

MACROECONOMIC VARIABLES AND PROFITABILITY OF TIER III COMMERCIAL BANK IN KENYA

Maureen Chebet Rotich¹, Dr. Moses Odhiambo Aluoch²

^{1,2}Department of Accounting and Finance, School of Business, Economics and Tourism, Kenyatta University, Kenya

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Abstract: Commercial banks are indispensable drivers of economic expansion which is a fundamental pillar of any country by facilitating investment, job creation, promote financial inclusion, providing loans for expansion and operation, with the banking sector being the biggest contributor yet it faces numerous challenges both globally and locally. This study assessed how macroeconomic variables had an effect on profitability of Kenya's Tier 3 commercial banks. The study specifically examined inflation, exchange rate, money supply and interest rate on profitability of these banks. The study employed interest rate parity, international fishers' effect, purchasing power parity, profit maximization theory and quantitative theory of money was considered. Panel regression model technique was adopted to analyze twenty-two Tier 3 commercial banks for the period 2019 to 2025 based on the census approach. The secondary data sources which included the official audited financial reports of these banks were used. The measure of profitability was return on assets. Quantitative data was analyzed using descriptive statistics such as mean, mode, standard deviation and skewedness. Inferential statistics included regression analysis, correlation analysis and analysis of variance. The secondary data was processed using Stata and presented using table and figures. Diagnostic tests were conducted through, normality test, autocorrelation test, multicollinearity, heteroscedasticity, and Hausman's test. Ethical consideration was used in the whole process. The study established that the interest rate, inflation rate, exchange rate, money supply and profitability of these banks were significantly related. The interest rates were seen to have presented a substantial significant profitability improvement of these banks as they determined their net interest revenue earned on loans and interest paid on deposits. The inflation rate has a significant effect on banks' profitability since it affects their operating expenses, loan repayment conduct, and interest margin. The exchange rate variations present a significant effect on bank profitability because a stronger Kenyan shilling compared to main currencies like the US dollar could minimize the expenses incurred on imports and reduce the worth of foreign-denominated liability, thus raising profit margins. The money supply had contributed to a considerable profitability improvement of these banks due to interest rates, liquidity, and credit accessibility. The identified study recommendations are that the banks can put more emphasis on strategies influenced by interest rates like loan portfolio optimization through giving competitive but gainful interest rates. The banks should focus much on asset base diversification to contain inflation-indexed tools like inflation-related bonds and treasury bills, to alleviate the effect of increasing inflation rate on their interest earnings. The banks can implement active currency hedging policies to alleviate the effect of exchange rate variations on their foreign currency-denominated properties and liabilities. The banks can strategically manage their loan portfolios to exploit on the effect caused by money supply which could affects interest rates and credit request.

Keywords: Interest Rate, exchange rate, money supply and interest rate, Profitability.

1. INTRODUCTION

The country's economy is directly dependent on banks since they are financial instruments that act as intermediaries between creditors and debtors, hence ensures that the economy runs smoothly (Octavianus & Fachrudin, 2022). Furthermore, Banks offer credit availability by lending to businesses and investors, who can later they can invest the money in new technologies, create employment and expand their business (Onunka & Darajimba, 2023). The KNBS (2023) indicate credit improved through commercial banks and non- bank financial institutions improved to 12.3% to KES 6,218 billion by year ending December 2022. In 2023, the banking sector paid 30% of the total corporate tax collected in Kenya.

Additionally, every KES 100 collected KES 57.2 goes to the government taxes. Despite the resilience and competition from non-banking financial institution (NBFI), banks must adapt and maintain organizational agility.

Njoroge (2024), argues that poor banking approach leads to unequal distribution of asset and resources among groups and individuals. Commercial Banks provide crowding funding to Micro, Small and Medium Enterprises (MSMEs) that is regulated through CBK, thus attracting a big customer base (Ogada & Miroga, 2021). However, NBFIs entities such as insurance companies, SACCOs offer monetary services similar to the banks, but do not have banking regulations and licenses. Moreover, Banks offers a wide range of services concurrently offered by NBFIs yet most investors prioritize banks over NBFIs.

In the global environment (Terstena & Todorova, 2023) in Kosovo, inflation and profit tax play a significant role in probability of a business, hence managers undertake various measure to ensure maximum profit and reducing the company expenses and tax obligations. In USA, a study done by Ozdemir & Altinoz (2024) argued that banks engage in investment activities when the interest rate is high it reduces their profit. Banks do not have adequate tools to curb interest rate changes; thus, they have to cope with increased rates.

