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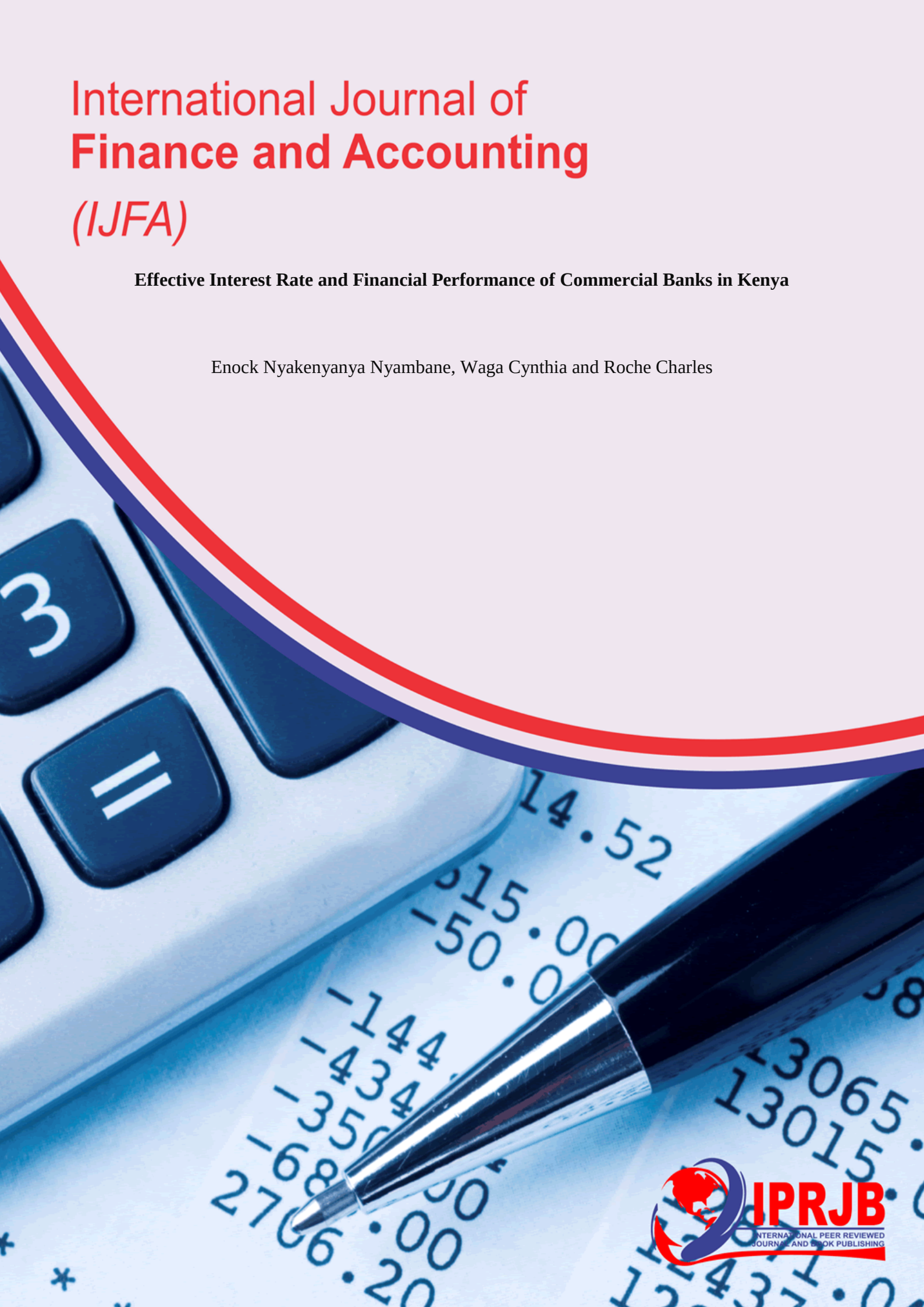

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Effective Interest Rate and Financial Performance of Commercial Banks in Kenya

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Abstract

Purpose: The collapse of some of the commercial banks in Kenya has sparked concerns over the financial performance of the banking industry in Kenya. Due to this challenge, stakeholders, including creditors, depositors, employees, and investors, have incurred huge financial losses. Interest rates are crucial macroeconomic indicators that significantly influence the cost of capital and borrowing for firms. Understanding how interest rates affect the financial performance of commercial banks holds significance for investors, policymakers, and corporate decision-makers. The study sought to establish the effect of effective interest rates on the financial performance of commercial banks in Kenya.

Methodology: ROA was used as a metric to measure financial performance. The study was guided by the Loanable Funds Theory. The study population comprised all 39 commercial banks in Kenya, employing a descriptive research design utilising a comprehensive dataset spanning ten years, from 2015 to 2024, comprising financial statements of commercial banks in Kenya and interest rate data from the Central Bank of Kenya. A census method was adopted. Data was encoded and processed using statistics software (STATA version 18). Descriptive statistics were produced for all the numerical data. Inferential statistics were employed using the panel regression model. The results were presented using tables.

Findings: The study revealed the R^2 value of 0.412, implying that 41.2% of the variations in the perceived financial performance can be explained by the variations in the effective interest rates, while factors not studied in this research contribute 38.8% of the variance in the dependent variable. Panel regression results concluded that effective interest rates have a positive and significant effect on the financial performance of commercial banks in Kenya, with a coefficient value of 0.03910.

