

**ASSESSING THE INFLUENCE OF INTERBANK RATES AND TRANSACTIONS ACCOUNT AS
A NON-INTEREST INCOME ON FINANCIAL PERFORMANCE OF COMMERCIAL BANKS
LISTED AT THE NAIROBI SECURITIES EXCHANGE**

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Abstract: *This study examines the influence of interbank rates, hedging, and transaction account income on the financial performance of commercial banks listed on the Nairobi Securities Exchange (NSE). Using a cross-sectional survey and secondary data from 2000 to 2021, the research employs a multiple regression model to determine the relationships between these variables and financial performance. The results show that a unit increase in interbank rates and hedging causes a 0.461-unit increase in bank performance, with a significant impact ($T = 3.518, p = 0.000$). Transaction account income has a minimal effect, contributing only 0.024 units. The findings align with studies such as Goselin (2007), which found no direct link between central bank rates and financial market development, and are consistent with research showing that hedging positively affects firm performance. The model explains 65.1% of the variation in bank performance, with interbank rates having the most significant effect ($\beta = 0.778$). The hypothesis that interbank rates significantly influence financial performance is confirmed, while transaction account income is found to be statistically insignificant. A further analysis incorporating hedging into the model reveals that interbank rates, hedging, and transaction account income together explain 72% of the variation in financial performance (adjusted $R^2 = 0.717$), indicating a strong positive relationship. These findings provide valuable insights into how banks can optimize these variables to improve financial performance. This study offers critical implications for banking strategies, particularly in managing interbank rates and hedging mechanisms to enhance financial stability and performance.*

Keywords: *Commercial Banks, Interbank Rates, Nairobi Securities Exchange, Non-Interest Income, Transactions Account*

1. Introduction

The interbank lending markets are markets which gives a platform for banks to extend loans with maturities of less than one week to one another. The maturities of the loans are mostly overnight. The loans are advanced at the interbank rate also referred to as overnight rate if the term is overnight (Michaud & Upper, 2008). The interbank rate is the interest charged on the short-term bank to bank transactions and depends on the term length or the liquidity of the market. Banks perform interbank transactions to comply with regulations such as minimum reserve requirements or to manage liquidity (Angelini et al. 2009).

Interbank markets play a crucial role in the financial sector of any economy. They help banks effectively management their liquidity. The interest rates in the three month interbank market are used as benchmarks when pricing fixed-income securities in the country's economy (Heider & Hoerowa, 2009). Normally, the

interbank markets experience smooth transactions with broadly stable rates in both the unsecured segments and secured as well as in the different collateral classes. But since August 2007, the transactions in the interbank markets have all over the world become rigorously impaired (Carletti, 2008). According to Brunner Meier (2009), tensions in the interbank market to a great extent contributed to the development of the 2007-2009 crisis. Worldwide, central banks in many countries have responded to the tension that is experienced in the interbank markets by introducing support measures that would help prevent market-wide liquidity problems in individual institutions from melting into solvency problems.

The empirical literature in this area of knowledge include; Ashcraft and Bleakley (2006) examined how access to the federal funds market is affected by changes in the measures of private and public information. The study employed data from both public and private banks. The study focused on bank loan portfolio quality. The researchers established that markets react to changes in the public measures of loan portfolio quality. The researchers established that banks exploit the changes that occur in the private measure of loan portfolio quality through amassing demand in a manner that is consistent with moral hazard and also through increasing their borrowing frequency and liquidity risk in reaction to private information.

Freixas and Jorge (2008) examined the role of interbank markets in monetary policy using a model with rationing. The researcher's objective was to analyze the impact of asymmetric information in the interbank market. The study established that asymmetric information is important in the micro-foundations that transmit monetary policies. The study established that with credit market rationing, interbank market imperfections cause equilibriums. The researcher also suggested that the two main implications that result from this are: first, the equilibrium causes the magnitude effect which involves reconciliation of the irresponsive business investments to the user cost of capital with the large impact of monetary policy. Second, it causes Kashyap and Stein liquidity effect which involves banks' liquidity positions conditioning their reaction to monetary policy.