Rani and Jothi, (2023) elaborates the enhancement financial inclusion through the efforts of banking sector, ordinary people can access financial products and services in their mobile phones, which contribute to economic stability. Valencia and Calabuig-Tormo, (2023), elaborates environmental sustainability by the provision of green financing initiatives with the aim of protecting the environment. Additionally, the government has adopted the Nigeria Green Bond program to finance projects that are aligned with climate resilience, inclusivity and suitable economy (Oshiomah, 2024). In order to increase financial inclusion banks have adopted Islamic banking and financial undertakings that align with Shariah (Islamic law). According to Kaawaase, Bananuka, Kasera & Nalukenge (2019), Sub-Saharan Africa countries have gained popularity due to no interest on credits, equitable share of any losses and economic advancement.

In Kenya, digital banking boosts the economy by offering robust transaction platforms in the case of M-Pesa (Wachira & Njuguna, 2023), where financial services are offered via mobile phones. Banks are linked with M-Pesa making transactions easy popularly known as Pesa link, alongside introduction of banking agents. Banking agents are retailers contracted by commercial banks (Matan, Aluoch & Suva, 2024), agency banking aids banks to access areas banks cannot reach whilst reducing operational cost.

Macroeconomic variables give an overall view of the economy. Tsai (2019) examines the macroeconomics as the behaviour and health of the economy and making an informed decision policies and how to implement them. Some of the variables that affect budget including inflation, GDP, employment, interest rate and exchange rate, the rise is amongst the variables resulting banks moderate performance improvements and inflation henceforth contributing to increased rate of non-performing loans (Khan, Qamar, Rasheed, Ali & Munir (2024). Through a research by Lyimo and Hussein (2022), the macro-economic variables within 2009 and 2020 had presented a significant profitability improvement of commercial banks in Tanzania and general sector's economic expansion.

Bussiere, Jokipii and Windsor (2023), examined the interest rate on bank profitability and concluded that lower interest rate leads to lower interest margin. The IMF 2023, highlighted the importance of examine the intersection between monetary policy to ensure banking sector stability (KBA,2024). (Fabian & Kočíšová, 2023) in Slovak Republic argued that monetary policy significantly influences bank profits therefore, interest rate is important to policies makers to ensure banking stability not only today but also in future (Bhole, 1987), explained money supply as a perfect means of payment, perfect liquidity and maturity, it represents total liquid asset that can be used for transaction. The major key players of money regulators are commercial banks and CBK, Banks create money by advancing loans and purchasing securities through CBK enables currency circulation (Liping & Yang, 2021).

Tier III commercial banks vary by countries and their regulatory authority. In Kenya, Tier III banks hold less than 1% market share in the banking industry, they are the smallest bank in ac country's banking system. Tier IIO banks serve small business and individual within a specific market segment. Despite being Tier III having the most significant number of banks they face competition with tier II and Tier I banks that expand across the region hence making them a target of acquisition and merges. In 2022, tier 3 banks made a pre-tax of ksh. 3.48 billion compared to Tier I banks made a pre-tax of ksh. 170.6 billion tier 3 banks. (KBA 2022) Tier 3 consistency have a higher level of non-performing loans which rises their credit risk, their covering ratio was 37.5% in 2023 meaning their loan portfolio has an underperforming loan (KBA 2023) was in Kenya examples of tier banks is Premier Bank.

STATEMENT OF THE PROBLEM

The Tier III banks of Kenya in 2023, accounted for 8.4% of the total net asset, in terms of total non-performing loans of KES. 651.81 billion accounting 12.7%, the covering ratio decreased from 43.5% in December 2022 to 37.5% December 2023 reflecting reduced earnings. (Kenya Financial Sector Stability Report, 2024). In January 2024, CBK recorded the highest exchange rate of 160.108 KES/USD The appreciation was from reforms in exchange market and June 2024 Eurobond, the CBK is mandated to manage foreign exchange reserve in Kenya. (CBK, 2024). In 2022, fear of political tensions a noticeable slowdown in economic activities inflation was 7.1% in May (KBA, 2022). Amidst Russia -Ukraine war led to the persistence of the deterioration of the exchange rate limiting access to external borrowing (IMF, 2023).

