

# Effect of Interest Rate Spread on Performance of Commercial Banks in Kenya


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## ABSTRACT

The interest rate spread has, over a long time, generated a lot of attentiveness in the banking sector in Kenya. This has been due to the huge gap that prevailed between the deposit rate and the lending rate and its impact on the performance of the banking sector. Thus, the objective of the study is to determine the effect of interest rate spread on the performance of commercial banks in Kenya. A descriptive research design was employed, utilizing secondary data from 42 commercial banks in Kenya spanning from 2008 to 2018. A random effects model was used to assess the existence of the causal effect between the two variables. The findings revealed a positive and significant relationship between interest rate spread and the performance of the banks.

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## 1. INTRODUCTION

Commercial banks have a decisive role in any economic system since they are the pivot through which the savers and borrowers are linked. Their intermediation role mitigates adverse selection and moral hazards (Howells & Bain, 2008). The industry also chooses who will use society's savings through their allocation, thus driving economic growth. As they lend to the government and the private sector due to the underdeveloped security markets, the banks contribute significantly by lowering the cost of capital and promoting efficient resource allocation. It is vital, therefore, to shrewdly examine and appraise commercial banks' performance to ensure their financial system remains healthy for a vibrant economy.

The dynamics of interest rate spread and its profound implications on the performance of commercial banks have been the subject of extensive exploration by various scholars. Interest rate spread, often defined as the difference between deposit and loan rates, serves as a critical metric reflecting the net income relative to all earning resources of a financial institution (Brock & Rojas-Suarez, 2000). The intricate relationship between interest rate spread and firm performance is characterized by the risks associated with volatile interest rate regimes, including diminished equity value, lower asset returns, and increased cost of funds for risk-averse banks (Crowley, 2004; Emmanuelle, 2003).

The Klein-Monti Model postulates that monopolistic banks, armed with market power, can manipulate interest rate spreads by adjusting the difference between deposit and loan rates (Klein, 1971). However, this model introduces unpredictability, particularly concerning loan requests and deposits and the subsequent risk associated with defaulting customers (Da Silva *et al.*, 2007). The resulting inefficiencies manifest in high operational costs, market risks, and a lack of competitiveness, hindering economic development and regional financial integration (Gilchris, 2013). Nevertheless, wide interest rate spreads may enhance bank returns and overall system health in certain scenarios (Saunders & Marcia, 2004).

The variation in interest rate spreads across economies is attributed to the nature and efficiency of their financial sectors, influencing the cost of deposit mobilization and allocation to productive uses (Jayaraman & Sharma, 2003). Macro instability in interest rates poses a threat to a bank's financial performance, diverting resources to markets with stable interest rates and impeding local and foreign investments (Sayed, 2013). The direction of the association between financial performance and interest rates remains elusive, with contradictory findings in existing studies (Gilchris, 2013).

The banking sector in Kenya has grappled with the repercussions of economic downturns, including inflationary episodes and stringent regulatory policies. The unprecedented inflationary period in the 1990s prompted

a shift in banking investments towards safer government bonds and bills, limiting lending to the private sector (Ngugi, 2001). While such measures aimed at stabilizing the economy, they led to a decline in interest income and increased non-performing loans, triggering a significant crisis with repercussions such as layoffs and the closure of networks. Additionally, regulatory interventions, such as the Banking Act of 2016, which imposed limitations on interest rates, have generated mixed reactions within the industry. While intended to enhance access to credit by controlling overall credit costs, these measures have faced resistance from industry players, leading to calls for their repeal (Central Bank of Kenya, 2017). Navigating these policy challenges has proven to be a persistent hurdle for banks in Kenya.

The Kenyan banking sector has witnessed instances of bank failures, with institutions such as Dubai Bank Kenya Limited, Imperial Bank, Euro Bank Limited, and Chase Bank placed under receivership. Reasons attributed to these failures include non-performing loans, poor management practices, and inadequate lending policies (Ongore & Kusa, 2013). These failures underscore the importance of effective risk management strategies and prudential oversight to safeguard the stability of the banking sector.

