

## **INFLUENCE OF NON INTEREST INCOME ON FINANCIAL PERFORMANCE OF COMMERCIAL BANKS LISTED AT THE NAIROBI SECURITIES EXCHANGE**

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**Abstract:** *Diversification into noninterest income by commercial banks has been born out of the need for banks to improve their financial performance in the wake of declining revenue majorly due to dependence on interest income. Several studies have been conducted by different scholars on the effect of noninterest income on financial performance of banks. The findings of these studies have had mixed conclusions on the subject with unclear linkage between noninterest income and bank performance. These conflicting outcomes were the basis for this study. Banking Amendment Act, in Kenya, (2016) capped interest rates at 4% on top of the Central bank lending rate. Meaning the ability of banks to charge interest income was also capped. This has forced banks to delve further into noninterest income as a diversification strategy to stabilize performance.*

**Objective:** *The general objective of this study was to investigate the influence of non interest income on the performance of commercial banks listed on the Nairobi Securities Exchange.*

**Significance:** *This study will be of value to the government, regulators and policy makers by enlightening them on the effect of noninterest income on the performance of commercial banks thus help them make policies that promote a healthy business environment for commercial banks which will, in turn, enhance the country's economic development.*

**Design:** *The research design employed was a descriptive survey with a target population of eleven commercial banks listed at the Nairobi securities Exchange. The research employed a data collection guide for secondary data collection.*

**Conclusion:** *The study concluded that there was a positive relationship between non-interest income and financial performance of commercial banks and non-interest income influenced 28.5% of the total variance in commercial banks financial performance.*

**Keywords:** *Commission on Loans and Advances, Foreign Exchange Trading Income, Transaction and Account Related Income*

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### **INTRODUCTION**

Commercial banks play a key role in keeping the economy of a nation running as they act as intermediaries between savers and borrowers and allow free circulation of money (Celine et al., 2013). By playing such a key

role, banks earn from both interest income and non-interest income (NII). The common sources of non-interest income for Kenyan listed commercial banks (Among them: Barclays Bank, Cooperative Bank, Equity Bank and Kenya Commercial Bank of Kenya) are Commission on loans and advances, Foreign exchange trading income, trading securities, and brokerage.

The non-interest income creates revenue ensuring profitability of banks in the event of a default on interest income. Noninterest income from service charges, asset sales and leasing of property are not affected by economic and financial market cycles; neither are they controlled by interest rate laws and regulations. Noninterest income is among the significant factors influencing bank profitability, (Oniang'o, 2015).

In the past banks have been earning noninterest incomes through providing traditional banking services such as checking accounts, trust, and cash management. Recently, they have been earning noninterest income from new sources which can be highly traced to securitization of the mortgages, credit cards, agency banking, mobile and internet banking, insurance underwriting, and mutual funds investment. According to Ng'endo (2012), the advancement towards noninterest income investments by commercial banks has resulted in increased competition in financial market integration, technological advancement, and improved regulations in the banking industry.

Commercial banks mobilize idle savings from the few rich. By mobilizing savings, banks channelize these funds into productive investments. Thus they help in the capital formation of a developing country like Kenya. Commercial banks help the economic development of Kenya by faithfully following the monetary policy of the Central Bank of Kenya (CBK). In fact, the CBK depends upon commercial banks for the success of its policy of monetary management in keeping with requirements of a developing economy. Thus commercial banks contribute much to the growth of an economy by granting loans to agriculture, trade and financing the industrial sector. They provide short-term, medium-term and long-term loans to industries.

### ***Concept of Non-Interest Income***

Noninterest income is revenue that is derived by commercial banks from areas that are outside their lending operations or any other income to the banks that is derived from other activities other than their core business of taking deposits and extending loans to their customers at interest. This income can also be referred to as fees income as most of it is charged on customers in the form of fees (Ng'endo, 2012).

Noninterest income is a bank income derived primarily from fees including deposit and transaction fees, insufficient funds fees, annual fees, monthly account service charges, inactivity fees, check and deposit fees and credit card charges (including late fees and over-the-limit fees). Noninterest income can be anything from asset sales to fees from penalties related to overdrafts or withdrawals. Some commercial banks rely heavily on fees from automated teller machines, mobile banking, and general transaction fees. Noninterest income is particularly important in business banking relationships. Banks generally charge businesses and companies more for non-interest transactions.