SPECIFIC OBJECTIVES

- i. To investigate the effect of interest rate on profitability of tier III commercial banks in Kenya.
- ii. To explore the effect of inflation on profitability of Tier III commercial banks in Kenya.
- iii. To examine the effect of exchange rate on profitability of Tier III commercial banks in Kenya.
- iv. Establish the effect of money supply (GDP growth rate) on profitability of Tier III commercial banks in Kenya

RESEARCH HYPOTHESIS

H₀₁: Interest rate do not significantly affect the profitability of Tier III commercial banks in Kenya.

H₀₂: Inflation do not significantly affect the profitability of Tier III commercial banks in Kenya.

H₀₃: Exchange rate do not significantly affect the profitability of Tier III commercial banks in Kenya.

H₀₄: Money supply do not significantly affect the profitability of Tier III commercial banks in Kenya

2. LITERATURE REVIEW

Theoretical Literature Review

Keynes (1923) established the Interest Rate Parity theory through explaining that the variance of interest rate linking one country to the other, equating it as the deviation of their spot rate from forward rate, suggesting that increased interest rate of a certain currency is inclined to depreciation against decreasing interest rate currencies. Keynes (1923) categorized Interest Rate Parity into covered Interest Rate Parity and uncovered Interest Rate Parity. Covered interest rate parity use the forward contract to lock the exchange rate while the uncovered Interest Rate Parity does not assume the uses of forward contracts as a hedging tool, IRP is important in understanding the exchange rates. Studies done by Fernandez (2020), showed that exchange rate improbability raises the deviances of IRP and has a significant effect on the economy.

IRP assumes that investors can readily exchange domestic assets for foreign assets freely without restriction or transaction cost, secondly that assets have perfect sustainability and the financial instruments is identical. Interest Rate Parity faces several limitation transaction costs is not taken into consideration and there is difficulty in predicting the exchange rates. The theory tends to explain how interest rate is linked with profit maximization of financial institution especially Tier 3 commercial banks in Kenya. When the interest rate is low it encourages borrowing thus, investor can invest leading to economic enlargement.

The theory of profit maximization by Smith (1776) assists in the understanding of achievement in the highest possible profit Adam Profit is calculated as total revenue less total cost and the profit is maximum marginal revenue is the same as marginal cost. The theory assumes the firm only aim is profiting maximization and there is perfect knowledge of revenue and cost. The firms operate in an oligopoly, monopoly or competitive environment and decisions are made rationally. One implication of these assumptions is not all firms focus on profit maximization. Profit maximization can lead to unethical practices and lack of social responsibility such as neglecting the customers and employees. The theory is relevant to the study by maximizing profit business such as commercial banks can be financially stable through increased revenue and profitability thus enabling innovation and expansion

Empirical Literature Review**Interest Rate and Profitability**

Ozdemir (2024) research focused on examination of interest rate and banks were responding on profitability improvements. The categorization of these banks was based on their sizes and type and profits also differ across these categories. Secondary data was used from Federal Deposit Insurance Corporation focusing from 1987–2020 timeframe, Bureau of Labor Statistics and the Bureau of Economic Analysis in the USA the conclusion was interest rate and profit have a negative relation, when the interest rate is high it affects the profitability of banks.

Kantanka (2022) assessed the interest rate and profitability of GCB Bank Plc of Ghana between 2008 and 2019 guided by explanatory design. The data was obtained from secondary sources of these banks from yearly financial disclosures. Regression analysis was conducted and an explanatory design was employed. The final results reflected that variations on interest rate had contributed to significant variation of profitability levels of the bank, demonstrating a strong and positive correlation. In addition, there was significant fluctuations for the last 12 years within the country on monthly rate.

Ngaruiya (2023) assessed regulation of variations of interest rate regulation in determining banks' financial performance within East African regions between 2004 and 2019. A sample of 78 banks was identified through stratified sampling technique and the identified number of respondents was 1,278 observations. The study identified that the rise in lending interest rates in various countries, Kenya included had imposed capping on interest rates. Measure of financial performance the researcher's used ROE, net interest margin and Tobin's Q.

Onyango (2023) assessed the risks on interest rate in determining the level of investment banks in Kenya financial performance through application of explanatory sequential mixed methodology. The study was based on a population 16 investment banks based in Kenya. The data gathered was based from 2011 to 2019. The descriptive and inferential statistical measurements were applied in data assessments, indicating that risks associated with interest rate had presented a significant improvement on investment banks' financial performance.