Wang, Wang and Zhang (2012) analyzed the interbank loan interest rate fluctuation characteristics and the value at risk (VAR) risk of China's commercial banks using Exponential Generalized Autoregressive Conditional Heteroskedastic (EGARCH) Model. The researchers found that fluctuation in the china's interbank lending and borrowing market rates is volatile to a large extent which indicates that the market has been to a great extent market-oriented. The study found that the value and standard deviation of risk in the national commercial Banks and other financial institutions in China is bigger and changes dramatically. The interest rate risk value of the City commercial Banks and foreign banks was found to be smaller but the performance was stable. The rural credit cooperatives were found to have the smallest risk and the most stable performance.

Brauning and Fecht (2012) assessed the association between relationship lending and the liquidity price in the interbank market in Germany. The study used German interbank payment data. The data included panels of unsecured overnight loans from 1079 distinct borrower-lender pairs. The researchers found that banks depend on repeated exchanges with the same counterparties to trade liquidity. On the price of liquidity, the study established that before the 2007/08 financial crisis the lenders had already started charging their borrowers higher interest rates. The study also established that the borrowers paid lower rates to their relationship lenders on average compared to instant lenders during the crisis.

The study by Kamaan (2014) to determine the effect of monetary policy on economic growth in Kenya found that in the first two and a half months of the reviewed period, a one standard deviation shock of the interbank

rate has a positive and significant relationship with inflation. However for the next six months the relationship continues to be positive but insignificant. Kelilume (2014) analyzed the effect of monetary policy rate on interest rates in Nigeria for the period 2007-2012. The study employed monthly time series data which was acquired from the Central bank of Nigerian Statistical Bulletin. The researcher established that it is only the relationship between interbank rates and monetary policy rate that shows the effectiveness of monetary policy. The study also found that the weak relationship between savings deposit rate and the monetary policy rate is explained by the low incentives for savings. This study however, focused on economic growth and not the performance of commercial banks.

Several studies have found that fees-based income stabilizes profitability. Some of the most stable fees in a commercial bank relate to the account transaction fees and the account charges. These consist of all those charges charged by the bank for the services they offer to their customers. Saunders and Cornett, (2005) found that the expansion of these banks' activities reduces risk. The main risk reduction gains arise from the diversification and reduction of dependency on the interest income. Proponents of this view point out that those studies which found risk-reduction benefits from asset diversification generally report their findings in terms of potential, not actual realizations.

These authors tend to suggest that a modest amount of fees-earning activity captures all the potential for risk reduction. Stiroh, (2006) noted that most of the fee-based activities and which generate most of the non-interest income brings in increased earnings volatility within commercial banks. This calls for caution while increasing the base for the fees. On the other hand however, Gischer and Jüttner (2003) found a weak negative relationship between Return on Assets (ROA) and the fees income to interest income ratio for 19 Organization for Economic Co-operation and Development (OECD) countries. Esho, Kofmann and Sharpe (2005) showed that for a sample of Australian Credit Unions, the ROA is negatively associated with the increment of transaction fees. Against expectations, risk rises in line with a higher revenue share of this income source. Conversely, revenue shares of fees received for off-balance sheet facilities and fiduciary activities do not seem to have any influence on risk and return, possibly on account of the relatively small share of this income category.

According to Ng'eno (2012) expansion into fee-based services require substantial fixed costs e.g investment in technology, staff and distribution channels. Small banks may find this kind of investment a challenge because of the resources required. As such for these banks rising transactional fees will diminish ROE and enlarge earnings volatility. This study therefore seek to determine the exact state of the Kenyan commercial bank's performance in relation to transactional and account related fee-based commission. Banks have been revising upward their tariff guides on transactional fees and account related charges with hope of earning more income and countering the effect of interest rate cap.

2. Study objective

The main objective of the study was establish the influence of interbank rates and transactions account as a non-interest income on financial performance of commercial banks listed at the Nairobi Securities Exchange.

The following null hypothesis was used in the study;

H01. There is no significant influence of interbank rates and transactions account as a non-interest income on financial performance of commercial banks listed at the Nairobi Securities Exchange.

