter period.

Salem, Usman, and Ezeani (2021) examined the impact of Loan Loss Provisions on earnings management practices in Islamic and conventional banks in the Middle East and North Africa (MENA) region. The study adopted a quantitative research design, using a sample of 112 banks (56 Islamic and 56 conventional) from 10 MENA countries, with data collected from 2011–2018 via Bankscope and annual reports. Statistical techniques, including GMM and random effects models, were employed to assess how LLPs influence earnings management, measured by discretionary accruals. The results indicated that higher LLPs were associated with reduced earnings management, particularly in banks audited by Big-4 firms, suggesting that audit quality constrains opportunistic provisioning. This study focused on earnings management in MENA banks rather than financial performance in Kenyan listed commercial banks and included both Islamic and conventional banks over a different timeframe.

Ng, Tran, and Nguyen (2020) explored the effect of Loan Loss Provisions on credit growth in US commercial banks. Utilizing a longitudinal panel data approach, the study analyzed 6,384 banks from 1996–2017, with data sourced from the Federal Reserve Bank of Chicago and Compustat Bank databases. The researchers applied fixed-effects regression models to examine how LLPs affect credit growth, proxied by the change in total loans outstanding. The findings showed that higher LLPs were negatively associated with credit growth, particularly during periods of economic policy uncertainty, as banks reduced lending to conserve capital. This study focused on credit growth in US banks rather than financial performance in Kenyan listed commercial banks and examined a developed economy with a longer time horizon.

Fazeelat, Nadia, Mirza, and Mohammad (2023) investigated the impact of Loan Loss Provisions on bank risk in Islamic and conventional banks in Pakistan. The study employed a quantitative research design, analyzing a sample of 20 banks (10 Islamic and 10 conventional) from 2015–2020, with data sourced from annual financial statements and the State Bank of Pakistan's regulatory reports. Panel data regression and GMM techniques were used to assess the relationship between LLPs and bank risk, measured by credit risk (NPL ratio) and liquidity risk. The results indicated that higher LLPs significantly reduced credit risk by enhancing loan loss reserves, though the effect was more pronounced in conventional banks. This study focused on bank risk in Pakistani banks rather than financial performance in Kenyan listed commercial banks and included Islamic banking, which differs from the Kenyan commercial banking context.

Wheeler, Balasubramanian, and Duan (2022) examined the effect of Loan Loss Provisions on stock returns in US bank holding companies. The study used a panel data research design, analysing 1,430 publicly traded banks from 1997–2013, with data sourced from Federal Reserve Bank FR Y-9C Reports and Compustat. The researchers employed fixed-effects regression and event study methodologies to investigate how discretionary LLPs influence abnormal stock returns during economic booms and busts. The findings revealed that higher discretionary LLPs were associated with higher stock returns during economic booms but lower returns during downturns, reflecting investor perceptions of provisioning as a signal of future loan portfolio quality. This study focused on stock returns in US banks rather than financial performance in Kenyan listed commercial banks and analysed a historical period with a focus on market reactions.

Munguti, Omagwa, and Wachiuri (2023) investigated the effect of Loan Loss Provisions on loan portfolio quality in Kenyan commercial banks. The study adopted a longitudinal panel data design, analysing 10 listed commercial banks on the Nairobi Securities Exchange, including KCB and Equity Bank, from 2015–2020, with data sourced from CBK reports and bank financial statements. Panel regression models were used to examine the relationship between LLPs and loan portfolio quality, measured by the ratio of NPLs to total loans. The findings indicated that higher LLPs were associated with improved loan portfolio quality, as provisions enabled banks to absorb credit losses and maintain asset quality. This study focused on

loan portfolio quality in Kenyan banks, aligning closely with the current study's context, but differed by emphasizing asset quality rather than financial performance metrics like ROA and ROE.