Despite the significant contributions of past studies, gaps persist in understanding the interplay between interest rate spread and the performance of the Kenyan banking sector. Existing literature on the relationship between interest rate spread and the performance of commercial banks in Kenya is shallow. This study aimed to fill this gap by providing empirical evidence and insights into the dynamics between interest rate spread and the performance of commercial banks in the Kenyan context.

### 1.1. Objective of the Study

To establish the effect of interest rate spread on the performance of commercial banks in Kenya.

## 2. LITERATURE REVIEW

### 2.1. Theoretical Framework

The study was based on three theoretical perspectives: Liquidity Preference Theory (LPT), Asset Liability Management (ALM) theory, and Modern Portfolio Theory (MPT). This study is anchored on the Liquidity Preference Theory (LPT), which was introduced by Keynes. According to LPT, the decision on how much income to save or spend is defined as liquidity preference and interest rates are determined by the overall demand and supply of money (Keynes, 1936). Transaction, precautionary, and speculative needs influence this demand (Akpan, 2004). Transaction needs arise due to limited incomes and continuous expenditures, leading individuals to keep assets in cash for daily requirements. Precautionary needs involve holding cash to mitigate future unforeseen outcomes directly proportional to income. Speculative needs depend on interest rate movements, creating an inverse relationship. LPT explores interest rates from both demand and supply perspectives, emphasizing the role of monetary policies (Keynes, 1936).

However, LPT faces limitations, such as indeterminacy disorder in interest rate determination until earnings are established (Hicks, 1980). The theory also oversimplifies investor behavior, assuming a binary choice between riskless cash and risky bonds. Real factors are often neglected, and applicability is limited to well-organized markets (Clair, 2004). Despite these limitations, LPT plays a crucial role in understanding the impact of interest rates on monetary policies and the banking sector's performance, especially in managing interest rate spread and liquidity creation.

The Asset Liability Management (ALM) theory, pioneered by Leibowitz, focuses on managing assets and liabilities differently based on the firm's stage in the macroeconomic cycle (Leibowitz, 1986). ALM involves aligning the effects of interest rates on assets and liabilities to mitigate risks and enhance profitability. By matching cash inflows to outflows, firms can control liquidity risks associated with market, credit, operational, and business factors (Choudhry, 2011). However, ALM faces challenges such as the need for accurate data, differing institutional frameworks, and the reliance on estimates and assumptions. ALM's significance lies in its ability to link returns and top management team (Leibowitz, 1986). As firms grow, effective management improves income and overall performance.

The Modern Portfolio Theory (MPT), developed by Harry Markowitz, guides investors in constructing portfolios to minimize risk for a given return (Iraya, 2014). MPT emphasizes diversification to reduce unsystematic risk while acknowledging the inherent market/systematic risk. It assumes investors are risk-averse and aims to balance risk and return in a portfolio. However, MPT faces challenges in aligning with real financial markets due to assumptions of perfect rationality and information symmetry (Howells & Bain, 2008). The model assesses assets based on variance rather than underlying risk. MPT serves as a foundation for understanding the dependent variable of firm performance by evaluating portfolios for positive returns. It aids investors in navigating changing interest rate regimes and limited cash resources, contributing to sound decision-making and positive shareholder outcomes.

### 2.2. Empirical Review

Several studies have explored the relationship between interest rate spread and firm performance. Sarpong et al. (2011), while determining the cause of the widening interest margins in the Ghanaian economy, showed that interest rate spreads significantly impacted market share, operational costs, and non-performing loans from the prior year. The study recommended that banks improve their efficiency so that they reduce their fees and operation costs to reduce interest rate spread. The study's small sample size of twenty banks limited generalizability.

Apir (2010), while establishing an association among interest rates, bank loans, and customers' savings, used chi-square to analyze the data and found a profound and complex effect of interest rate changes on a firm's returns. Though the study was based on one banking institution limiting its generalization, it informed the

need to be keen on interest changes within the banking industry.

Owusu-Antwi et al. (2017) studied the impact of interest rate spread on bank profitability in Ghana. Twenty-eight commercial banks made up the study’s sample. Using unbalanced panel data from 1992–2015, they analyzed the macroeconomic and bank-specific variables that affected the banks’ returns. They concluded that the interest rate spread was affected by factors unique to each bank. These factors were return on asset, net interest income, operational cost, and total assets.