3. Problem statement

The financial performance of commercial banks is a multifaceted issue influenced by various economic factors, particularly in emerging markets like Kenya. Among these factors, interbank rates and transaction accounts as sources of non-interest income play a pivotal role in shaping the profitability and operational efficiency of banks listed on the Nairobi Securities Exchange (NSE). However, there exists a significant gap in the literature regarding the specific effects of interbank rates and transaction accounts on the financial performance of these banks, necessitating a focused investigation into this relationship.

Interbank rates, which reflect the cost of borrowing funds between banks, are crucial in determining the overall liquidity and funding costs within the banking sector. Changes in these rates can directly impact the interest income generated by banks, as well as their ability to manage liquidity effectively Borio et al. (2017). Furthermore, the reliance on transaction accounts as a form of non-interest income has gained prominence as banks seek to diversify their revenue streams amidst fluctuating interest rates and economic uncertainties (KANYUIRA, 2023). Transaction accounts, which include fees from account maintenance, overdrafts, and other banking services, represent a significant source of non-interest income that can enhance a bank's profitability (Olowolaju, 2018).

Despite the recognized importance of these factors, the interplay between interbank rates and transaction accounts remains underexplored, particularly in the context of the Kenyan banking sector. Existing studies have shown that while non-interest income can contribute positively to bank profitability, it can also introduce volatility and risk, especially when banks become overly reliant on such income sources (Ghazouani & Bast, 2021; , Bian et al., 2015). This duality raises questions about the sustainability of non-interest income in the face of changing interbank rates and the broader economic environment.

Moreover, the competitive landscape of the Kenyan banking sector, characterized by rapid technological advancements and evolving customer expectations, further complicates the dynamics of interbank rates and transaction accounts. As banks innovate and expand their service offerings, understanding how these factors influence financial performance becomes increasingly critical for strategic decision-making and regulatory compliance (Githaiga et al., 2019).

In summary, this study aims to fill the existing research gap by examining the influence of interbank rates and transaction accounts on the financial performance of commercial banks listed at the Nairobi Securities Exchange. By analyzing these relationships, the research seeks to provide valuable insights for banking practitioners and policymakers, ultimately contributing to the stability and growth of the Kenyan banking sector.

4. Research Methodology

The study was based on a positivist philosophy, which holds that reality is objective and measurable. This approach is aligned with quantitative methods, focusing on testing theories through statistical analysis. A cross-sectional survey research design was adopted to investigate the relationship between interest rates, hedging, non-interest income, and the financial performance of commercial banks listed on the Nairobi Securities Exchange (NSE).

The study area was Nairobi, where the headquarters of most commercial banks are located. The target population consisted of 11 commercial banks listed on the NSE, and given the small population size, a census approach was used, meaning all banks were included in the study.

Secondary data was collected from the financial statements of the banks and the Central Bank of Kenya’s database, covering the period from 2000 to 2021. The data was analyzed using Statistical Package for Social Sciences (SPSS) to generate descriptive statistics, correlation, and regression analysis, determining the relationships between variables. Validity and reliability of the data were ensured through peer and expert reviews, and repeated trials.

The study used multiple regression model as outlined below;

$$Y_{1t} = \beta_0 + \beta_1 X_{1it} + \beta_{11} CBR_{it} + \beta_{12} RIS-HEDG_{jt} + \varepsilon \dots\dots\dots (1)$$

Where:

Y= Dependent Variable (financial Performance- Volume of EAITBDA).

X₁= Volume of Commissions on Loans

IBR_t= interbank rates (over time t= 1, 2, ...n)

RIS-HEDG_j = Hedging Mitigation (Risk estimation Metrics) over time j= 1, 2, ...n)

β₀, β₁, β₁₁ are regression equation coefficients

ε = error term of the regression

The VIF value is an index which measures how much variance of an estimated regression coefficient is increased. Rule of Thumb is applied in this study: If any of the determined VIF values exceeds 10, it implies that the associated regression coefficients are poorly estimated and multicollinearity exist (Montgomery, 2001; Murphy and Myors, 1998). Therefore this multicollinearity is deemed not severe to interfere with the relationship between independent variables and dependent variable if the VIF values fall within the expected ranges. The VIF values (VIF = 4.326) in this study are below 10 and therefore severe multicollinearity does not exist.