### ***Performance of Commercial Banks***

The financial performance of commercial banks looks into the subjective measure of how commercial banks use their assets to generate revenues. This is the general measure of banks' overall financial health over a given period. This financial performance is highly affected by the decisions made to effectively utilize assets to increase profit, (Abreu and Mendes, 2000). The decision made by commercial banks indicates how effective the management is working with a mathematical value of the operational efficiency being the quotient of the revenues from the total assets, (Saira et al., 2011).

The degree to which commercial banks rely on non-interest fees to make a profit is a function of the economic environment. Market interest rates are driven by benchmark rates such as the Inter Bank Rate (IBR). The IBR, or the rate at which banks lend money to one another, is determined by the rate at which the CBK reserve pays banks interest. As interbank rate decreases, commercial banks make less profit from interest income hence a need to increase non-interest income. The subject still remains a grey area as most empirical works have focused on the causes of financial performance with little linkage to noninterest income and financial performance of banks.

To realize the same or improved performance banks must lend more at the current interest rates or diversify in to noninterest income strategies. Lending above the optimal book position will portend future challenges related to credit default. The adjustment on interest rate spread has had significant effects on the overall profitability of banks only coming into effect in the fourth quarter (Q4) in 2016 and yet affecting the overall profitability of the banks in 2016 and 2017 as highlighted in table 1:

**Table 1: Highlights of banking sector Q1, 2017 compared to Q1, 2016**

Parameter	Q1 2016	Q1 2017	Change (Bn)	Change (%)
Net profit	28.71	23.73	<b>- 4.98</b>	<b>-17.35</b>
Interest Income from Customer loans	82.87	69.26	<b>- 13.61</b>	<b>-16.42</b>
Income from government securities	22.81	24.55	<b>1.74</b>	<b>7.63</b>
Non Interest Income	30.56	39.15	<b>8.59</b>	<b>28.11</b>

Source: Business Daily Africa website as reported from financial reports, 2017.

Banking sector industry noninterest income grew by 28.11% in Q1 2017 whereas interest income fell by 16.42% in the same Q1. The trend may go on as banks became more and more cautious with unsecured lending. For banks to maintain stability in profitability diversification into noninterest income is the way forward. Industry Return on Equity (RoE) had fallen from 18.2% in June 2016 to 13.6% in March 2017 (CBK reports, 2017). “These numbers falling reflect the lower levels of profits in some of these institutions.” Dr. Patrick Njoroge, Governor CBK during a stakeholder briefing in April 2017. All the listed commercial banks have reported a reduction in profitability for H1 2017. For instance Equity bank, National Bank, Barclays Bank, Co-operative Bank, KCB and Standard Chartered Bank have announced a reduction in H1 2017 net profitability by 7.25%, 42.23%, 11.5%, 10.8%, 1% and 7.02% respectively on the account of interest rate cap. The same banks had reported a significant increase in noninterest income for H1 2017 compared to the same period in 2016.

The sentiments for diversification into non funded income were well captured by Equity bank’s Chief Executive Officer Dr. James Mwangi during an August 2017 half year investor briefing: “The bank is operating in a challenging banking environment. The banking industry is facing a perfect storm. You have to place a bet where the probability of winning is higher. We are now moving from fixed cost structures to variable cost structures which are not capital intensive. I believe payment and transaction processing will be the biggest source of income for the bank. We target to grow non funded income to 50% over the next year.”

**Statement of the problem**

Commercial banks in Kenya have lost the ability to determine the interest rates they levy on loans and other intermediation services hence losing the ability to determine the interest income. In August 2016 there was a change in the interest rate regime through a parliamentary legislation that involved capping the interest rates

at 4% above the CBR (currently at 10%) and of 70% of the CBR to be paid to savers, banking (Amendment) Act, 2016. The effect of the banking (Amendment) Act, 2016 saw several banks issue profit warning followed by a drop in their profitability. The reduction of the interest spread saw significant reduction in the interest income, (Anyanzwa, 2017).

