

NON-INTEREST INCOME AND FINANCIAL PERFORMANCE OF LISTED COMMERCIAL BANKS IN KENYA

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Abstract: *Despite significant financial sector changes in Africa in the 1980s and 1990s, commercial banks' financial performance has remained weak, unproductive, and ineffectual in regard to the overall performance of financial revenues stability and earnings boost stream. As financial institutions struggle to maintain and boost their financial viability in the face of diminishing income, primarily as a result of an over-reliance on interest rate income, commercial banks' diversification into noninterest income has steadily expanded. As an integral part of the monetary sector, commercial institutions play an important part in the well-planned cash withdrawal from borrowers and investors, enabling various parties, investors, and banks to gain big profits. The demographic targeted by this study consisted of the 42 commercial banking financial institutions that would hold official licenses from the Central Bank of Kenya by December 2021. Using panel data methods from random and fixed effects models, the four research areas were assessed. Using panel cointegration approaches with random effect and fixed effect assumptions, the four hypotheses were assessed. According to the study findings, Fees and commissions, trading income streams, income from foreign currency, and other income diversification, all had a major positive impact on financial profitability. The study concluded that there was a positive relationship between noninterest income and the financial performance of Kenyan commercial banks, that unrelated revenue streams lower the risk of a sudden, unexpected outcome and in a diversified interest revenue stream. The study recommended that there should exist risk mitigation measures set aside through revenue diversification. Commercial banks should diversify their activities to promote profitability, confidence, develop marketing policies that will boost income earnings and businesses operations growth.*

Keywords: *Non-interest Income; Performance; Profitability; Income Streams; Commercial Banks, Fixed Effects*

1. Introduction

Through their actions, monetary institutions play a critical part in preserving a nation's economy as middlemen between those who save money and those who borrow money and facilitating the free flow of capital (Celine *et al.*, 2013). According to Oniango (2015), in the financial sector, banks are essential players, where the production of both investment earnings (II) and earnings other than interest occurs (NII). The main monetization strategies other than interest for publicly traded Kenyan monetary institutions including Absa bank, Cooperative bank, Kenya Commercial bank, and Equity bank are commissions from loans and loans, revenue from currency exchange, and gains from securities trading and brokerage (Oniango, 2015). Noninterest income, which includes income from property rentals, asset sales, and service fees that are unaffected by

financial market cycles and the economy as they are not subject to interest rate laws and regulations, creates income by ensuring the viability of monetary institutions in the event of nonpayment of interest income. One of the main elements influencing bank performance in general is noninterest income (Oniango, 2015).

Financial stability of financial institutions is unquestionably related to their long-term viability, with consistent profit production as the primary necessity for good governance and management of banks as this ensures their longevity. Commercial banks' primary responsibility is to act as a conduit between its clients, who are primarily borrowers, and the available financial aid. Financial institutions, such as banks, distribute money received from investors and borrowers as an essential part of the banking markets in a planned way that benefits all parties—investors and banks alike. In instance, banks provide non-financial services as well as specialized financial services. In this way, the productivity of the entire economy is greatly increased by commercial organizations. Additionally, they collect investment money in quest of the best returns and carry out other macroeconomic tasks that have a variety of effects on specific economic units, such as consumers (Wright, 2001).

In the case of a default on interest income, the non-interest income generates revenue to guarantee the banks' consistent financial performance. Service fees, asset sales, and property leasing all generate noninterest income that is unaffected by interest rate rules and regulations as well as by economic and financial market cycles. According to Oniang'o (2015), noninterest revenue is one of the key variables affecting a bank's financial performance. By offering conventional banking services like checking accounts, trusts, and cash management in the past, banks were able to generate noninterest income. They have recently started to get noninterest revenue from new sources, and this income may be directly attributed to the securitization of mortgages, credit cards, agency banking, mobile and internet banking, insurance underwriting, and mutual fund investments. Ng'endo (2012) asserts that commercial banks' move toward noninterest income investments has boosted competitiveness in the integration of the financial markets, accelerated technology development, and enhanced banking industry regulations.