2.3 Conceptual Framework

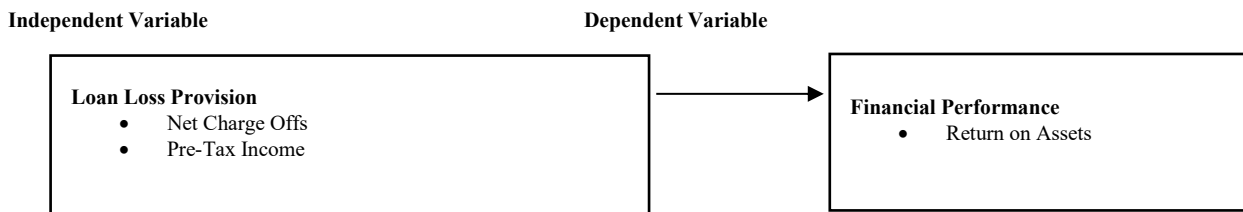


Figure 1: Conceptual Framework

3.0 RESEARCH METHODOLOGY

This study employed a longitudinal explanatory research design to assess the effect of LLPs on the financial performance of listed commercial banks in Kenya, focusing on data from 2019 to 2023. The target population comprised all 11 listed commercial banks on the Nairobi Securities Exchange (NSE), for a period of five (5 years) covering between 2019 and 2023. These banks included Absa Bank Kenya, CFC Stanbic of Kenya Holdings Ltd, Diamond Trust Bank Kenya Ltd, Equity Bank Ltd, Housing Finance Co. Kenya Ltd, I & M Holdings Ltd, Kenya Commercial Bank Ltd, NCBA group PLC, Bank of Kigali, Standard Chartered Bank Kenya Ltd, the Co-operative Bank of Kenya Ltd. The study conducted a census of all the eleven (11) listed commercial banks in NSE, Kenya with justification that there were only eleven listed commercial banks, and therefore, there was no need to sample since the population was manageable. Census also enhances the accuracy and reliability of a study. The researcher used data collection sheet to extract and compile the required secondary data. The study collected secondary data relating to loan loss provision and financial performance of commercial banks listed in NSE, Kenya. Data analysis utilized descriptive statistics (mean and standard deviation) and inferential statistics (correlation and linear regression) at a 0.05 significance level, with results presented in tables, graphs and charts.

4.0 RESEARCH FINDINGS AND DISCUSSION

4.1 Loan Loss Provision

Loan loss provision was assessed through loan loss provision coverage ratio and calculated by dividing pre-tax income by net charge offs. The loan loss provision ratio is a financial metric used to assess the adequacy of a bank's provisions for potential loan losses. It measures the proportion of loan loss provisions to the total loans or advances on the bank's balance sheet. This ratio helps evaluate how well a bank is prepared for potential defaults and credit losses. The CBK requires banks to make provisions for loan losses based on the classification of their loans. Maintaining a high Loan Loss Provision Ratio relative to NPLs helps banks manage potential credit losses effectively and supports overall financial stability. The research sought to establish the mean, maximum and minimum loan loss provision ratio of the 11 listed commercial banks in Kenya. The findings are as indicated in Table 1.

Table 1: Loan Loss Provision

Loan Loss Provision Ratio		
N	Valid	55
	Missing	0
Mean		1.4231400
Std. Deviation		.14623130
Minimum		1.23350
Maximum		1.75630

Source: Research Data, (2025)

From the findings of the study, the average Loan Loss Provision Ratio was approximately 1.42. This indicates that, on average listed commercial banks in Kenya were setting aside a reasonable amount for loan losses relative to their total loans. The standard deviation of 0.15 suggested that there was a relatively low variability in this ratio among the institutions. The range from 1.23 to 1.76 showed that all institutions maintained provisions within a similar range, indicating a generally consistent approach to managing potential loan losses. These results of the thesis agree with the ones of Nyaga, et al., (2020), which indicated that the relationship between provisions and capital will become positive (negative) if general provisions make up only a

smaller (bigger) portion of total loan-loss provisions (recall that total provisions are made up of general and specific provisions), particularly if this ratio is less (more) than one minus the tax rate.

4.2 Trend of the Loan Provision Ratio of Listed Commercial Banks for 5 years (2019-2023)

The research further sought to establish the trend of loan provision ratio of 11 listed commercial banks for the 5 years. The findings are indicated in figure 1