Ng'endo (2012), Mboya (2012), and Gichure (2015) looked into the relationship between non-interest income, earnings volatility and financial performance of banks in Kenya and concluded that noninterest income results in earnings volatility because of the required expansion in fixed costs. They also noted that there were few benefits if any to be expected from income diversification from traditional banking to fee-based revenue despite growing importance of non-interest income. Murithi (2013) and Oniang'o (2015), reviewed the effects of revenue diversification into non-interest income on financial performance of banks in Kenya and found out that noninterest income affected performance of commercial banks to a great extent because revenue diversification is associated with greater returns.

These studies indicated the topic of noninterest income and how it affected performance of banks was not conclusive and had produced mixed results. Divergent conclusions from different scholars suggested that the subject was a contemporary issue more so to a developing economy like Kenya. As such banks had diversified significantly in order to stabilise profitability and earnings volatility. This study sought to establish how the different noninterest incomes sources had aggregately influenced financial performance of commercial banks listed on the Nairobi Securities Exchange.

### ***Specific Objectives of the Study***

- i. To establish the effect of bank commission on loans and advances on the financial performance of Commercial banks listed at the NSE
- ii. To establish the effect of income from foreign exchange trading on the financial performance of Commercial banks listed at the NSE
- iii. To establish the effect of investment income on the financial performance of Commercial banks listed at the NSE
- iv. To establish the effect transaction and account related income on the financial performance of Commercial banks listed at the NSE

### ***Research Hypotheses***

The hypotheses were stated as follows such that the researcher accepted or rejected them depending on their significance on performance of commercial banks.

- i. **H<sub>0</sub>:** Bank commission on loans and advances had no significant influence on the financial performance of Commercial banks listed on the NSE
- ii. **H<sub>0</sub>:** Foreign exchange trading income had no significant influence on the financial performance of Commercial banks listed on the NSE.
- iii. **H<sub>0</sub>:** Investment income had no significant influence on the financial performance of Commercial banks listed on the NSE.
- iv. **H<sub>0</sub>:** Bank transaction and account related income had no significant influence on the financial performance of Commercial banks listed on the NSE.

## 2. THEORETICAL LITERATURE

This section looked into three theories that support the concept of non-interest income and financial performance namely: Modern portfolio theory, Arbitrage Pricing Theory and the Capital Asset Pricing Model Theory. The concepts of these theories support the relationship of the variables in this study. This section also contains the study's conceptual framework which was based on the relationship between non-interest income and the financial performance of commercial banks listed at the NSE in Kenya. Noninterest income formed the independent variables while the performance of listed commercial banks forms the dependent variable as outlined in figure 2.1.

***Modern Portfolio Theory:*** Modern Portfolio Theory (MPT) was developed by Markowitz, (1952) as an investment theory on how risk averse investors could come up with portfolios. The MPT of economic theory considers the return of an asset as a random variable and considers the portfolio as the weighted combination of assets.