Inflation and Profitability

Tërstena (2023) explored how inflation had affected the profitability of businesses in Kosovo guided by quantitative method and the descriptive and authentication approach. The study sampled 120 businesses using stratified sampling technique. The assessment of data was done based on multiple linear regression analyses techniques and linear trend assessments. The sources of secondary data was official disclosed financial reports of these businesses. Results presented a proof that variations in inflation rate were significantly related to variations in profitability levels of these banks.

Oladimeji & Elusakin (2024), analyzed the inflation rate and it had affected the Nigeria's non-life insurance companies' gross premium income and profitability margins. The sample comprised of 20 companies that were in existence between 2014 and 2023. The assessment of secondary data collected was based on least square regression model whereby hypotheses were tested under 95% confidence level. The results obtained demonstrated that improvement of gross premium income and profitability margins of these companies were directly related to variations on inflation rate.

In other studies, Odidi & Jagong'o (2020) examined the moderation of inflation on how foreign direct investment, developments in financial market is related to economic growth within Kenya. Descriptive and inferential statistics were implemented using a period of 36 years from 1980 to 2016. The research study used correlation research study and linear regression model from secondary sources. Data was processed through SPSS. The study concluded that inflation affects economic progression, financial advancements and direct foreign investment.

Exchange Rate and Profitability

Okika and Okoye (2024) explored how changes in exchange rate had determined the profitability of firms within Nigeria between 2006 and 2017. Two hypotheses were tested using secondary data and multiple regression analytical estimation technique of multiple linear regression. Measures of profitability were ROCE and ROA, causal-comparative (ex post facto) research. Conclusion made from the research is that exchange rate on ROCE and ROA were insignificant.

Mate and Kiganda (2022) evaluated the foreign exchange rate and it had influenced the financial performance within Kenya's manufacturing sect guided by descriptive correlational designs. The sample drawn was 8 firms. The collected data was examined using panel data within a span of 2015 to 2020. Also, the panel data analysis grounded on fixed and random

effects through STATA. It was observed that changes in exchange rate was profound within the specified period which had a great determination of level of financial performance of these firms through importation of raw materials.

Ozcan and Shim (2021) examined changes in exchange rate fluctuations firm leverage within developing market markets from 2002 and 2015, displaying that firms based within countries where non-financial sectors possess increased debt in external currency linking the leverage data for 4 developing market nations. When the home currency appreciates (depreciates), firms that have operation in foreign countries have debt in foreign currency.

Money Supply and Profitability

Alharbi & Ahmed (2024) cross-examined money supply, banking and economic growth from 2004 to 2021, descriptive assessments, correlation analysis (Spearman's coefficients), causality tests and panel data regressions were examined for the following countries namely; India, Saudi Arabia and UAE. Multivariate Discriminant Analysis (MDA) was conducted on a sample of 20 listed banks based on banking ratios. GDP influences banking loans and deposits.

Mbabazize and Ainomugisha (2020) studied monetary policy and profitability of Uganda's commercial banks guided by causal relationship design. Data based between 2010 and 2018 with 24 registered commercial banks, the sample size was 20 commercial banks. The assessment of profitability was based on ROA. A dynamic two-step System Generalized Method of Moments panel estimator was adopted for the estimation of the adopted empirical model. Monetary policy has an effect on ROA.

Nyabute & Makori (2020) considered macroeconomic factors and Kenya's commercial banks' financial performance using causal design. A sample of 40 banks was determined through convenience sampling techniques, which were under the CBK regulation and registration between 2012 and 2016. Census study was adopted and relied on secondary data, revealing that money supply and profitability margins of the banks were significantly correlated.