Unique Contribution to Theory, Practice and Policy: The study recommended that commercial banks in Kenya and CBK should promote interest rate frameworks that enhance transparency, risk-based pricing, and competitiveness across the banking sector. The study recommends policies that encourage banks to optimise effective interest rates through ethical incorporation of fees and compounding structures, while ensuring full disclosure to borrowers.

Keywords: *Effective Interest Rate, Financial Performance, Commercial Banks*

INTRODUCTION

The financial strength of banking institutions is, of no doubt, associated with their long-term sustainability, where the most important need of any bank's leadership and management is to make profits on a continuous basis since this will guarantee the bank's going concern (Nguyen et al., 2018). The key primary function of commercial banks is to form a link between the customers and financial assistance. As an essential component of the financial system, commercial banks play an important role in allocating funds from borrowers and investors in a well-coordinated manner that enables parties, investors, and banks involved to gain profits (Ogunbiyi & Ihejirika, 2018).

According to Meslier et al. (2024), this critical role played by financial institutions and banks in acting as middlemen between the savers and the borrowers of funds and facilitating the free flow of funds cannot be overlooked. As compensation, commercial banks charge borrowers interest; conversely, most funds are provided by depositors, and they also receive interest (Khan & Sattar, 2024). When performing this role, commercial banks' primary goal is to earn interest revenue, which is the main source of income that greatly impacts the banks' financial success (Uniamikogbo, Okoye, & Chinazu, 2020). Lekan, Adekola, and Braide (2018) claim that banks grant loans and overdrafts to economic actors to promote investments and development plan activities that support both their own and the country's growth.

As a result, lower rates are thought to support inflation and the economy, while higher rates are believed to discourage business success and the overall health of the economy. According to Peretto, Martínez, and Alberto (2022), interest is defined as the cost of borrowing money or credit. Keynes (1973) defined it as the reward for not hoarding money. Interest rates have continued to be a topic of critical evaluation over time, with a variety of ramifications for encouraging investment and mobilising savings (Lee & Werner, 2018). Economic indicators across industries, especially those related to finance, are significantly impacted by poor interest rate decisions (Oluseyi & Salami, 2023).

The central bank uses the interest rate as a financial tool for monetary policy; when it raises its interest rate, it sends a signal to other financial institutions, including commercial banks, which will then follow suit. The high interest rate set by the central bank will compel other financial institutions to charge equally high rates because practically all of them are profit-driven, which will have a detrimental effect on investments as they influence the cost of capital, encompassing loans and mortgages, while also affecting returns on investments, such as savings and bonds, (Nazir, et al.,2022)). Borio (2017), Cochrane (2023), and Levrero (2019) list several interest rate types, such as nominal interest rates, yearly percentage rates, fixed interest rates, real interest rates, effective interest rates, and variable interest rates.

The financial performance of commercial banks in Kenya is closely linked to interest rate determination within the regulatory framework of the Central Bank of Kenya (CBK). Under CBK Prudential Guidelines, the effective interest rate (EIR) reflects the total cost of credit, incorporating not only the nominal lending rate but also additional charges such as processing fees, commissions, and other non-interest costs. These charges, though often not explicitly highlighted in the nominal rate, significantly increase the actual borrowing cost and constitute an important source of bank revenue.

While monetary policy decisions particularly adjustments to the Central Bank Rate (CBR) influence nominal interest rates, banks' profitability is also driven by fee-based income embedded within the EIR structure (Nazir et al., 2022). As Borio (2017) notes, the effective

interest rate accounts for compounding and associated costs over the life of a financial instrument, making it a more comprehensive measure than the nominal rate. In the Kenyan context, non-interest charges play a central role in shaping EIR and, consequently, bank financial performance through indicators such as return on assets and net interest margin (Kimani, 2021). Therefore, examining effective interest rates within the CBK regulatory framework provides a context-specific understanding of their impact on the financial performance of commercial banks in Kenya.

Statement of the Problem

The success of commercial banks in Kenya plays a pivotal role in the country's financial stability and economic development by offering financial services and acting as a network for financial intermediaries to both individuals and companies (Maina & Omagwa, 2020). Despite their crucial role in the economy, CBK (2023) has reported the fluctuating performance in the sector over time as measured by return on assets (ROA), with some banks closing their branches and others initiating redundancies. Looking at the performance in 2015, CBK (2016) reported a decline in ROA of 3.12% from 3.5% in 2014. During the years 2016 and 2020, the average ROA for commercial banks in Kenya indicated mixed results as reported by CBK (2017 – 2021). The figures ranged from 3.08%, 2.07%, 3.3%, 3.65% 2.19%, and 2.05% respectively. The figures indicate a mixed ROA, with some years indicating an increase in financial performance (2018 and 2019) while others show a decrease (2016, 2017, 2020, and 2021). The year 2022 saw a rise in ROA to 3.7%, only to drop to 3.2% in 2023 and 2.8% in 2024(CBK, 2025). According to the report, individual banks reported losses, with losses from Family Bank of KES 259.57M, Bank of Baroda KES 307M, and Eco Bank KES 2Billion. NBK recorded a loss before tax of Kshs 0.1B, down from a profit before tax of Kshs 0.8B in the financial year 2017 (Cytonn, 2018). NBK has since been acquired by the KCB group in the year 2019 (CBK, 2020). Chase Bank and Imperial Bank have gone under receivership due to fraudulent activities of substantial magnitude in the years 2015 and 2016, respectively. This trend has raised questions on the key issues affecting the financial performance of commercial banks in Kenya. Furthermore, the results obtained by the different scholars on this subject are not definitive, given that they have exposed inconsistencies in the body of existing literature in different sectors in the region. Examples among other studies include Chol (2022); Nyangor (2020); Muigai and Cherono (2019); Ngari (2021); Munir and Perveen (2021).In their research, Nyangor (2020), Munir, and Perveen (2021) found that interest rates hurt financial performance, Muigai and Cherono (2019), Ngari (2021) found that interest rates contributed positively to performance, while Chol's (2022) study found no effect. Moreover, there is a contextual void since previous studies have been carried out in economies other than Kenya. Chol (2022) researched Sudan's commercial banks, and Moyo, Delani, and Tursoy (2020) focused on the listed banks in South Africa. Zhang et al. (2017) concentrated on Chinese-listed commercial banks, whereas Khaled's (2022) study was in Jordan. Additionally, earlier studies used various approaches. Moyo, Delani, and Tursoy (2020) used Tobin's Q model, Rompotis (2024) used the GMM model for results analysis, while Muigai and Cherono (2019) used primary data. Despite the significant contributions of past studies, gaps persist in understanding the interplay between effective interest rates and the performance of the Kenyan banking sector. This study sought to close this knowledge gap by offering empirical data and insights into the relationship between effective interest rates and commercial banks' financial performance in Kenya.