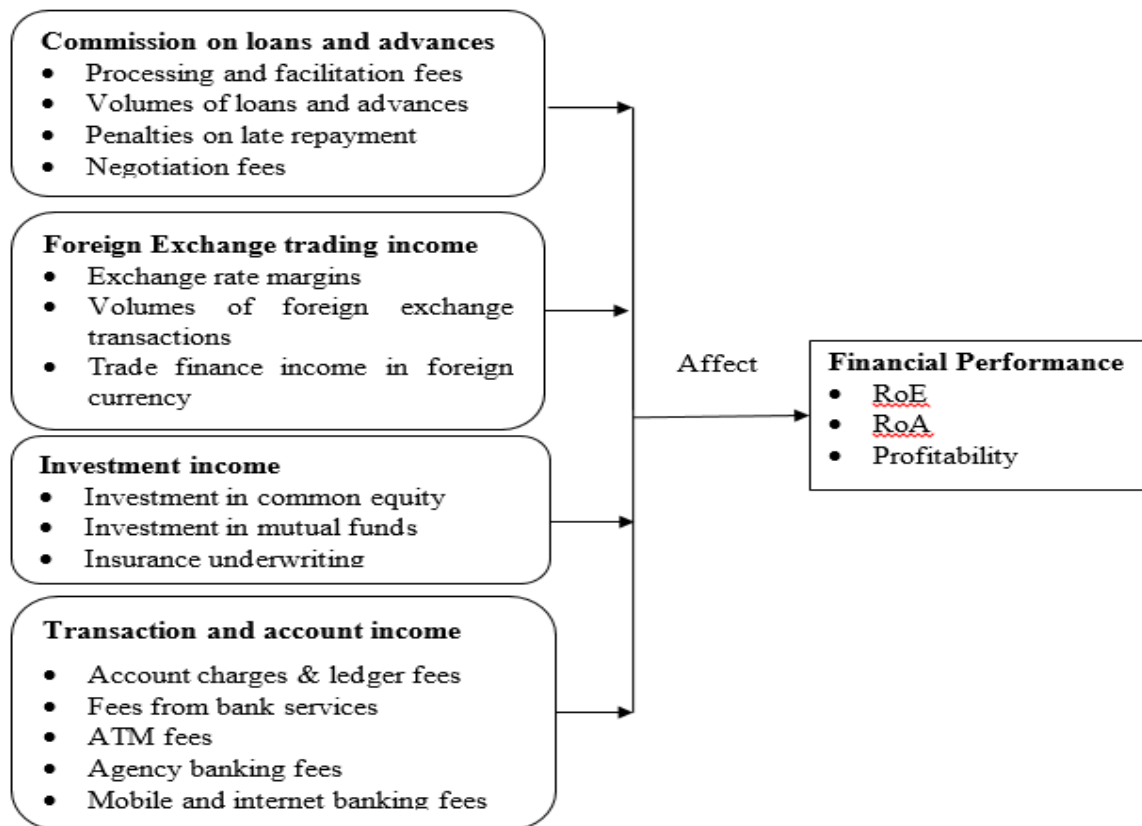
### ***Capital Asset Pricing Model Theory***

The Capital Asset Pricing Model (CAPM) of Lintner (1965) marks the birth of asset pricing theory. CAPM is widely used in applications, such as estimating the cost of capital for firms and evaluating the performance of managed portfolios. The attraction of the CAPM is that it offers powerful and intuitively pleasing predictions on how to measure risk and the relationship between expected return and risk (Hickman et al., 2002).

### ***Arbitrage Pricing Theory***

Arbitrage Pricing Theory (APT), first developed by Ross (1976) is an asset pricing theory that states that the anticipated investment return or financial assets can be modeled to form a linear correlation of different macroeconomic variables. The change in correlation extent is represented by a beta coefficient.

### ***Conceptual Framework***



### 3. RESEARCH DESIGN

This study employed a descriptive survey research design. According to Mugenda and Mugenda (2003), research design refers to the structure, plan and strategy to be adopted in order to answer various research questions. Descriptive research design was adopted since it allowed the researcher to describe the population of interest. The design also allowed the researcher to describe the correlation between non-interest income and the listed commercial banks’ financial performance. This enabled the researcher to understand how various non-interest income sources influence the performance of commercial banks.

### 4. RESEARCH FINDINGS AND DISCUSSION

#### Descriptive Analysis

This section discusses the trend of banks’ commission on loans and advances, income from foreign exchange trading, investment income and transaction and account related income for the period from 2012 to 2017.