Financial institutions capitalize on the dormant savings of a few wealthy people. Banks direct these assets into profitable investments by utilizing savings. As a result, they assist a growing nation like Kenya in forming its capital. Commercial banks support Kenya's economic growth by adhering to the Central Bank of Kenya's monetary policies. (CBK). As a matter of fact, the Central Bank of Kenya relies upon commercial financial institutions to carry out its monetary management strategy effectively and in accordance with the demands of an expanding economy. As a result, commercial banks play a significant role in the expansion of an economy by providing loans for trade, agricultural, and industrial financing. They offer loans to industries for short-, medium-, and long-term periods.

Objective: The general objective of this study was to investigate how noninterest income affects the financial performance of listed commercial banks in Kenya.

2. Literature Review

Transaction cost economics is one of the dominant viewpoints on scope motivation from a strategic point of view. TCE asserts that there are transaction costs associated with what Coase called the "price mechanism" and what Williamson referred to as "market governance," both of which were first explicitly outlined by Coase (1937) and then developed in depth by Williamson (1985). The significance of the idea lies in the existence of costs associated with transaction negotiation and contracting (transaction costs), which are incurred on the

open market and are decreased by leading these in other respects independent transactions under the auspices of a single corporate entity.

According to Coase (1937), the possessor or factor of production is not always allowed to enter into rotational contracts with the institution with which the factor is cooperating, as would be required, undoubtedly, if the aiding were a direct result of the price mechanisms. These contracts are replacements for the previous ones. Williamson (1975) proposed that enterprises that are specifically diversified have efficiency in terms of transaction costs that an intramural capital market that is "miniature" assumes to manage while an external capital market does not. A similar justification for why businesses diversify was later offered by Silverman (1999). The paper emphasized properties used by a company to generate rent and came to the conclusion that whenever these extremely valuable resources exchange hands through the market process, the transaction will accrue contractual risks that are higher, including license secrecy, loyalty, and issues arising from learning curve edge. The author emphasizes that diversification by a firm is a wiser decision to mitigate the severity extent of exposures that surround a contractual alternative from diversification, taking into consideration that these features are significant components that explain the returns that are appropriated to an institution. The model suggests when the company should design newer operations to be within the firm's borders and how institutions might profit from resource sharing among the firms that are inside the firm's boundaries. It is a theoretical paradigm that emphasizes the value of diversity by enabling businesses to gain greater market dominance by stifling competition through vertical portfolio integration. Diversified businesses can cross-subsidize their lines of business and reduce costs, which helps increase barriers to entry and/or completely eliminate competitors from the market (Miller, 2009). Businesses should diversify wherever possible from the standpoint of transaction costs in order to increase their market share and organize their additional activities more effectively than their competitors or the present market.

Many academics have criticized the TCE approach in various ways. Moran and Goshal (1996) criticized TCE assumption as being overly substantial and asserted that the theory's applicability might be constrained by the use of unreliable data. The idea of opportunity is also thought to present an overly pessimistic perspective of human stimuli. Moran and Goshal (1996) continued by stating that the method employed to avoid expediency by close watching and power exercise of control results in a decrease in employee performance and, as a result, has the opposite impact from that which was intended. By developing Modern Portfolio Theory (MPT) in 1952, Markowitz sought to explain how risk-averse investors may construct portfolios. The MPT version of economic theory treats an asset's return as a random variable and treats the portfolio as a weighted assortment of assets. Asset pricing theory was founded with the creation of Lintner's Capital Asset Pricing Model (CAPM) in 1965. The CAPM is frequently used in applications like calculating a firm's cost of capital and assessing the performance of managed portfolios. The CAPM is appealing because it makes insightful and potent predictions about how to quantify risk and the relationship between expected return and risk (Hickman *et al.*, 2002).