Objective of the Study

The general objective of this study was to examine the effect of effective interest rates on the financial performance of commercial banks in Kenya.

Hypothesis of the Study

H_0: Effective interest rates do not have a significant effect on the financial performance of commercial banks in Kenya

Significance of the Study

The study plays a crucial role in helping the bank's management make well-informed decisions regarding effective interest rates and the risks associated with them, and implement management strategies, which will benefit the banking industry and boost shareholder wealth. In order to optimize interest rates, policymakers can decide how to modify their laws and regulations by determining the precise traits of banks that influence effective interest rates. The findings of this study could be used by policymakers to promote bank competition. When making investment decisions, particularly in an environment where government stances are unpredictable, investors will be able to benefit from the study's understanding of how the market responds to changes in government monetary policy on interest rates. Future research may benefit from the study's findings, which could advance our understanding of the variables influencing interest rate spreads. Scholars and academicians might further expand their knowledge on this topic by developing and testing new hypotheses based on the identification of the individual bank characteristics that influence the effective interest rate.

LITERATURE REVIEW

This chapter provided a comprehensive review of the relevant literature regarding the impact of effective interest rates on financial performance. The chapter is organised as follows: a theoretical examination of the independent variable, an empirical assessment of the existing literature, a summary of the reviewed literature, and the research gap.

Loanable Funds Theory

Bertil Ohlin (1930) developed the Loanable Funds Theory. The theory states that individuals and businesses save money and lend it to others who wish to invest in projects; the interest rate that borrowers pay determines the cost of employing these funds. According to the theory of loanable funds, the equilibrium rate of interest is the one that balances the supply and demand for loanable funds. Stated differently, the equilibrium interest rate is established at the intersection of the loanable funds' supply and demand curves. If there is more money available for loans than there is demand, interest rates will decrease; conversely, if there is more demand than availability for loanable money, interest rates will increase.

The theory makes the assumption that people save their earnings and invest them in order to generate a return and that these choices are founded on reasonable predictions of risks and rewards in the future. According to the theory, people and businesses are prepared to offer loanable funds at higher interest rates and demand loanable funds at lower interest rates. The interest rate is seen to be the price that balances the supply and demand for loanable funds (Romer & Romer, 2018). By altering the CBR, central banks, such as the Central Bank of Kenya (CBK), can control the total amount of loanable money. Due to higher interest rates, a higher CBR typically deters borrowing, hence lowering the demand for loanable funds. Consequently, equilibrium interest rates may rise (Cagan, 2024).

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Changes in the central bank rate can have a big impact on borrowing costs, depending on the financial performance of listed companies. The cost of borrowing goes up when the central bank raises interest rates, which boosts interest rates across the economy. Because of the higher cost of financing, businesses may become less interested in taking out loans as a result. On the other hand, a decrease in the central bank rate may result in reduced interest rates, which can encourage businesses to borrow money and make investments. The "effective interest rate" in the context of loanable funds theory is the actual interest rate a borrower pays on a loan after accounting for all fees, compounding, and other factors.

This, in turn, establishes the equilibrium point at which, according to the theory's central tenet of supply and demand dynamics, the market's demand for loanable funds (borrowing) and supply of loanable funds (savings) are equal. The market equilibrium interest rate, where borrowers and lenders agree on a credit price, is impacted by the effective interest rate, which is important since it directly affects the amount of loanable funds given and required. The effective interest rate provides a more realistic view of the true cost of borrowing money by accounting for all other expenses, such as compounding, prepayment penalties, and origination fees, even when the stated interest rate on a loan may be the advertised rate. The demand for loanable funds declines when the effective interest rate is high because it discourages borrowing and promotes saving, whereas a low effective interest rate increases borrowing and decreases saving.