Rusuhuzwa et al. (2016), while analyzing the components of rates of interest spread in Rwanda using dynamic panel data generalized method of moments estimation, utilized six financial institutions as the population for their research study. Utilizing financial institution bank-level quarterly data, their findings verified that risks connected with providing out funds affect the rates of interest spread. Using an extremely low population made it impossible to generalize the results to Rwanda’s economy and other African economies.

Alhassan et al. (2018), in their study to evaluate the impact of the interest rate spread on the banking profitability in Ghana, used a sample size of twenty-four banks over ten years. While using panel data and analyzing the data using a quantitative approach, the study concluded that contrary to anticipation, bank profitability had a direct relation to interest rate spread.

Khan and Sattar (2014) studied Pakistan’s four major banks from 2008 to 2012. Using correlation analysis, they found a statistically significant relationship between profitability and interest rate spread in their economy. This led to their deduction that the big gap between the lending and the deposit rate in Pakistan’s banking industry could have led to the absorption of any major shift in the rates. The population of the study was, however, too low to be generalized.

In summary, the highlighted studies offer insights into the broader relationship between interest rate spread and firm performance. However, few studies explicitly focus on a causal relationship between the two variables, indicating a gap in the existing literature on this specific aspect. This study aimed to research this casual dynamic to provide a more comprehensive understanding of the interplay between these variables in the context of commercial banks in Kenya.

2.3. Research Hypothesis

H<sub>0</sub>: Interest rate spread does not have a significant effect on Performance of Commercial Banks in Kenya.

2.4. Conceptual Model

Fig. 1 below is a visual representation of the relationship between the variables which is interest rate spread influence on the Performance of Commercial Banks in Kenya.

3. METHODS

This study adopted a descriptive design grounded on the positivism research philosophy. Positivism embodies the view that knowledge is dependent on observable evidence that can also be experienced (Cooper & Schindler, 2008). The positivist view was adopted because the study sought to establish gaps, test the hypothesis, and deduce knowledge from the resulting observations while considering the quality or essence of the participants’ experience. A descriptive design allows for a fine-grained description of a phenomenon occurring within a given population (Mugenda & Mugenda, 2003). Therefore, this design was considered ideal for this study. Besides, it enabled generation of a representative picture of the target population over time.

The study targeted the 42 commercial banks operational as of December 2018. A census approach was used to study these banks. The data collected was secondary in nature and covered the period from 2008 to 2018. STATA software was employed in the analysis of the data. Descriptive statistics, including mean, standard deviation, minimum, and maximum, were computed. Panel regression analysis was utilized in assessing the causal effect in the relationship between interest rate spread and performance of commercial banks in Kenya.

4. RESULTS

4.1. Descriptive Statistics

Table I shows a summary of the descriptive statistics associated with the variables of interest.

Table I reveals important insights into the financial characteristics of the banks under study. The analysis of the performance of banks under study provides valuable insights into their financial performance. The average performance ratio was 0.08 (SD = 0.02), indicating that, on average, these banks were able to generate an 8% return on their assets. This signifies a reasonably healthy level of profitability. Additionally, the low standard deviation of 0.02 suggests that there was relatively limited variability in the performance ratio values, implying a degree of consistency in historical performance across these banks.

Interest rate spread represents a crucial historical financial metric for banks as it reflects their profitability



Fig. 1. Conceptual framework.

TABLE I: DESCRIPTIVE STATISTICS ASSOCIATED WITH THE VARIABLES OF INTEREST

Variable	N	Mean	SD	Minimum	Maximum
Firm performance (FP)	380	0.08	0.02	0.05	0.11
Interest rate spread (IRS)	380	2.38	0.51	1.5	3.2

Note: Source: Author, 2023.

through the difference between borrowing and lending rates. The mean IRS across the sample was 2.38 ( $SD = 0.51$ ), indicating that, on average, the spread between these rates was approximately 2.38 percentage points during the study period. This suggests that banks in the sample had a significant margin for profit in their lending and investment activities. However, it is important to note the standard deviation of 0.51, indicating some variability in this spread among the banks.