3. CONCEPTUAL FRAMEWORK

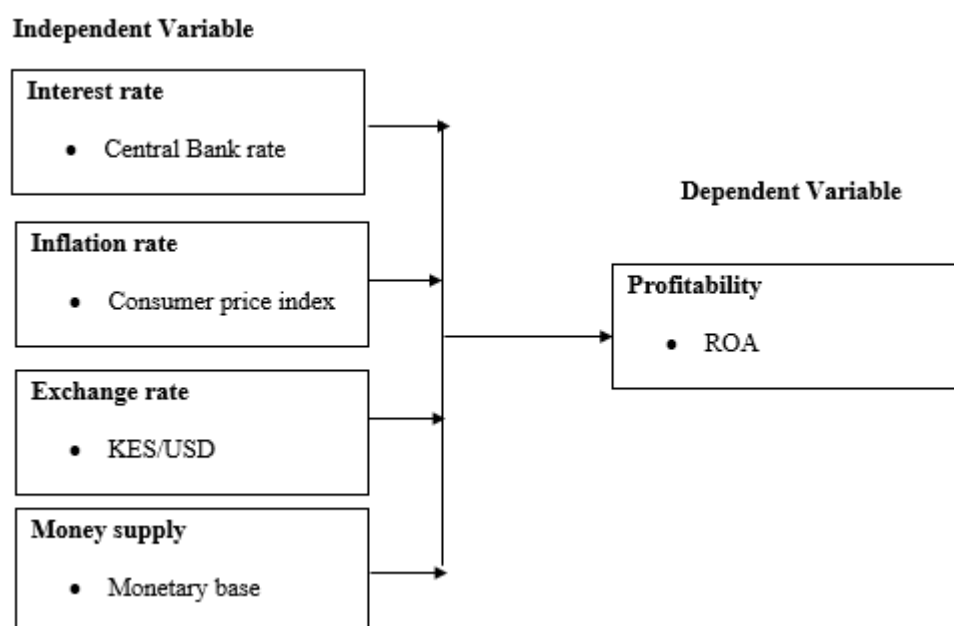


Figure 1: Conceptual Framework

Source: Researcher (2026)

4. RESEARCH METHODOLOGY

The study adopted descriptive research design. A panel regression model technique was adopted for the examination of data. The population was commercial banks and the target population was bank 22 Tier 3 commercial banks in Kenya. A census of 22 commercial banks was adopted. A secondary data collection sheet was used in collecting secondary data from existing sources such as Central Bank of Kenya, Kenya National Bureau of Statistics and Bank Supervision Annual Report. The analysis of data was done using descriptive and inferential statistical analysis. The findings were presented using tables.

5. FINDINGS

The descriptive statistics results on interest rate on profitability of Tier III commercial banks in Kenya are presented in Table 1.

Table 1: Interest rate on profitability of Tier III commercial banks

Variable	Descriptive statistics			
	Minimum value	Maximum value	Mean score	Standard deviation score
Interest rate (Central bank rate)	4.845	10.266	12.041	8.201

Source: Survey Data (2026)

The interest rate measures in terms of Central bank rate had a 4.845 as minimum value and 10.266 as maximum value, meaning that the Tier III commercial banks' interest rate on their profitability had a significant variation of 5.421, suggesting that these banks were applying a wider range of interest rates resulting to remarkable differences in profitability. The mean score was 12.041 and standard deviation score of 8.201, implying that the interest rates on profitability of these banks could vary significantly. The finding agrees with Onyango (2023) study indication that the risks associated with interest rate had presented a significant improvement on investment banks' financial performance.

Inflation Rate and Profitability

Table 2: Inflation Rate

Variable	Minimum value	Maximum value	Mean score	Standard deviation score
Inflation rate (consumer price index)	12.006	17.061	19.544	11.632

Source: Survey Data (2026)

The inflation rate measured in terms of consumer price index had a minimum value of 12.006, maximum value of 17.061, signifying that the Tier 3 banks profitability level presented a very unpredictable and sensitivity to deviations of inflation rate between that period within a range of 5.055 proportion points. The mean score value was 19.544 with a significant deviation as demonstrated by standard deviation score of 11.632 which meant that profitability of an individual banks differed considerably, signifying a varied financial performance or exposure to inflation-associated aspects within these banks. The finding aligns with Odidi & Jagong'o (2020) research observation that inflation affects the development of the country's economy.