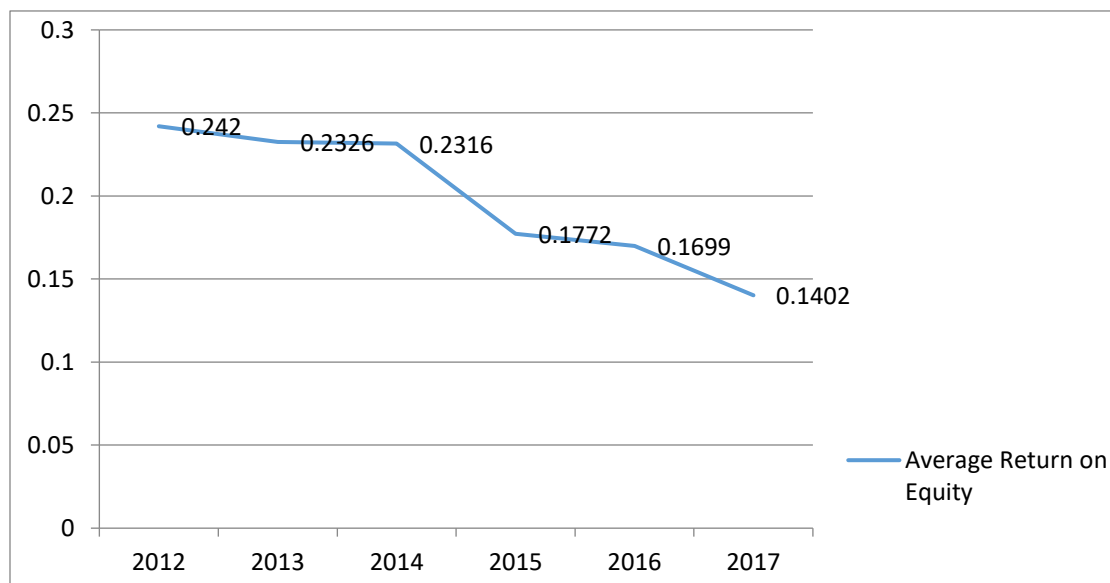
#### 4.2.1: Return on Equity

The study sought to analyze the trend of performance of commercial banks between 2012 and 2017. Return on Equity was used as the measure of financial performance. The results of the study are as shown in Table 4.1.

**Table 4.1: Return on Equity**

Year	2012	2013	2014	2015	2016	2017
Return on Average Equity	.2420	.2326	.2316	.1772	.1699	.1402

The average performance of commercial banks in Kenya was on a steady decline between 2012 and 2017. The year 2017 recorded the lowest performance at 14.02% while 2012 recorded the highest performance at 24.20%. The performance decreased from an average of 24.2% in 2012 to 14.02% in 2017. This outcome was consistent with decreasing financial performance banks had posted in the study period. A standard deviation of 4.2% recorded indicated that the level of performance among commercial banks had fluctuated over the study period. The trend of commercial banks financial performance over the study period was shown in Figure 4.1.



**Figure 4.1: Return on Equity**

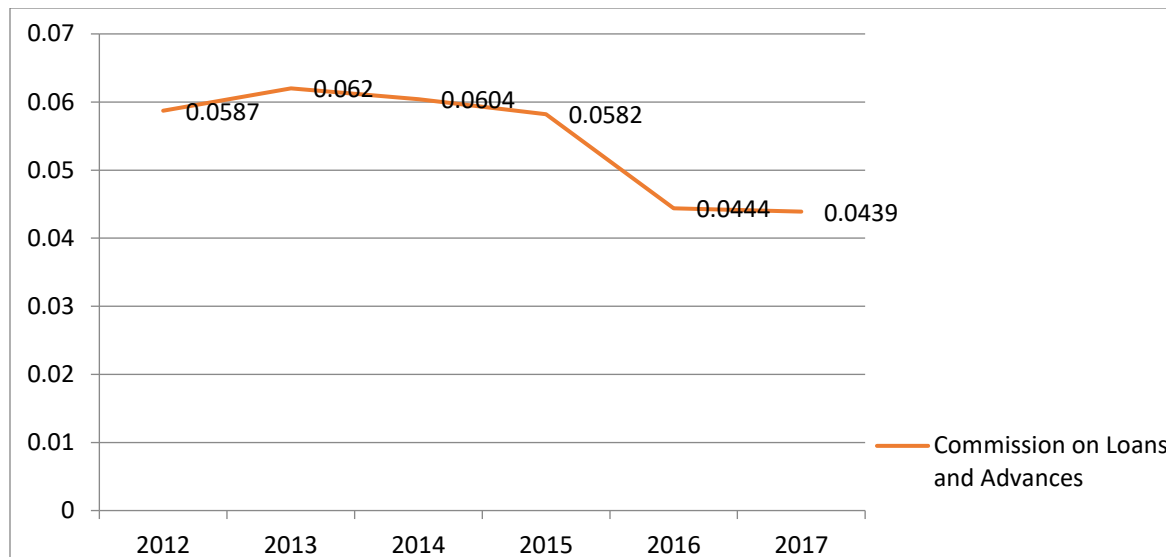
**4.2.2 Commission on Loans and Advances**

The study further sought to analyze the trend of commercial banks commission on loans and advances between 2012 and 2017. The results of the study are as shown in Table 4.2.