4.2. Effect of Interest Rate Spread on the Performance of Commercial Banks in Kenya

The objective of the study was to determine the effect of interest rate spread on the performance of commercial banks in Kenya. The study hypothesized that the relationship between the two variables was not statistically significant. A random effects regression analysis approach was used to assess the nature of the relationship between these two variables.

The prediction equation was given as:

$$FP1 = \beta01 + \beta11IRS + \varepsilon1 \tag{1}$$

where

$FP1$ –Firm Performance

$\beta01$ –Regression Constant

$\beta11$ –Regression Coefficient

$IRS$ –Interest Rate Spread

$\varepsilon1$ –Random error term that accounts for the unexplained variations.

The results of the RE model are summarized in Table II. The results from the RE model portrayed in Table II, demonstrate the statistical significance of the regression model, Wald  $\chi^2(1) = 391.61$ ,  $p < 0.001$ . This finding underscores the model’s robustness in explaining variations in firm performance. Notably, interest rate spread exhibited a substantial influence on firm performance, accounting for 50.9% of the variability as indicated by the R squared statistic ( $R^2 = 0.509$ ). The relationship between firm performance and interest spread can be concisely expressed as follows:

$$Firm\ Performance = 0.019 + 0.025 \times Interest\ Rate\ Spread \tag{2}$$

Delving into the regression coefficients, it is evident that interest rate spread plays a significant role in predicting firm performance ( $\beta = 0.025$ ,  $z = 19.79$ ,  $p < 0.001$ ). Specifically, a unit increase in interest rate spread corresponds to a 0.025 increase in firm performance. Based on the regression analysis performed, the null hypothesis was rejected. The results show that interest rate spread has a positive and significant in predicting the performance of commercial banks in Kenya, contributing to 50.9% of the variations in firm performance.

TABLE II: MODEL RESULTS FOR THE EFFECT OF INTEREST RATE SPREAD ON FIRM PERFORMANCE

Firm Performance				
	RE Coefficients	SE	z	p
Constant	0.019	0.003	6.12	<0.001
Interest rate spread	0.025	0.001	19.79	<0.001
$R^2$	0.509			
Wald $\chi^2(1)$	391.61			<0.001
Observations	380			

Note: Source: Author, 2023.

5. DISCUSSION OF FINDINGS

A panel regression analysis was conducted to account for the relationship between interest rate spread and firm performance. According to the findings depicted in Table II, the positive correlation between interest rate spread and firm performance was a strong one, which indicates a proportional change in performance for every significant change in the interest rate spread. The same table shows that the interest rate could account for 50.7% of the change in firm performance in Kenya. The result shows a relationship between the two variables, in line with the findings of Apir (2010), whose research indicated that interest rates had a significant positive and negative consequence on the firm’s profitability. As Sayedi (2013) explained, the volatility of interest rate instability affects a bank’s firm performance. When interest rates are unstable, resources from foreign and domestic financiers are diverted to other markets with stable interest rates, resulting in the capital drain and reduced local and foreign direct investments. This explains how the interest rate spread was found to be a significant predictor of firm performance. Alhassan et al. (2018) also found a strong direct relationship between interest rate spread and bank profitability in their study of Ghana’s banking sector. This was attributed to the strong inequality between the supply and demand of the fund flow within that market, leading to extremely high-interest rates. Other similar studies, Khan and Sattar (2014), Rusuhuzwa et al. (2016), and Mercieca et al. (2007), find contradicting results, though the methodology and research design might have affected the outcome.

6. CONCLUSION

These results suggest that practitioners in the Kenyan banking industry should be informed of the positive impact that the interest rate spread has on their banking operations and performance. It is thus imperative to be cautious about the movement of the lending rate and deposit rate to ensure smooth interplay within the industry. Policymakers should also tailor regulatory frameworks to the complex dynamics of interest rate spread revealed by the study to ensure that the industry mechanisms are not hampered.

CONFLICT OF INTEREST

The authors declare that they do not have any conflict of interest.



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