The loanable funds hypothesis explains how interest rate fluctuations might impact the amount of capital available for business investments. Because borrowing becomes more expensive when interest rates are high, there is less demand for loanable funds, which discourages investment in companies and may lower their share prices. Conversely, when interest rates are low, borrowing becomes more affordable, which raises the demand for loanable funds. This may result in more money being invested in companies, which may boost the value of those companies' securities. The theory can help explain how changes in effective interest rates affect savers' ability to lend money; savings may rise during high interest rates because higher returns on investment translate into more loanable funds and, consequently, lower interest rates (Abel, Bernanke & Croushore, 2015).

Conceptual Framework

The conceptual framework illustrates the manner in which the independent variable and the dependent variable under investigation are related. The framework was created using the general and particular goals of the study as a guide. As a result, it highlights the relationship between effective interest rates and Kenyan commercial banks' financial performance.

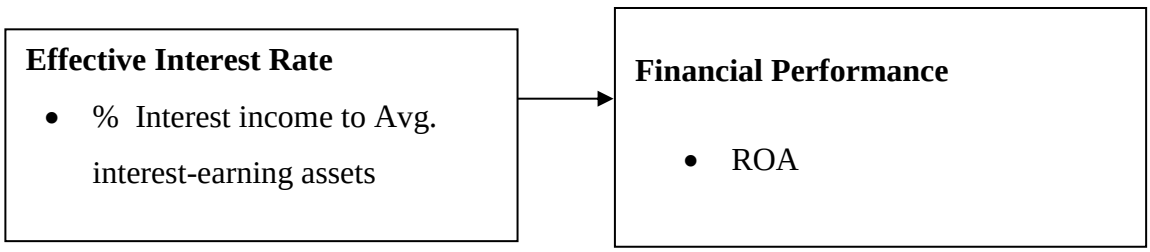

Figure 1: Conceptual Framework

Empirical Review

According to Alhassan et al. (2018), the effective interest rate is the weighted average of interest rates for all loan and deposit accounts within a specific industry. The effective interest rate is important for Kenyan commercial banks because it shows the true cost of borrowing for customers and the true return on deposits. This helps them manage interest rate risk, evaluate their profitability, and make well-informed lending decisions based on the true cost of funds, particularly when compound interest and other fees related to loans and deposits are taken into account (Ndiritu 2024).In summary, the financial performance of commercial banks, which play a crucial role in the allocation of economic resources by transferring cash from depositors to investors, is anticipated to be impacted by effective interest rates. Banks can only carry out this crucial function if they produce enough revenue to pay for the operating expenses they incur over time. Therefore, a study of bank effective interest rates is essential to comprehending the macroeconomic environment in which banks operate

Hossin (2023) sought to establish the impact of the effective rate on the financial performance of commercial banks in Bangladesh. Theoretical and empirical research on financial performance and effective interest rates was examined. Secondary data came from banks' consolidated financial statements and the World Bank database website. Descriptive statistics and other measures of central tendency were used in the research study to explain the data. Correlation analysis was used in the study to explain the relationship between effective interest rates and return on equity (ROE). The study discovered a negative relationship between financial performance and effective interest rate changes. However, the study was done in a developed economy, whereas the current study took place in Kenya, an underdeveloped nation. While ROA was used in this study to analyse financial performance, ROE was also used in the previous study to measure bank performance.

Moyo, Delani, and Tursoy (2020) conducted a study to assess the financial performance of South African commercial banks by determining the impact of the effective interest rate on their market value during the 2003–2019 timeframe. The independent variable was the interest rate, and the dependent variable was ROE. For the study, both the ARDL and DOLS models were used. According to the study's findings, there is a significant negative correlation between ROE and effective interest rates and the market value of South African commercial banks. However, this study will be undertaken on Kenyan commercial banks, whereas the previous research study was limited to four commercial banks.

Munir and Perveen (2021) examined the relationship between share price volatility and effective interest rates for South Sudanese commercial banks. The thirty commercial banks in South Sudan were the study's target population. The study's longitudinal cohort research methodology made use of the purposive sampling technique. Face validity was used to test the validity of the data. The study employed panel data for the years 2014–2020 that were gathered from the World Bank, the Central Bank of South Sudan, and the websites of commercial banks. Analysis of the data includes descriptive statistics and multiple regression. The study's findings demonstrated that effective interest rates significantly improved South Sudan's commercial banks' financial performance.

Nyangor (2020) did a research study on the effects of effective interest rates on the financial performance of Collective Investment Schemes (CIS) in Kenya. The study's population consisted of 19 licensed CIS utilising a case study design. The Capital Market Authority, KNBS, and CBK provided the quarterly secondary data used in the research project, which

covered the ten years from 2010 to 2019. Regression analysis was applied for analysis based on unit trusts, money market funds, balanced funds, equity funds, and fixed income funds to examine the findings. The findings showed that the effective rate has a positive and significant effect on the collective investment schemes' financial performance in Kenya. The study, however, targeted investment schemes while the current study targets commercial banks.

Kipngetich (2021) conducted a study on the relationship between the effective rate and the financial performance of Kenyan commercial banks. The study utilised interest rates as the independent variable and financial performance as the dependent variable, using ROE as the performance indicator. The study covered a five-year period with secondary data collected from NSE websites and reports, CBK, and the commercial banks' websites. The study employed multiple linear regression for inferential analysis. The study concluded that effective interest rates and the financial performance of commercial banks are positively correlated. The study period of five years was, however, limited to give a generalised conclusion. The current study has been conducted for one year.