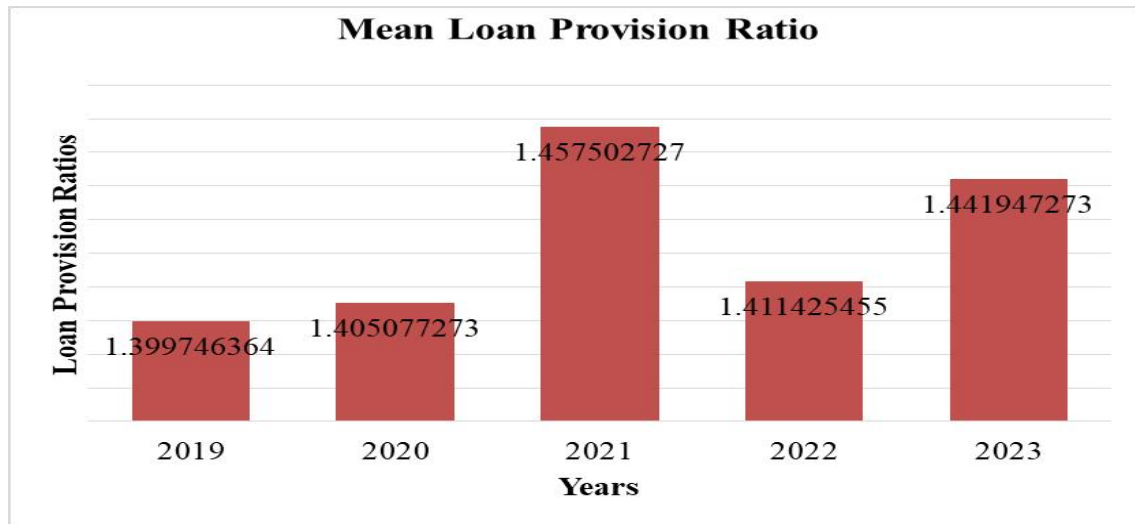


Figure 4 : Mean Loan Loss Provision

In 2021, the loan loss provision ratio of the 11 listed commercial banks in Kenya increased drastically to 1.46 percent from 1.41 percent in the previous years. In 2022, the loan loss provision ratio further dropped to 1.41 percent from 1.46 percent in 2021. This indicated a reduction in the proportion of provisions set aside by the banks for potential loan losses, reflecting a possible improvement in their expectations of loan repayment or a reduction in perceived credit risk.

4.3 Return on Assets

Return on Assets is a financial metric used to evaluate how effectively a company, including commercial banks, utilizes its assets to generate profits. For commercial banks, ROA is particularly important as it reflects the bank's ability to earn profits from its assets, such as loans and investments. According to Birken and Adams (2021), an ROA of 5% or better is typically considered good, while 20% or better is considered great. In general, the higher the ROA, the more efficient the company is at generating profits. The study further sought to determine the mean, maximum and minimum

Return on Assets		
N	Valid	55
	Missing	0
Mean		5.2944136
Std. Deviation		4.62010825
Minimum		.45386
Maximum		19.66356

management efficiency of the 11 listed commercial banks in Kenya for the 5 years. The findings are indicated in Table 2.

Table 2: Return Assets

Source: Research Data (2025)

From the findings the average Return on Assets (ROA) was approximately 5.29%. This suggests that, on average, commercial banks had achieved a moderate level of profitability relative to their assets over a period of five years. The high standard deviation of 4.62 indicated substantial variation in ROA among the banks, with some achieving significantly higher returns while others perform much lower. The range from 0.45% to 19.66% highlighted this difference, with a few banks demonstrating exceptional profitability and others struggling to generate returns.

4.4 Trend of the ROA Listed Commercial Banks for 5 years (2019-2023)

The study further sought to establish the trend of Return on Asset for the 11 listed commercial banks in Kenya for the 5 years. The findings are indicated in Figure