Diversifying one's resources for investment is thought to be somewhat advantageous since it might lessen shocks to the net interest margin (idiosyncratic risk) caused by unfavorable fluctuations rates of lending (2012) Lin *et al.*, According to Lepetit and others (2008), Interest rate margins and loan pricing are impacted by diversification, thereby reducing the volatility of bank profitability. They also found that banks' growth into fee-based services results in low lending rates. This finding is consistent with the five-year trend of banking crises being triggered by lending to certain lending activity (Tabak *et al.*, 2011). Examples include the 1997–2003 Australian banking crisis and the 2001–2002 Argentine financial crises quoted in Bebczuk and Galindo, (2008). (2011) Tabak *et al.*

According to Ebrahim and Hasan's (2008) research, by developing new income streams and producing cash flows different from typical traditional intermediation services, the diversification of revenue streams, including fees and commissions, has been placed into perspective. The study examined how product variety affects value relevance, such as B. Fee and commission income from US commercial banks. The study looked at differences in utility relevance resulting from the interest component of interest-free banking income at financial institutions. This included fees and commissions, trading income, and income from dividend income (Ebrahim *et al.*, 2008). Specifically, non-market reactions to variations in bank noninterest revenue as a result of development into cutting-edge financial services lines away from conventional intermediary activities were examined.

Commercial banks were examined between the years 1993 to 2002. The results of the study's analysis showed that annual anomalous returns are positively and significantly associated with changes in the interest-free portion of bank income, but not with changes in that particular interest revenue sector. There has been a definite trend toward smaller banks ever since the Gramm-Leach-Bliley Act, which permitted commercial banks to expand into less interest-free banking in 1999. The study is a result of in-depth investigation into the accounting mismatch in the determined relevance of income related to bank income components. The study ultimately failed throughout the data analysis process as a result of the CLRM assumption not being tested, which might prompt prospective researchers to think about diagnostic panel testing before doing regression analysis.

It is consistent with the aforementioned considerations that empirical research has produced contradictory results about the implications of earnings diversity on the stability and financial viability of banks. For example, research by Badar Nadeem Ashraf, Ke Peng, Susheng Wang, and Shoaib Nisar ID and others, who looked at a large panel of two hundred monetary entities from across all South Asian countries, discovered that increasing the share of noninterest income in total revenue has a beneficial impact on the profitability and consistency of South Asian banking industry. We also observed that various non-interest-generating activities affect banks' effectiveness and stability in a variety of ways. Commission and fee revenue has a detrimental effect on the stability and growth of South Asian financial entities, as opposed to other noninterest income has a beneficial effect. According to our findings, financial entities that take part in specific non-interest-bearing activities can benefit from earnings diversification. Our findings hold up well when compared to other metrics for yield diversification, profitability, and stability.

3. Methodology of Research

A descriptive survey research design was used for this investigation. Research design, according to Mugenda and Mugenda (2003), refers to the framework, strategy, and plan that will be used to address specific research questions. The descriptive research design was chosen because it enabled the researcher to characterize the target population. Additionally, the researcher was able to describe how non-interest revenue and the financial success of the listed commercial banks were related thanks to the design.

4. Research Findings & Discussions

Descriptive statistics, such as measures of tendency, mean and dispersion, standard deviation, minimum and maximum, skewness, and kurtosis, were employed to evaluate the distribution and level of normalcy. Diagnostic tests, panel unit root tests, and the Hausmann test were also adopted to examine the information.

Also presented are the findings of the regression analysis and the hypothesis test. Tables were adopted to present the study's findings. The information, which came from 42 commercial banks, was uneven.