Critique of the Existing Literature

The review reveals a number of criticisms. The majority of academics and researchers have described the manner in which the effective interest rate impacts financial performance. However, as different researchers have produced varying results, the question of whether the impacts are either positive or negative highlights the disparities. Methodologically, some studies were limited to historical data, which may not capture current situations. The majority of the studies employed multiple regression analysis to assess the relationship. Beyond Kenya, studies have covered various sectors and countries. Osterholm (2016) focused on stock market volatility in Sweden, Mkhize's (2022) study was done in South Africa, while Hossin (2020) sought to establish the impact of effective interest rates on the financial performance of commercial banks in Bangladesh. Therefore, this study aimed to close this relevant gap in the literature by employing a thorough methodology to investigate the effect of effective interest rates on the financial performance of commercial banks in Kenya.

Research Gap

The existing body of research on the connection between effective interest rates and commercial banks' financial performance highlights a number of important gaps that need to be filled in order to have a deeper knowledge of this intricate relationship. Contextually, the majority of research on the effects of effective interest rates and financial performance on commercial banks was conducted in different countries, which might have limited how broadly the results can be applied. Methodologically, much of the research has primarily utilised historical data, which might not accurately reflect the situation now. Furthermore, even though some studies have focused on the connection between effective interest rates and financial performance, there isn't enough proof to show that effective interest rates have a substantial and obvious effect on improving financial performance. This suggests that more thorough and reliable analyses are required.

METHODOLOGY

A quantitative research approach served as the foundation for the study. To gather comprehensive data, a descriptive research design was employed, and to determine whether cause-and-effect linkages between variables exist, a causal quantitative design was employed (Cooper & Schindler, 2008). The target population for this study was 38 commercial banks in Cytonn Report (2024). The study employed a census technique for a period of 10 years, from

2015 to 2024. Because of the limited population, a census was used in this study. This method provided in-depth insights that cover a wide range of aspects of the problems being studied. A secondary data collection sheet was used to gather and extract the required secondary data from the financial statement. Data for every variable in the study were taken from the websites of commercial banks, CBK, and NSE reports and websites, audited annual reports and financial statements, and annual published reports. After coding, the data were transferred into STATA 18 for analysis. Both inferential and descriptive statistics are used to analyse the data. Standard deviations, skewness, kurtosis, mean, minimum, and maximum were among the descriptive statistics. Pearson's correlation analysis and panel regression analysis were used as inferential statistical tools.

The panel regression model was used in the study. The overall significance of the model was evaluated using the analysis of variance using the F statistics at the 95% confidence level.

The regression equation that was applied is shown below.

$$Y_{it} = \beta_0 + \beta_1 EIR_{it} + \varepsilon_{it}$$

Where ***Y*** is the financial performance of listed commercial banks

β_0 represents the constant or coefficient of the intercept

β_1 represents the coefficients of the independent variable

EIR represents the effective interest rate

it represents indices for individuals and time

ε_{it} represents the error term that varies non-stochastically over i and t

FINDINGS AND DISCUSSION

This chapter gave background information on the topic and helped to determine preliminary results by laying a strong basis for the whole process of the defined topic.

Descriptive Statistics

Holcomb (2016) observed that descriptive statistics are important because they enable the presentation of data in a meaningful way, and consequently allow for a simpler interpretation and allow patterns to emerge from the data. The study sought to analyse descriptive statistics by applying the composite measures of central tendency and measures of dispersion to summarise, organise, and describe the distribution of the data objectively. Table 1 summarises the descriptive statistics results.

Table 1: Descriptive Statistics Results

	Obs.	Min	Max	Mean	Std Dev.	Skewness	Kurtosis
Effective Interest Rate	390	0.0740	0.1200	0.2285	0.0377	-1.614	4.082
Financial Performance	390	0.0000	0.3941	0.1842	0.1081	1.781	3.154

The descriptive results in Table 1 reveal that the effective interest rate had a mean of 0.2285, a minimum of 0.074, a maximum of 0.1200, and a standard deviation value of 0.0377. This shows that, on average, Kenyan commercial banks' annual rate of return or cost of borrowing after considering the compounding effects was 22.85%. While some commercial banks were

charging the effective rate as high as 12% above the set CBK rate of 7% to 13% during the period under review (CBK 2017 – CBK 2025), others charged as low as 7.4%. This is shown by the maximum and minimum values of 0.1200 and 0.074, respectively. The standard deviation indicates that effective interest rates fluctuate and, therefore, commercial banks can adjust their rates from one period to the next. However, the fluctuation has a low variability, with a standard deviation of 3.8% compared to the mean. The effective interest rate had a skewness of -1.614, indicating a high degree of negative skewness, meaning that the distribution has longer tails on the left side with more extreme high values lying on the asymmetric left tail of the distribution. According to Hitti (2022) and Brown (1997), a skewness value between -1 and +1 is generally considered acceptable, while values outside of this range (specifically, beyond -2 and +2) suggest substantial non-normality. The Kurtosis coefficient of 4.682 indicates a slightly leptokurtic distribution, meaning it has a higher peak and heavier tails than a normal distribution. The kurtosis value of 4.082 is close to the kurtosis of a normal distribution (which is 3), therefore considered to be acceptable since it lies between -4 and +4, which is the acceptable normal univariate distribution (Bai,2005; Arnau,2014) and (Wulandari, 2021)