Exchange Rate and Profitability

Table 3: Exchange Rate

Variable	Minimum value	Maximum value	Mean score	Standard deviation score
Exchange rate (KES/USD)	7.904	13.501	11.568	6.995

Source: Survey Data (2026)

The exchange rate measured in terms of KES/USD had a minimum value of 7.904 and maximum value of 13.501, signifying that the exchange rate had significantly fluctuated with the period studied presenting a potential risk or opportunities based on the banks' exposure to foreign cash. The finding indicates that on average, the exchange rate was 11.568 KES/USD which reflected distinctive rate of conversion for Tier 3 commercial banks within Kenya, with 6.695 as standard deviation of 6.995 demonstrating significant deviations. The result reflects substantial variations within the mean, which can be significant effect on profitability of these banks, foreign exchange businesses, hedging approaches and financial firmness. The finding is consistent with Ozcan and Shim (2021) research observation that when the home currency appreciates (depreciates), firms that have operation in foreign countries have debt in foreign currency.

Money Supply and Profitability

Table 4: Money Supply

Variable	Minimum value	Maximum value	Mean score	Standard deviation score
Money supply (monetary base)	11.505	15.467	14.596	10.254

Source: Survey Data (2026)

The minimum and maximum range of the monetary base between 11.505 and 15.467 respectively is an indication that there was a varied profitability margins amongst these banks could be due to variation within money supply, a suggestion that issues influencing the monetary base including government policy, economic settings, or banking industry dynamics had considerably improved profitability of these banks. The finding also indicated relative higher variations on banks' profitability as indicate by mean score (14.596) based on money supply and a significant deviation represented by standard deviation score (10.254) which shows that each bank's profitability score had a considerable deviation from the mean, signifying varied bank's profitability margins. The finding aligns with Nyabute and Makori (2020) who indicated that money supply and the bank's profitability significantly correlated.

Profitability

Table 5: Profitability

Variable	Minimum value	Maximum value	Mean score	Standard deviation score
Profitability (ROA)	3.561	10.945	11.154	5.776

Source: Survey Data (2026)

The profitability measured in terms of ROA ranged from 7.904 to 13.501 which showed that the ROA of these banks varied significantly with some banks performing efficiently and achieving a higher profitability margin compared to the others within the period examined. The mean score of ROA was 11.154 which was an indication that these banks had an average generation of profits around 11.15% in relation to their assets, though significant profitability variations was observed as demonstrated by standard deviation of 5.776, signifying that some banks had significantly performed above the average with others indicating a below average profitability margins. The finding corroborates with Karadayi (2023) research observation that ROA shows a bank is using its assets to make profit, when the ROA is high it is an indication that the profitability of the bank is high.

Diagnostic Tests

Table 6: Diagnostic Tests

Normality Test		
Variable	Statistic	Sig.
Interest rate	0.521	0.285
Multicollinearity Test		
Variable	VIF	Tolerance
Interest rate	1.025	0.976
Heteroscedasticity test		
Test used	Statistic value	Sig. value
Breusch-Pagan test	201.621	0.102
Autocorrelation Test		
Variable	Wooldridge test	
Interest rate	0.441	

Source: Survey Data (2026)

The normality test indicated that the significance value achieved after conducting normality test exceeded the threshold (0.05) which confirmed that the data did not had any significant deviation from normal distribution, signifying normality. The VIF value for was less than 5 at 1.025, demonstrating a general acceptance since the multicollinearity level was very low. Therefore, the reliability of the regression outcomes was supported. The study assumed that the variances of the residuals were constant within the model due to the absence of heteroscedasticity at 5% level since the significance value (0.102) was higher than 0.05. The Wooldridge test value was 0.441, giving an evidence of failing to reject the null hypotheses because these values were higher than the significance level of 0.005.

Inferential Statistics Results

Table 7: Panel Regression Analysis Results

Profitability (ROA) (Dependent Variable)	Coefficients	Std. Errors	t-Statistics	Prob. (p-values)
Interest Rate (IR)	-0.2451	0.0421	3.581	0.001
Inflation Rate (InfIR)	0.0363	0.0254	4.669	0.006
Exchange Rate (ER)	-0.0911	0.0127	-4.489	0.002
Money Supply (MS)	0.0034	0.0047	1.843	0.005
_cons	4.0163	1.0521	3.336	0.001
Wald $\chi^2(4) = 17.542$; Prb > $\chi^2 = .002$; Pseudo Rsq = .801				

Source: Survey Data (2026)

Source: Survey Data (2026)

Optimal Model

$$P_{it} = 4.0163 - 0.2451IR_{it} + 0.0363InfIR_{it} - 0.0911ER_{it} - 0.0034MS_{it} + \epsilon$$

Where;

P_{it} - Profitability

IR_{it} - Interest Rate

$InfIR_{it}$ - Inflation Rate

ER_{it} - Exchange Rate

MS_{it} - Money Supply

ϵ - Error term

The Wald $\chi^2(4)$ value was at 17.542, the Prob > χ^2 value was 0.002 and Pseudo R-sq. was at 0.801. Since the p value (0.002) below the 0.005, the general overall model was statistically significant. Therefore, the combined effect of independent variables had significant prediction on the profitability of Tier III commercial banks. The Pseudo R-sq of 0.801 suggested that roughly 80.1% of variations of banks' profitability could be explained by these four independent variables examined, indicating a higher model significance. This means that other variables not studied are represented by 19.9%.