Table 1: Test for Multicollinearity using VIF

Model	Collinearity Statistics	
	Tolerance	VIF
(Constant)		
1 Investment Income	.859	1.164
Repo rate	.859	1.164

The VIF values (VIF = 1.164) in this study are below 10 and therefore severe multicollinearity does not exist. The failure to identify and report multicollinearity could result in misleading interpretations of the results. The statistical literature emphasizes that the main problem associated with multicollinearity includes unstable and biased standard errors leading to very unstable p-values for assessing the statistical significance of predictors, which could result in unrealistic and untenable interpretations.

5. Results and Discussion

The study established the influence of interbank rates on the relationship between transactions account income and financial performance of commercial banks listed at the Nairobi Securities Exchange. The results were presented as in table 2.

Table 2: Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		Durbin-Watson
					F Change	Sig. Change	
1	.807 ^a	.651	.604	127735331.02922	13.979	.000	1.113

a. Predictors: (Constant), Transaction Account Income, Interbank Rates

b. Dependent Variable: Financial Performance

Information in table 2 indicates that a positive and strong association exist between the explanatory variables and banks financial performance (R =0.807^a). The interbank rates and transaction account income explain up to 65.1% of the variation in bank performance (R² =0.651; F =13.979) and the effect is statistically significant (p< .05). The variables in the model can be relied on in the prediction of banks financial performance up to 60.4% (adjusted R² = .604), this implies that other variables exist which accounts for 39.6% of the variation in financial performance of these banks.

Table 3: Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	37906836.556	117894241.073		.322	.752		
1 Interbank Rates	104785863.593	42740179.675	.778	2.452	.027	.231	4.326
Transaction Account Income	.249	.238	.033	.103	.920	.231	4.326

a. Dependent Variable: Performance

The results in table 3 indicate that a unit increase in interbank rates causes an increase of banks financial performance by 104785863.593 increase while a unit increase in transaction accounts income causes increase of 0.024 in banks financial performance.

Substituting the coefficients in the model $Y_2 = \beta_0 + \beta_2 X_2 + \beta_{22} IBR_i + \varepsilon \dots\dots\dots(2)$

the results show that $Y_2 = 37906836.556 + .249X_2 + 104785863.593 IBR_i$.

The findings further reveal that the effect size of interbank rates on financial performance of the banks was significantly high at 77.8% (standardized beta = .778) while the effect size of transaction account income was at 3.3% (standardized beta = .033).

Further t-test on the degree of significance of the variables was applied. This aimed at testing for the degree of significance of regression coefficients b_0 , b_2 , and b_{22} , relating to independent variables towards banks financial performance. For the constant $b_0 = 37906836.556$; $T_0 = .322$, the p values ($p = 0.752 > 0.05$) reject H_0 and conclude that $b_0 = 37906836.556$ is not significantly different from zero. For transaction account income its $b_2 = 0.249$; $T_2 = 0.103 < \text{critical value } (1.734064)$, $p = 0.920 > 0.05$: the study fails to reject H_0 and conclude that b_2 is not significantly different from zero and is statistically insignificant, therefore the effect of transaction account income on the banks financial performance was zero. For interbank rates its $b_{22} = 104785863.593$; $T_{22} = 2.452 > \text{critical value } (1.734064)$, $p = 0.027 < 0.05$: the study rejects H_0 and conclude that b_{22} is significantly different from zero and is statistically significant, therefore effect of interbank rates on the banks financial performance was not zero. Therefore, the study rejected the Null Hypothesis which stated as: There is no significant influence of interbank rates on the relationship between transactions account income and financial performance of commercial banks listed at the Nairobi Securities Exchange. The variable interbank rates were statistically significant.