5. Descriptive Statistics for Non-interest income diversification

The central tendency and dispersion of descriptive statistics were used as markers throughout the analysis. The former simply gave the mean and median, but the later also included the lowest, maximum, and kurtosis. To establish normalcy, the Jarque-Bera test was applied. The average ROE performance of financial institutions in Kenya, as shown in Table 1, ranged from 16.26% to -25.20%, with a maximum of 49.4%. Because the Jarque-Berra had a p value <0.05, this presented ample proof to warrant non-acceptance of null hypothesis which stated that the data was normally distributed, the banking ROE had standard deviations of 14.70% and was not normally distributed. Between the years of 2012 and 2021, the average fees and commission was 65%, which indicated low levels of fees and commission diversification amongst commercial banks. There were wide variations in extent of fees and commission diversification with a minimum of 10%, which indicated high levels of diversification and a maximum of 78%, which showed high concentration of fees and commission amongst commercial banks. and a standard deviation of 27%. Trading income, on the other hand, had an average mean of 67% between the years 2012 and 2021, with a low of 29% and a maximum of 83%, and a standard deviation of 15%. The data also reveals that during the years of 2012 and 2021, foreign exchange had a mean of 65%, a minimum of 26%, a maximum of 86%, and a standard deviation of 16%. The analysis concludes by demonstrating that other income had an average mean of 66%, a minimum of 25%, a maximum of 92%, and a standard deviation of 16%. The wider variation of standard deviation displayed by the results in Table 1 indicated the variation amongst the commercial banks to be wide.

Table 1: Descriptive statistics for Non-interest income diversification

	(1)	(2)	(3)
VARIABLES	Mean	sd	min
ROE	16.26%	14.70%	-25.20%
Fees and Commission	65%	27%	10%
Trading income	67%	15%	29%
Foreign Exchange	65%	16%	26%
Other Income	66%	16%	25%

6. Correlation Matrix for Non-interest income diversification

Through the use of pairwise correlation analysis, we ascertain the type and direction of link between the variables under this investigation. The correlation matrix offers prior knowledge about the kind and strength of the connection between the parameters. The fact that all of the variables had the same scale led to its selection. Additionally, it supported the assertion made by Saunders et al., (2014) that correlation matrix accurately reflects the degree of associations between relationship between variables that have been actually shown to exist. Table 2 the correlation results between independent variables was significant. there was a substantial positive relationship between fees commission and ROE (correlation coefficient = 0.723, p-value<0.05). Secondly, there was significantly positive association of Trading income with ROE (correlation

coefficient = 0.767*, p-value<0.05). Thirdly, there was significantly positive association of Foreign Exchange and ROE (correlation coefficient = 0.428, p-value of (0.217) > 0.05 showed a positive link between foreign exchange and ROE. Fourthly, there was significantly positive association of Other Income with ROE (correlation coefficient = 0.723*, p-value<0.05). These results supported the findings of Oyedijo (2012), Landi & Venturelli (2012), and Mulwa and Kosgei (2016), who discovered a significant and favourable association between banking diversification and banking performance in a variety of economic contexts.

Table 2: Pairwise correlations of Non-interest income diversification

Variables	(1)	(2)	(3)	(4)
(1) Fees Commission	0.723*			
(2) Trading income	0.767*	1.000		
	(0.006)			
(3) Foreign Exchange	0.428	0.331	1.000	
	(0.217)	(0.351)		
(4) Other Income	0.723*	0.639*	0.332	1.000
	(0.001)	(0.002)	(0.349)	

*Note: values in parentheses () indicate p-values and * shows significance at 5% level of significance i.e. p-value < 0.05.*

7. Panel Unit Root Tests for Non-interest income diversification

Having established the nature of the data generation processes, it was necessary to test for unit root among the time variant variables. Regressing panel data variables that has unit root gives spurious regression results. Therefore, before starting regression analysis, panel data unit test was tested on each individual series. Therefore, the following panel unit root tests was estimated.

If test statistics is less than 5% critical value irrespective of any sign (plus or minus), then we can't reject the null hypothesis. That means the data variable is not stationary. Table 3 findings show that all the variables data contained unit root (not stationary) except Foreign exchange and other incomes. Fees commission had a unit root at levels (p-value $0.9634 > 0.05$), Trading Income had a unit root at level (p-value $0.9821 > 0.05$), Foreign Exchange had a unit root at level (p-value $0.0371 < 0.05$) and Other Income had a unit root level (p-value $0.0484 > 0.05$). This results implied that the null hypothesis that the data series had unit root was accepted for foreign exchange and other income while the alternative hypothesis of stationarity rejected for Fees commission and trading income. If the data are not stationary at level (5%), we generate 1st difference variable and then used the generated variable to test for unit root.