The study aimed to evaluate the financial performance of commercial banks in Kenya in line with the dependent variable. Table 4.1 reveals that the average ROA measuring the financial performance was 0.1842, signifying that 18.42% of commercial banks in Kenya set their interest rates (effective interest rate, real interest rate, nominal interest rate, and fixed interest rate) exceeding the CBK reference rates, and this had a significant impact on the financial performance of these banks. The financial performance of commercial banks varied significantly, with a range from 0.000 to 0.3941. This suggests that while some banks did not effectively use interest rates to improve their financial performance (at 0%), others demonstrated a strong utilisation of interest rates to drive financial success, reaching a maximum of 39.41%. The standard deviation of 0.1081 (10.81%) for commercial banks' ROA compared to the mean of 0.1842 (18.42%) indicates that the ROA is low compared to the mean, indicating less fluctuations from one period to the next, thus mitigating the risk that can arise due to volatility. The results indicated a skewness coefficient of 1.781, signifying a highly positively skewed distribution. This means the data is skewed to the right, with a longer tail extending towards higher values. A kurtosis coefficient of 3.154 suggests a leptokurtic distribution, meaning it has a higher peak and heavier tails than a normal distribution, but not excessively so, as it's closer to the normal distribution's kurtosis of 3 (mesokurtic) than it is to a very peaked distribution. However, the skewness and kurtosis values were within the required threshold of a normal distribution as indicated by Bai (2005), Arnau (2014), and Wulandari (2021).

Trend Analysis

According to Elizabeth, Mathew, and Cena (2020), trend plots are essential tools for researching, forecasting, and predicting variables in a variety of fields since they show a variable plotted against time. These plots support the identification of temporal trends, enabling well-informed decision-making in a variety of domains.

Time Series Plot for Interest Rates and Financial Performance

The study sought to identify the trend analysis for effective interest rates and financial performance. Figure 1 indicates the time series results between the period of 2015 and 2024

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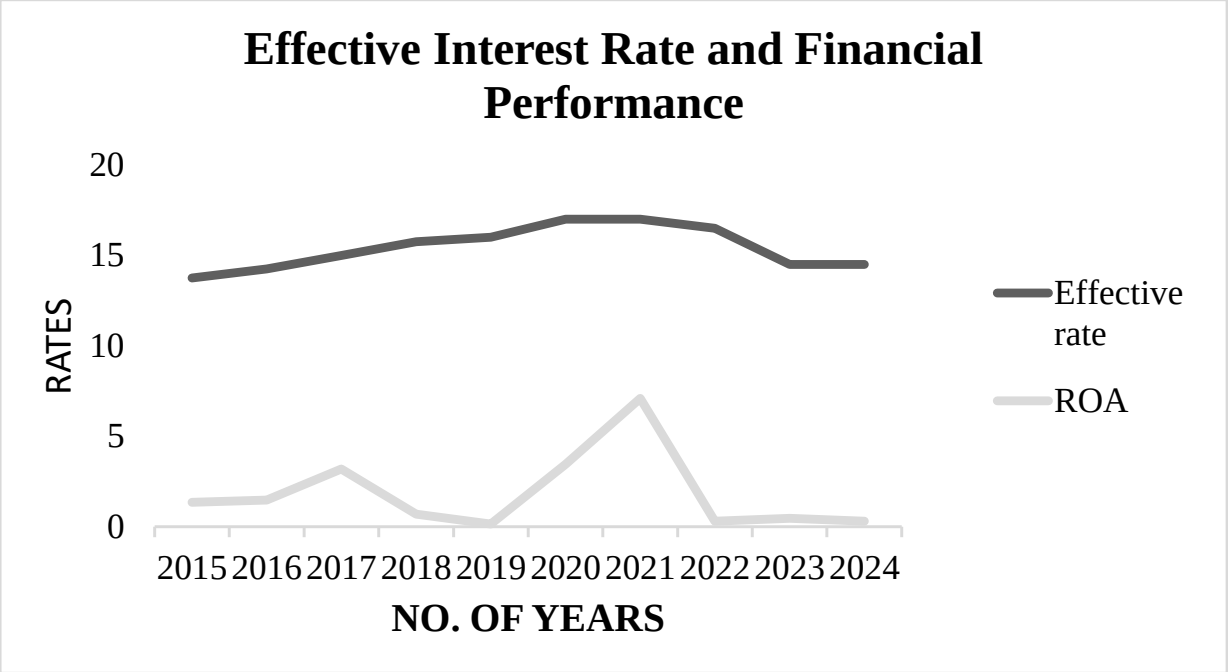

Figure 1: Trend Analysis for Effective Interest Rates and Financial Performance

Figure 1 shows the trends that the effective interest rate (darkest line) steadily increased from 2015 (~14%) to peak around 2021 (~17%) but declined notably after 2022 to stabilise at ~14.5% by 2024. ROA, as the measure of financial performance (lightest line), showed volatility where it sharply rose in 2018, peaked in 2020, dropped dramatically in 2021, and then remained flat near zero from 2022–2024. The insights and interpretations of the findings from 2015–2021 coincide with increasing ROA until 2020, suggesting an initial positive impact on the financial performance of commercial banks in Kenya. The crash of ROA in 2021, despite continued high interest rates, suggests a potential shock event that may be due to rising cybersecurity risks, the COVID-19 pandemic's aftereffects, and possible challenges brought on by low loan rates. Due to a rise in non-performing loans and conservative lending standards, the pandemic's effects on the economy, commercial activity, and supply chains had a direct effect on bank profits. Furthermore, banks encountered difficulties adjusting to the digital revolution, controlling risks such as cybersecurity attacks, and negotiating changing regulations.