The VIF value is an index which measures how much variance of an estimated regression coefficient is increased. Rule of Thumb is applied in this study: If any of the determined VIF values exceeds 10, it implies that the associated regression coefficients are poorly estimated and multicollinearity exist (Montgomery, 2001; Murphy and Myers, 1998). Therefore this multicollinearity is deemed not severe to interfere with the relationship between independent variables and dependent variable if the VIF values fall within the expected ranges. The VIF values (VIF = 4.326) in this study are below 10 and therefore severe multicollinearity does not exist. The results concur with Stiroh (2004) that banks expand into fees-based solutions and services with a goal of income diversification. But it differs with other scholars Guru et al. (2002) that non-interest income does not directly improve performance of banks.

The study further established the relationship between interbank rates, Hedging, transaction account income and financial performance of commercial banks listed at NSE. The data collected was analyzed and presented as in tables 4, 5 and 6.

Table 4: Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			Durbin-Watson
					R Square Change	F Change	Sig. F Change	
1	.849 ^a	.720	.717	.04130794	.720	215.252	.000	.066

a. Predictors: (Constant), Interbank Rate-Hedging, Transaction Account Income

b. Dependent Variable: Financial performance

The results in table above reveal a strong and positive association between the Interbank Rate-Hedging, Transaction Account Income and financial Performance (R = .849^a). This is almost a perfect association between the two variables in this study. It is observed that Interbank Rate-Hedging, Transaction Account Income can explain upto 72% of the variation in yield of financial performance (r² = .720), this explanatory variable Interbank Rate-Hedging, Transaction Account Income can be relied with accuracy and preciseness in the prediction of performance of commercial banks up to 71.7% (adjusted r² = .717) and it is statistically significant (p =0.000<0.05). Therefore, the result out of this variable in the model can be relied on in the prediction.

Table 5: Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	379066.78	.013		5.973	.000
1 Interbank rate-Hedging	.184	.090	1.274	2.036	.021
1 Transaction Account Income	1.270	.000	.645	8.360	.000

a. Dependent Variable: Financial Performance

$$Y_1 = 379066.78 + 1.270X_{2it} + 0.184IBR_{it} + RIS - HEDG_{jt} \dots\dots\dots (1)$$

The result in table 5 when substituted in the model it indicates that a unit change in bank Transaction Account Income results in 1.270 units change in financial performance of commercial banks. While the unit change in Interbank Rate-Hedging components causes 0.184 units change in financial performance of commercial banks. This result reveal that interbank rates-hedging and Transaction Account income when optimized in application in this sector there occurs significant improvement in financial performance of commercial banks.

The coefficients indicate the nature of association of the variable in the model. Further t-test on the degree of significance of the variables was applied. This aimed at testing for the degree of significance of regression coefficients b_0 , b_2 , and b_{22} , relating to independent variables towards banks financial performance. For the constant $b_0 = 379066.78$; $T_0 = 5.973$, the p values ($p 0.000 < 0.05$) reject H_0 and conclude that $b_0 = 379066.78$ is not significantly different from zero. For bank Transaction Account Income its $b_2 = 1.270$; $T_2 = 8.360 >$ critical value (1.734064), $p = 0.000 < 0.05$: the study concludes that b_2 is significantly different from zero and is statistically significant, therefore influence of bank Transaction Account Income on the banks financial performance was not zero. For interbank rates-hedging its $b_{22} = 0.184$; $T_{22} = 2.036 >$ critical value (1.734064), $p = 0.026 < 0.05$: the study concludes that b_{22} is significantly different from zero and is statistically significant, therefore influence of Interbank Rates-Hedging on the banks financial performance was not zero. Therefore, the study rejected the Null Hypothesis stated as: There is no significant relationship between of Interbank Rate-hedging, Transaction Account Income and financial performance of commercial banks listed at the Nairobi Securities Exchange. These variables were therefore statistically significant. This positive relationship between hedging and firm financial performance is supported by the findings of Judge (2002); Weston (2001). Findings by Gutiérrez (2003) identifies central bank controls as an intervening variable, which supports the findings of the study whereby, as a result of mediation of central bank controls the strength of the relationship of the study variables i.e R^2 has increased, which implies that an intervention by a county’s central bank controls positively impacts the effect of hedging practices on a firm’s financial.