Table 3: Augmented Dickey-Fuller test for unit root for non-interest income diversification

Variable	Z(t)	prob > t	Critical Values			Conclusion
			1%	5%	10%	
Fees Commission	0.600	0.9634	-3.750	-3.000	-2.630	Unit root
Trading income	0.417	0.9821	-3.750	-3.000	-2.630	Unit root
Foreign Exchange	-2.977	0.0371	-3.750	-3.000	-2.630	Stationarity
Other Income	-2.944	0.0484	-4.380	-3.600	-3.240	Stationarity

Based on the results of the unit root test in Table 4, it is evident that all the variables had p-values < 0.05 , indicating that the series were stationary at first difference. Therefore, the null hypothesis of series having unit root was rejected in favour of alternative hypothesis that the series contain no unit root.

After finding out data of the different variables are stationary at levels, before conducting the cointegration test, we first find out the optimum lag of the variables because we assume that the time series present in the data are influenced by their previous data. The results are shown in Table 4.

Table 4: Augmented Dickey-Fuller test for unit root for non-interest income diversification

Variable	Z(t)	prob > t	Critical Values			Conclusion
			1%	5%	10%	
Fees Commission	-1.007	0.0351	-2.660	-1.950	-1.600	Stationarity
Trading income	-1.097	0.0182	-2.660	-1.950	-1.600	Stationarity
Foreign Exchange	-2.977	0.0371	-3.750	-3.000	-2.630	Stationarity
Other Income	-2.944	0.0484	-4.380	-3.600	-3.240	Stationarity

8. Diagnostic test For Non-interest income diversification

Panel diagnostic tests were done to make sure that the cardinal criteria of the classical regression linear model were met, reducing the possibility of fitting a fake model and arriving at false conclusions. These featured the likelihood ratio test for heteroskedasticity, the dynamic amplification factors for multi-collinearity, the

variance inflation factors for stationarity, and the normalcy and unit roots for serial correlation. They also included the collinearity Woodridge test.

Since the foundation of regression model is based on a number of assumptions, model fitting is only the beginning of the narrative. Regression diagnostics are used to assess the model assumptions and look for observations that have a significant, unjustified impact on the analysis. The diagnostic procedures of normality, heteroscedasticity, serial correction, and multicollinearity were performed. Usually, these tests follow regression analysis.

9. Normality test For Non-interest income diversification

How likely it is for a random variable underlying the dataset to be regularly distributed is determined by the normality test. The Kolmogorov-Smirnov test, the Shapiro Wilk test, the Skewness-Kurtosis test, and the Chen-Shapiro test are a few examples of normality tests. The Jarque-Bera test and the Skewness-Kurtosis test were employed in this investigation. Skewness is a measure of the asymmetry of the probability distribution of a random variable about its mean. It represents the amount and direction of skew. On the other hand, Kurtosis represents the height and sharpness of the central peak relative to that of a standard bell curve. The results in Table 5 shows the number of observation (84) and the probability of Skewness which is 0.0996 implying that Skewness is asymptotically normal distributed (p-values of Skewness > 0.05). Similarly, the probability of Kurtosis is 0.2662 which indicates that Kurtosis is also asymptotically normal distributed (p-value of Kurtosis > 0.05). The results also show that Chi (2) is 0.1217 which is greater than 0.05 implying its significance at a 5% level. Consequently, the null hypothesis cannot be rejected implying that the residual shows normal distribution.