Inferential Statistics Results

Inferential statistics were employed to evaluate the relationship between effective interest rates and the financial performance of commercial banks in Kenya and draw broad conclusions about the firms. To investigate the causal relationship between the independent and dependent variables, panel data analysis was used. The test of significance method was used in the study to evaluate the hypotheses, and it involved determining the significance of the regression coefficients. A probability value was utilised to calculate the significance level.

Correlation Analysis

Correlation analysis was conducted to determine the relationship that existed between interest rates and the financial performance of commercial banks in Kenya. Pearson's coefficient of correlation (r) was utilised to give a value between +1 to -1. Where 1 indicates a strong positive

relationship, -1 indicates a strong negative correlation, and 0 indicates no relationship. The results are presented in Table 2.

Table 2: Correlations Coefficients

Correlation		ROA	Effective Interest Rate
ROA	Pearson Correlation	1	
	Sig.(2-tailed)		
Effective	Pearson Correlation	0.7412 **	
Interest Rate	Sig.(2-tailed)	0.0001	1
N	39	39	39

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

The results in Table 2 revealed the correlation result between effective interest rates and the financial performance of commercial banks in Kenya. The coefficient value of effective interest rates was 0.7412 with a P = 0.0001 (P < 0.05), which shows that the correlation was positive and significant. The results are in agreement with Ndiritu (2024), who opines that a strong positive relationship indicates that higher effective interest rates are associated with better financial performance. Alhassan et al. (2018) support the findings and posit that when banks earn more from interest on loans (after accounting for fees and compounding), they become more profitable.

Regression Analysis

The study sought to examine the relationship between the effective interest rate and the financial performance of commercial banks in Kenya. Panel regression analysis was done to obtain the R coefficient and R-squared that determined the relationship. The study sought to identify the extent to which the independent variable explains the changes in the dependent variable. The coefficient of determination (r^2) was applied to explain the extent of these changes. Table 3 explains the model summary.

Table 3: Model Summary

Model 1	Multiple R	R Squared	Adjusted R Squared	S.E Regression	Obs
ROA	0.642[a]	0.412	0.407	0.03830	390

Table 3 indicates the results of the model summary, with Multiple R showing the correlation coefficient between the observed and predicted values of 0.642. The correlation coefficient depicted a moderate relationship between the effective interest rate predictor variable and the financial performance of commercial banks in Kenya. The coefficient of determination R^2 is a measure that provides information about the goodness of fit of the model. In the context of regression, it is a statistical measure of how well the regression line approximates the actual data. The model explains approximately 41.2% of the variation in ROA ($R^2 = 0.412$), which is acceptable for financial panel data. This implies that the variations in the percentage of effective interest rate explained 41.2% of the variations in the ROA; thus, the variable had a predictive/explanatory power on the financial performance of commercial banks in Kenya. Other factors not included in this study model explain the remaining 58.8% of the variation in the financial performance of commercial banks in Kenya.

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The adjusted R-squared, which is a modified version of R-squared, takes into account how many independent variables can be added or adjusted to improve the regression model to increase the reliability of that model. In other words, the adjusted R-squared shows whether adding additional predictors improves a regression model or not. The results of the adjusted R^2 of 0.407 imply that if additional predictor variables are taken into account, 40.7% of the variations in the percentage of effective interest rate will improve the financial performance of commercial banks in Kenya. The standard error of the regression is the average distance that the observed values fall from the regression line. The standard error as revealed by the study was 0.03830, which indicates a high accuracy of the prediction made in this study. This implies that the observed values fall an average of 0.03830 units from the regression line. The low standard error is good since it shows that the sample means are closely distributed around the population mean, therefore, a good representative of the population.

Analysis of Variance (ANOVA)

Analysis of Variance (ANOVA) was adopted to test the differences among means for the population by evaluating the amount of variation within the sample, relative to the amount of variation between the samples. The results are presented in Table 4.

Table 4: ANOVA Results

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.257	2	0.3143	11.996	0.001 [b]
	Residual	0.892	36	0.0262		
	Total	2.149	38			

The F-statistic is a test based on the ratio of explained variance to unexplained variance in a regression model. It assesses whether the overall regression model provides a better fit to the data than a model with no independent variable. In other words, it tests the null hypothesis that the regression coefficient is equal to zero, indicating whether the independent variable has a statistically significant effect on the dependent variable. From the ANOVA results, the F-statistic was 11.996, and the corresponding P value was 0.001 (0%). The overall F-statistic is significant ($p < 0.001$), confirming that the effective interest rate influences bank performance. Therefore, we reject the null hypothesis that the model is insignificant and conclude that effective interest rates have a significant effect on the financial performance of commercial banks in Kenya.