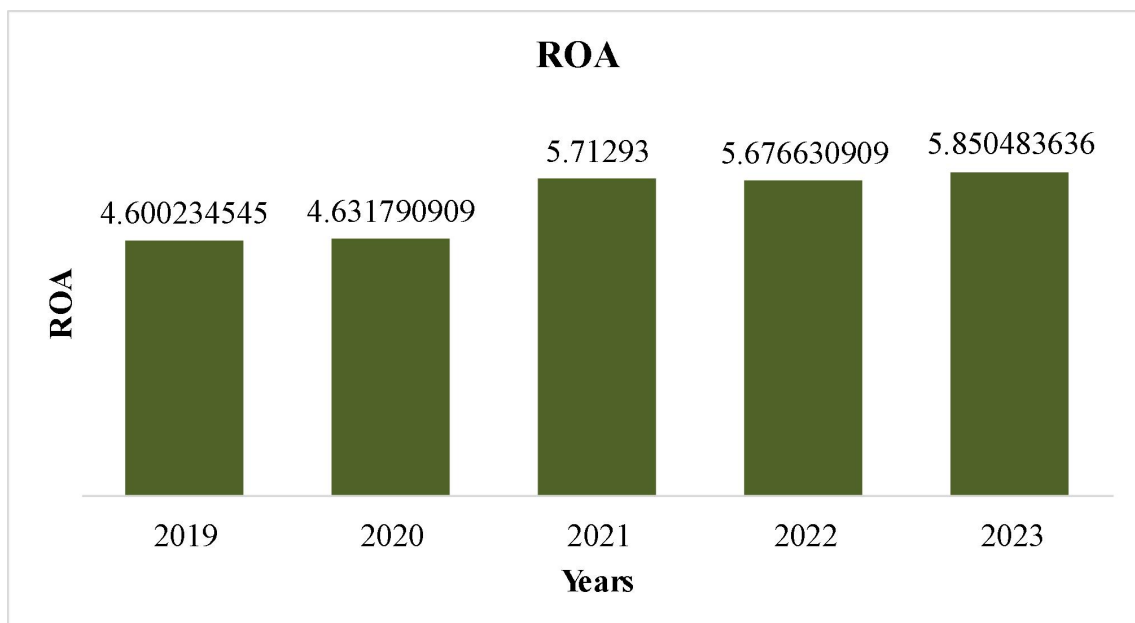


Figure 2 :Trend of the ROA Listed Commercial Banks for 5 years (2019-2023)

Over the last five years, the ROA ratio of the 11 listed commercial banks in Kenya showed a steady increase from 4.6 percent in 2019 to 5.85 in 2023. This implies that commercial banks have had a consistent improvement in their ability to generate profit from their assets, reflecting enhanced operational efficiency and profitability over the past five years.

4.5 Correlation Analysis

The findings revealed that there was a weak negative correlation between loss provision and financial performance of listed commercial banks in Kenya ($r = -0.107$; $p < 0.05$). The results of the correlation analysis indicated that an increase in loan loss provision decreased financial performance of listed commercial banks in Kenya. Finally, the findings established that a moderate negative correlation existed between management efficiency ratio and financial performance of listed commercial banks in Kenya ($r = -0.208$; $p < 0.05$). The results of the correlation analysis indicated that an increase in management efficiency reduced financial performance of listed commercial banks in Kenya.

4.5 Regression Findings

ROA	Coef	Std. Err.	t	P> t	[95% Conf.Interval]	
(Constant)	20.167	5.505	3.66	0.001	9.109	31.227

Loan Loss Provision Ratio	-4.349	3.466	-1.25	0.215	-11.311	2.612
---------------------------	--------	-------	-------	-------	---------	-------

Table 3: Regression Coefficient

From the findings loan loss provision ratio had a coefficient of -4.349 and a p-value of 0.215 which showed non- statistical significance. Therefore, loan loss provisions did not have influence on the financial performance of listed commercial banks. The study findings were supported by findings of Mishra and Gupta (2021) which revealed that if a bank reduces its loan loss provisions, it boosts net income, which can increase ROA. However, this might indicate under-provisioning, which can be risky if loan defaults rise unexpectedly. When a bank increases its loan loss provisions, it reduces its net income because these provisions are recorded as expenses consequently lowering net income, leading to a decrease in ROA.

4.6 Research Hypotheses Findings

H02: There is no relationship between loan loss provision and financial performance of listed commercial banks in Kenya.

The results indicate that the p-value for Loan Loss Provision Ratio (LLPR) was 0.215. Since the p-value was greater than 0.05, there was failure to reject the null hypothesis which implied that there is no statistical significant relationship between loan loss provision and financial performance of listed commercial banks in Kenya. This result contrasts with studies such as that of Kagwiria (2022), which argued that increased loan loss provisions typically reduce net income, thereby lowering ROA.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

The study also found a negative relationship between loan loss provisions and financial performance. Loan loss provisions, set aside to cover potential losses from non-performing loans, are an essential risk management tool for banks. The findings showed that listed commercial banks maintained an average Loan Loss Provision Ratio of 1.42%, which reflects prudent credit risk management. While increasing loan loss provisions is necessary for maintaining the health of the loan portfolio, it does lead to a reduction in net income, as a larger portion of revenue is allocated to cover potential defaults. This reduction in net income can lower return on assets (ROA), negatively impacting profitability. However, it's important to note that the observed correlation between higher loan loss provisions and lower profitability does not imply causation. The findings highlight the complex relationship banks must navigate between managing credit risk and sustaining profitability. While higher provisions are essential for risk management, their impact on short-term financial performance should not be viewed as a direct cause-and-effect relationship.

The study concluded that there is no statistically significant relationship between loan loss provision and financial performance. Lowering provisions may temporarily increase net income and boost ROA, but under-provisioning poses long-term risks if non-performing loans rise unexpectedly. On the other hand, higher loan loss provisions reduce profitability in the short term by lowering net income, which directly impacts ROA.