Table 6: Coefficients^a of Variables in the Study

Model	Unstandardized Coefficients		Standardized Coefficients Beta	T	Sig.	Collinearity Statistics	
	B	Std. Error				Tolerance	VIF
(Constant)	.651	.027		2.247	.027		
X ₁	.592	.000	1.412	15.393	.000	.134	7.467
IBR *RIS-HEDG	.461	.000	.250	3.518	.000	.042	23.991

a. Dependent Variable: Financial Performance

The regression model below was used

$$Y = \beta_0 + \beta_1 X_{1it} + \beta_{11} IBR_{it} RIS-HEDG_{jt} + \varepsilon \dots\dots\dots (1)$$

When the coefficients are substituted the model changes to;

The result indicate that a unit increase in interbank rates and hedging combination causes 0.461unit increase on financial performance of commercial banks ($b_{11} = 0.461$; $T_{11} = 3.518 >$ critical value (1.734064), $p = 0.000 < 0.05$) indicating that this variable has a statistically significant influence on financial performance of commercial banks.

The results of this study concur with Goselin (2007) study which found no statistical evidence of relationship between central bank performance in terms of its rates and the degree of financial market development. However, study by Krause and Rioja (2006), found similarity in the sense that the strength of the private banking sector was positively correlated with meeting targets more consistently, since the soundness and

financial strength of private banks are both negatively correlated with inflation deviations as aspects of interest rates. Reviewed studies have shown mixed association between hedging and firm performance. For instance, Allayannis and Weston (2001) and Carter et al., (2006) shows that hedging have a positive effect on firm’s performance. However the results of this study differ with findings of Fauver and Naranjo (2010); Dhanani et al., (2007); Bodnaret al. (2003) study which show that hedging does not necessarily have a positive association with performance but depends on a country, industry and corporate governance of the company. Studies by Guttierrez (2003); Goselin (2007); Krause and Rioja (2006) support the descriptive findings of this study whereby the researchers acknowledge economic independence, central bank rates and inflationary controls on interest rates as some of the measures of central bank controls that influence financial performance of commercial banks.

Hoffmann et al., (2019) study revealed movements in the yield curve are likely to have a larger impact on bank profits. Ordinarily, Net Interest Margins will narrow when yield curves flatten because banks are exposed to interest rate risk from maturity mismatches because of borrowing short and lending long. The extent to which banks reduce their exposure to this risk by hedging impacts their sensitivity to changes in the yield curve. Banks are also exposed to interest rate risk stemming from holding a greater amount of fixed-rate liabilities such as non-interest bearing deposits relative to fixed-rate assets, such that when interest rates decline net income from these positions falls. Banks can choose to hedge this risk using swaps whereby the bank receives cash flows linked to fixed rates and pays cash flows linked to variable rates. As a result, when variable rates decline the income from these hedges increases, thereby providing the necessary hedge. The extent to which some banking systems use interest rate swaps to hedge this risk causes differences in the pass through of lower rates to profits in the short run in the banking sector.

6. Summary of hypothesis testing

No	Null Hypothesis	Results
H ₀₁	There is no significant influence of interbank rates and transactions account as a non-interest income on financial performance of commercial banks listed at the Nairobi Securities Exchange.	Rejected

7. Summary of findings and conclusion

The study established the influence of interbank rates on the relationship between transactions account income and financial performance of commercial banks listed at the Nairobi Securities Exchange. The results indicated a positive and strong association exist between the explanatory variables and banks financial performance ($R = 0.807^a$). The interbank rates and transaction account income explain up to 65.1% of the variation in bank performance ($R^2 = 0.651$; $F = 13.979$) and the effect is statistically significant ($p < .05$). The variables in the model can be relied on in the prediction of banks financial performance up to 60.4% (adjusted $R^2 = .604$), this implies that other variables exist which accounts for 39.6% of the variation in financial performance of these banks. The results indicate that a unit increase in interbank rates causes an increase of banks financial performance by 104785863.593 increase while a unit increase in transaction accounts income causes increase of 0.024 in banks financial performance. Substituting the coefficients in the model $Y = \beta_0 + \beta_1 X_1 + \beta_{11} IBR_i + \epsilon$; the results show that $Y = 37906836.556 + .249X_2 + 104785863.593 IBR_i$. The findings further reveal that

the effect size of interbank rates on financial performance of the banks was significantly high at 77.8% (standardized beta = .778) while the effect size of transaction account income was at 3.3% (standardized beta = .033).