All the hypotheses were rejected since interest rate, inflation, exchange rate and money supply had a p-value of less than 0.05. Therefore, interest rate, inflation, exchange rate and money supply had a positive and significant effect on profitability of Tier III commercial banks in Kenya.

6. CONCLUSIONS

Banks through determining their net interest income earned on loans and interest paid on deposits. An increase in interest rate makes the banks to raise interest charged on loans, possibly improving on their income on condition that there is stable the demand for loans. The changes on interest rates determines that borrowing power and lending conduct, risk on credits and the rate on loan defaulting, collectively determining banks' profitability levels.

The inflation rate affects banks operating expenses, loan repayment conduct, and interest margin. Higher rate of inflation usually increases the expenditure for banks related to increased wages and operational expenditures, eroding profitability margins. Higher rate of inflation could make the borrowers to default on loans if their earnings do align with inflation, raising non-performing loans rate which impairs profitability. A moderate inflation can occasionally be significant to banks profitability increase through charging higher interest rates on loans, thus broadening interest margins.

The exchange rate variations present a significant effect on bank profitability because a stronger Kenyan shilling compared to main currencies like the US dollar could minimize the expenses incurred on imports and reduce the worth of foreign-denominated liability, thus raising profit margins. The variations on exchange rate affects the banks foreign exchange transaction activities, with an unstable exchange rate presenting a challenge in making accurate predictions and management of risk associated with exchange rate.

The money supply influences interest rates, liquidity, and credit accessibility. Increase in money supply normally reduces the interest rate, reducing the banks' net interest limits, thus influencing their profitability. An extreme progress in money supply could contribute to inflation which can erode real revenues and increase the operational expenses. The variations on money supply can affect capacity in lending, management of interest rate risks and maintenance of a stable financial setting since they are smaller and less expanded.

7. RECOMMENDATIONS

Banks can put more emphasis on strategies influenced by interest rates like loan portfolio optimization through giving competitive but gainful interest rates. Manage effectively their interest distribution and diversify sources of their income sources such a fee-associated services. The banks should carefully track monetary policy variations to regulate lending and borrowing rates appropriately. The banks should improve on the management of risks to minimize the likelihood of non-performing loans. The banks should focus more on providing innovate product to attract diverse customer segments, thus improving interest income and general profitability.

The banks should focus much on asset base diversification to contain inflation-indexed tools like inflation-related bonds and treasury bills, to alleviate the effect of increasing inflation rate on their interest earnings. The banks should put more emphasis on loaning to industries that are not highly influenced by inflation like the manufacturing and technology industries. The banks can moderately raise charges and non-interest income sources including the service charges and commissions, to counterbalance the effect of reduced interest rates due to inflation.

The banks can implement active currency hedging policies to alleviate the effect of exchange rate variations on their foreign currency-denominated properties and liabilities. The banks can raise their contact to non-KES currencies over foreign currency-denominated credits and deposits, and utilize this to minimize their dependence on the KES. The banks can minimize their KES-denominated properties and liabilities and raise their foreign currency-denominated possessions and liabilities to minimized their exposure to potential KES depreciation. The bank can raise fees and commissions on foreign currency businesses to maximize returns. The banks can constantly monitor the exchange rate situation and regulate their risk administration strategies to guarantee a stable profitability under diverse exchange rate situations.

The banks can strategically manage their loan portfolios to exploit on the effect caused by money supply which could affects interest rates and credit request. The bank can focus on increasing their loaning activities through periods of improved money supply, which normally decreases the interest rates and lifts borrowing. The banks can expand their revenue sources through providing innovative monetary products and services that appeal a larger customer base. The banks can improve on their operational efficiency through technological progressions and cost administration to increase their profitability.

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