5.2 Recommendations of the Research Findings

From the findings the study made the following recommendations:

The Central Bank of Kenya (CBK) should continue to enforce the minimum Capital Adequacy Ratio (CAR) to ensure the stability of the banking system. However, regulatory bodies might consider introducing more flexible guidelines that allow banks to optimize capital allocation based on their risk profile, enabling them to pursue growth while maintaining safety buffers. The CBK should encourage banks to adopt a more forward-looking provisioning approach, such as the Expected Credit Loss (ECL) model under IFRS 9. This model requires banks to make provisions based on expected losses rather than incurred losses, promoting early risk detection and more accurate provisioning.

REFERENCES

- [1]. Adegbe, F. F., Asaolu, T. O., & Enyi, P. E. (2020). Credit risk management and financial performance of listed commercial banks in Nigeria. *Journal of Accounting and Taxation*, 12(3), 77–89.
- [2]. Ahmad, F., Tahir, S. H., & Aziz, B. (2019). Impact of loan loss provision on bank profitability in Pakistan. *Research Journal of Social Science & Management*, 3(12), 34–41.
- [3]. Ang, A., Goetzmann, W. N., & Schaefer, S. M. (2016). Modern portfolio theory and its applications in institutional investing. *Journal of Portfolio Management*, 42(5), 45–56.

- [4]. Barberis, N., Huang, M., & Thaler, R. H. (2019). Behavioral finance and portfolio choice: A critique of modern portfolio theory. *Review of Financial Studies*, 32(4), 1234–1267.
- [5]. Biswas, S., Bhattacharya, S. N., Jin, J. Y., Bhattacharya, M., & Sadarangani, P. H. (2023). Loan loss provisions and income smoothing in banks: the role of trade openness and IFRS in BRICS. *China Accounting and Finance Review*, 26(1), 76–101.
- [6]. Central Bank of Kenya. (2024). Bank supervision and banking sector reports. Retrieved from <https://www.centralbank.go.ke/>(<https://www.centralbank.go.ke/reports/bank-supervision-and-banking-sector-reports/>)
- [7]. Equity Bank. (2023). Annual report and financial statements 2023. Retrieved from <https://www.equitygroupholdings.com>
- [8]. Fazeelat, I. S., Nadia, A. U. K., Mirza, A. B., & Mohammad, M. (2023). Determinant of credit risk of Islamic banks in Pakistan. *Future Business Journal*, 10(1), 1–11.
- [9]. Gurung, R., Jha, R., & Kesharwani, S. (2023). Exploring the impact of loan loss provision on profitability: An analysis of commercial banks in Nepal. *ResearchGate*.
- [10]. KCB Group. (2023). Integrated annual report 2023. Retrieved from <https://www.kcbgroup.com>
- [11]. Kolm, P. N., Tütüncü, R., & Fabozzi, F. J. (2015). 60 years of portfolio optimization: Practical challenges and current trends. *European Journal of Operational Research*, 243(2), 356–367.
- [12]. Markowitz, H. (1952). Portfolio selection. *Journal of Finance*, 7(1), 77–91.
- [13]. Martellini, L., Milhau, V., & Tarelli, A. (2018). Dynamic portfolio choice with modern portfolio theory. *Journal of Wealth Management*, 21(3), 22–35.
- [14]. Munguti, J., Omagwa, J., & Wachiuri, E. (2023). Loan loss provisions and financial performance of commercial banks in Kenya. *African Journal of Business and Economic Research*, 18(1), 89–104.
- [15]. Ng, J., Tran, V. D., & Nguyen, T. (2020). Economic policy uncertainty and loan loss provisions of US banks. *Journal of International Financial Markets, Institutions and Money*, 59, 1057–1076.
- [16]. Salem, R., Usman, M., & Ezeani, E. (2021). Loan loss provisions and audit quality: Evidence from MENA Islamic and conventional banks. *Quarterly Review of Economics and Finance*, 79, 345–359.
- [17]. Standard Investment Bank. (2025). Kenya banking sector 1Q25 performance – Listed banks. Retrieved from <https://sib.co.ke/>(<https://sib.co.ke/reports/kenya-banking-sector-1q25-performance-listed-banks/>)
- [18]. The Star Kenya. (2025, July 26). Kenya's banking sector grapples with non-performing loans reaching Sh717 billion. Retrieved from <https://t.co/GEXOXJGqyq>
- [19]. Wang, A. T., Zhao, J., & Huang, C. (2020). Loan loss provisioning of US commercial banks after the financial crisis. *ResearchGate*.
- [20]. Wheeler, P. B., Balasubramanian, P., & Duan, Y. (2022). CECL implementation and its impact on US bank provisioning. *Journal of Banking Regulation*, 23(2), 145–159.