Regression Coefficient Results

The study employed a Random Effects Panel Regression Model to estimate the effect of effective interest rate on the Return on Assets (ROA) of commercial banks in Kenya. To address concerns of heteroskedasticity and autocorrelation**,** the study applied Newey-West (HAC) robust standard errors. The coefficient results are shown in Table 5

Table 5: Regression Coefficients

Robust	Coefficient		t-value	P-value	[95% Conf.	Interval
	B	Std Error				
	0.01872	0.00734	2.550	0.011	0.06271	0.29800
	0.03910	0.00987		0.000	0.16226	0.75721

The output generated in Table 5 is summarised in the equation;

$$Y = 0.01872 + 0.03910EIR_{it}$$

Where ***Y*** is the financial performance of commercial banks in Kenya

EIR represents the effective interest rate

It represents indices for individual firms at time t

Hypothesis Test Results

H_0: Effective Interest Rate and Financial Performance of Commercial Banks in Kenya

The objective of this study was to determine the effect of effective interest rate and the financial performance of commercial banks in Kenya. The null hypothesis (H_{01}) indicated that the effective interest rate has no significant effect on the financial performance of commercial banks in Kenya. The coefficient for EIR resulted in 0.03910 and is statistically significant at the 5% level (p = 0.000). This implies that, holding other factors constant, a unit increase in the effective interest rate leads to a 3.91% increase in ROA. The increase significantly impacts the financial performance of these at a 0.05 significance level. This strong positive effect indicates that commercial banks in Kenya benefit significantly from maximising their effective interest yields, including compounded returns and loan-related fees. The study thus rejected the null hypothesis and concluded that EIR has a significant effect on the financial performance of commercial banks in Kenya.

The findings resonate with those of Omondi & Muturi (2021), Osterholm (2016), Mainya (2022)**,** Munir and Perveen (2021), Nyangor (2020), and Kipngetich (2021). Mainya (2022) found that Kenyan banks that strategically adjusted their EIR in response to market conditions experienced improved profitability metrics. Similarly, Omondi and Muturi (2021) observed that effective interest pricing significantly boosts financial sustainability, especially when linked with credit risk scoring models.

Hossin (2023), Moyo, Delani, and Tursoy (2020) found a negative relationship between the effective interest rate and financial performance. Mwangi and Wanjala (2020), however, observed that under a capped interest rate regime, EIR had no significant influence on profitability among Tier 2 and Tier 3 banks. Were and Wambua (2014) also concluded that the CBK has historically imposed interest rate caps and floors**,** limiting banks' pricing flexibility, restricting the ability of commercial banks to pass on costs or price risk appropriately, thereby weakening the link between EIR and profitability.

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter summarises the results from Chapter four and offers the study's conclusions and suggestions based on its objective. The main objective of this study was to establish the effect of effective interest rate and the financial performance of commercial banks in Kenya.

Summary

The study specifically sought to determine the effect of effective interest rate on the financial performance of commercial banks in Kenya. The study employed quantitative research as the main approach to guide the study. The target population was 39 commercial banks registered in Kenya. The summary of key findings is given below.

Statistical tests on the null hypothesis revealed that there was a significant relationship between the effective interest rate and the financial performance of commercial banks in Kenya. The correlation results yielded a strong positive correlation between effective interest rate and financial performance. This implied that commercial banks in Kenya benefit significantly from maximising their effective interest yields, including compounded returns and loan-related fees. The null hypothesis was thus rejected, and the conclusion was made that the effective interest rate increases the financial performance of commercial banks in Kenya

Conclusion

The study concluded that effective interest rate positively impacts the financial performance of commercial banks in Kenya. This finding underscores the importance of financial intermediation theory, which posits that banks are profit-maximising entities that rely heavily on interest rate spreads**.** A well-calibrated EIR not only ensures margin adequacy but also helps absorb shocks from interest rate volatility or non-performing loans. The positive and statistically significant effect of EIR on ROA affirms that interest income optimisation through effective pricing is a critical driver of bank financial performance in Kenya.

Recommendations

First, commercial banks should adopt risk-based pricing to align lending rates with borrower risk profiles, maximising interest income while minimising defaults. Additionally, leveraging digital lending platforms can boost profitability through high-yield, short-term loans and lower operational costs.

Another crucial recommendation is for banks to transparently incorporate non-interest charges into loan pricing to boost effective yields while maintaining ethical standards. Additionally, strengthening asset-liability management (ALM) is essential to align funding costs with returns, minimise interest rate risk, and protect net interest margins. Furthermore, commercial banks should regularly review their product mix to focus on high-EIR, low-risk sectors like SME and consumer lending. To support this, they must invest in systems that ensure accurate EIR calculation and reporting, enabling compliance, effective monitoring, and informed decision-making.

Regulators such as the CBK should promote interest rate frameworks that enhance transparency, risk-based pricing, and competitiveness across the banking sector. Policies should encourage banks to optimise effective interest rates through ethical incorporation of fees and compounding structures, while ensuring full disclosure to borrowers. These policy measures would enhance profitability, improve credit accessibility, and reinforce financial stability within Kenya's banking sector.

Suggested Areas for Further Research

Using secondary data from audited financial statements and regulatory filings, researchers can compare the effect of effective interest rates on profitability across different bank sizes, ownership types (local vs. foreign), and operational models. Cross-country analysis involving economies with similar financial structures can also be studied to help determine whether the

observed relationships between interest rates and bank performance in Kenya are consistent or unique.

A study could analyse whether effective interest rate effects on bank performance differ across urban and rural bank branches, or among counties with varying economic activity levels.

While the current study examined the relationship between effective interest rates and the financial performance of all commercial banks in Kenya, future research could narrow its scope to specific sub-groups within the banking sector. For instance, a similar study could be conducted exclusively on commercial banks listed on the NSE, which are typically larger, more transparent, and subject to stricter disclosure requirements. Alternatively, the analysis could focus on banks categorised by tier: Tier I, Tier II, and Tier III as defined by the CBK.This would not only validate the robustness of the current study's findings but also provide targeted insights for policymakers, investors, and bank managers operating within specific categories of the banking industry.

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