Further t-test on the degree of significance of the variables was applied. This aimed at testing for the degree of significance of regression coefficients b_0 , b_1 , and b_{11} , relating to independent variables towards banks financial performance. For the constant $b_0 = 37906836.556$; $T_0 = .322$, the p values ($p = 0.752 > 0.05$) reject H_1 and conclude that $b_0 = 37906836.556$ is not significantly different from zero. For transaction account income its $b_1 = 0.249$; $T_1 = 0.103 < \text{critical value } (1.734064)$, $p = 0.920 > 0.05$: the study fails to reject H_0 and conclude that b_2 is not significantly different from zero and is statistically insignificant, therefore the effect of transaction account income on the banks financial performance was zero. For interbank rates its $b_{11} = 104785863.593$; $T_{11} = 2.452 > \text{critical value } (1.734064)$, $p = 0.027 < 0.05$: the study rejects H_0 and conclude that b_{11} is significantly different from zero and is statistically significant, therefore effect of interbank rates on the banks financial performance was not zero. Therefore, the study rejected the Null Hypothesis which stated as: There is no significant influence of interbank rates on the relationship between transactions account income and financial performance of commercial banks listed at the Nairobi Securities Exchange. The variable interbank rates were statistically significant in influencing the financial performance of commercial banks listed at Nairobi securities exchange.

The study further established the relationship between interbank rates, hedging, transaction account income and financial performance of commercial banks listed at NSE. The results revealed a strong and positive association between the Interbank Rate, Hedging, Transaction Account Income and financial Performance ($R = .849^a$). This is almost a perfect association between the two variables in this study. It is observed that Interbank Rate, Hedging, Transaction Account Income can explain upto 72% of the variation in yield of financial performance ($r^2 = .720$), this explanatory variable Interbank Rate, Hedging, Transaction Account Income can be relied with accuracy and preciseness in the prediction of performance of commercial banks up to 71.7% (adjusted $r^2 = .717$) and it is statistically significant ($p = 0.000 < 0.05$). Therefore, the result out of this variable in the model can be relied on in the prediction of financial performance of commercial banks listed at Nairobi Securities Exchange.

The result of coefficients when substituted in the model it indicates that a unit change in bank Transaction Account Income results in 1.270 units change in financial performance of commercial banks. While the unit change in Interbank Rate, Hedging components causes 0.184 units change in financial performance of commercial banks. This result reveal that interbank rates, hedging and Transaction Account income when optimized in application in this sector there occurs significant improvement in financial performance of commercial banks. The coefficients indicate the nature of association of the variable in the model.

Further t-test on the degree of significance of the variables was applied. This aimed at testing for the degree of significance of regression coefficients b_0 , b_1 , and b_{11} , relating to independent variables towards banks financial performance. For the constant $b_0 = 379066.78$; $T_0 = 5.973$, the p values ($p = 0.000 < 0.05$) reject H_1 and conclude that $b_0 = 379066.78$ is not significantly different from zero. For bank Transaction Account Income its $b_1 = 1.270$; $T_1 = 8.360 > \text{critical value } (1.734064)$, $p = 0.000 < 0.05$: the study concludes that b_2 is significantly different from zero and is statistically significant, therefore influence of bank Transaction Account Income on the banks financial performance was not zero. For interbank rates, hedging its $b_{11} = 0.184$; $T_{11} = 2.036 > \text{critical value } (1.734064)$, $p = 0.026 < 0.05$: the study concludes that b_{11} is significantly different from zero and is

statistically significant, therefore influence of Interbank Rates, Hedging on the banks financial performance was not zero.

Therefore, the study rejected the Null Hypothesis stated as: There is no significant relationship between of Interbank Rate, hedging, Transaction Account Income and financial performance of commercial banks listed at the Nairobi Securities Exchange. These variables were therefore statistically significant in influencing financial performance of commercial banks listed at the Nairobi securities exchange.

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