Table 5: Skewness/Kurtosis tests for Normality for Non-interest income diversification

Variable	Obs	Pr (Skewness)	Pr (Kurtosis)	adj chi2(2)	Prob>chi2
Resid	10	0.0996	0.2662	4.21	0.1217

In Table 5, the p-value is lower than Chi (2) value which implies that the null hypothesis is rejected. Therefore, the residuals are normally distributed. From the Table 6, the value of chi (2) is 0.4656 which is greater than 0.05, therefore the null hypothesis cannot be rejected. Moreover, there is no violation of the normal distribution assumption of error terms as the residuals are coming out to be normal.

Table 6: Jarque-Bera test for Ho: normality for non-interest income diversification

Jarque-Bera normality test	chi (2)
1.529	.4656

10. Heteroskedasticity test for non-interest income diversification

Homoscedasticity violations typically result in confidence intervals that are either highly tight or extremely broad, which makes it challenging to adequately evaluate forecast errors of standard error. In order to test for heteroskedasticity in a linear regression model, the Breusch-Pagan/Cook-Weisberg test presupposes that the error terms are normally distributed. It examines the relationship between the values of the independent

variables and the variance of the regression errors. Bryman and Cramer (2016) claim that homoscedasticity often occurs when the p-value is greater than the threshold of significance of 0.05. There being heteroskedasticity is the null hypothesis. Table 7 presents the findings. The alternative hypothesis and the null hypothesis can be compared using the Breusch-Pagan test. Contrary to the null hypothesis, which asserts that all error variances are identical (homoskedasticity), the alternative hypothesis contends that the error variances are a multiplicative function of one or more factors (heteroskedasticity). According to Table 7, the probability value of the chi-square is greater than 0.05. As a result, at the 5% level of significance, the null hypothesis of a constant variance is not rejected, indicating that there is no heteroskedasticity in the residuals.

Table 7: Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Variables	chi2(1)	Prob > chi2
fitted values of Commercial Banks	1.38	0.2409

Table 8: Durbin-Watson test

Statistic	No, of obs	No, of parameters	Value
Durbin-Watson d-statistic	5	10	1.208058

11. Multicollinearity for Non-interest income diversification

When analysing a specific multivariate regression model, multi-collinearity measures the probability that the independent variables, which must be equal to or higher than 2, are significantly or significantly correlated. Consequently, one variable might be anticipated based on the other (Singparwalla, 2017) when there is a significant correlation between the independent variables, the standard error of the coefficients tends to rise, which can result in unfavourable outcomes. Multicollinearity generally occurs when there are high correlations between two or more predictor variables i.e., one predictor variable can be used to predict the other. Multicollinearity is measured using Variance Inflation Factor (VIF) to evaluate the degree of correlation between the variables. If the VIF average Value is less than 10, indicates the absence of Multicollinearity. The data in Table 9 reveal that there is no multicollinearity, with a mean VIF of 5.29 10. There was no collinearity because none of the bank independent variables attributes had correlation coefficients higher than 0.8. moderation, and none of the variables were deleted because they were not highly associated.

Table 9: Multicollinearity for Non-interest income diversification

Variable	VIF	1/VIF
Fees and Commission	7.69	0.129996
Trading income	3.43	0.291917
Foreign Exchange	1.27	0.785776
Other Income	8.76	0.114140
	Mean VIF	5.29

12. Conclusions and Recommendations

There are a variety of conclusions that may be drawn from the study's findings. Overall, the study found a positive relationship between noninterest income and the financial performance of Kenyan commercial banks, that unrelated revenue streams lower the risk of a sudden, unexpected outcome, and that in diversified interest revenue streams, a loss or risk from one source of income is offset by gains from another. This means that in order to increase their income and grow their business, the majority of commercial banks need exercise diversification into noninterest revenue streams.

Instead of relying solely on income services, commercial banking institutions should diversify their income creation. The likelihood of financial loss among commercial banks and financial institutions would be reduced as a result. The possibility of bank panics and bank runs among financial stakeholders should be removed by developing measures to safeguard the financial soundness of commercial banks.

Author Contributions

All the authors contributed to the successful of the document.

Conflict of Interest

Declaration of conflict of interest.

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