**Table 4.2: Commission on Loans and Advances**

Year	2012	2013	2014	2015	2016	2017
Commission on Loans and Advances	.0587	.0620	.0604	.0582	.0444	.0439

During the study period (2012-2017), commercial banks recorded a slight increase in contribution of total income from commission on loans and advances from 5.87% in 2012 to 6.20% in 2013 and thereafter decreased to 4.39% in 2017. The year 2017 recorded the lowest contribution to total income at 4.39% while 2013 recorded the highest effect of non-interest income to total income at 6.20%. The decreasing contribution of commissions from loans and advances was consistent with low levels of income in the study period. This was occasioned by low volumes of loans and advances as the effects of interest rate cap bit commercial banks. The downward trend explained the cautious behavior of commercial banks towards lending. When the volumes in loans declined due to interest rate cap of 2016, fees associated with loans and advances also declined. The overall effect of commission on loans and advances to total income realized over the study period varied as evidenced by the standard deviation of 0.82% that was recorded. The trend during the study period is as shown in Figure 4.2.



**Figure 4.2: Commission on Loans and Advances**

### 4.2.3 Foreign Exchange Trading Income

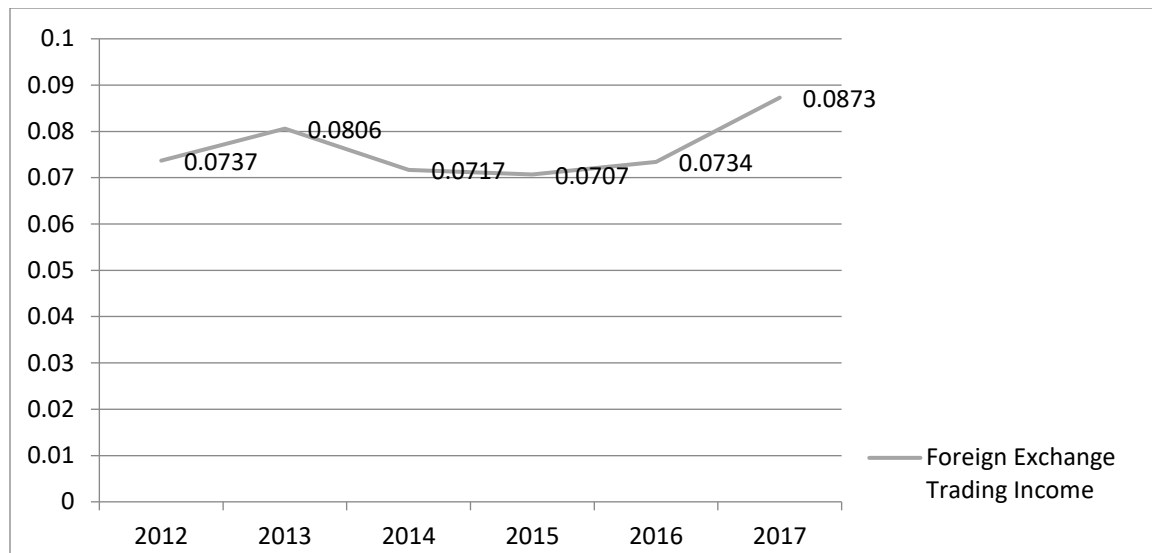
The study also sought to analyze the trend of commercial banks foreign exchange trading income between 2012 and 2017. The results of the study are tabulated in Table 4.3.

**Table 4.3: Foreign Exchange Trading Income**

Year	2012	2013	2014	2015	2016	2017
Foreign Exchange Trading Income	.0737	.0806	.0717	.0707	.0734	.0873

There was an increase in foreign exchange trading income from 7.37% in 2012 to 8.06% in 2013 then a drop through 2015 to 7.07% and a further increase to 8.73% through 2017. The year 2015 recorded the lowest contribution to total income at 7.07% while 2017 recorded the highest contribution to total income at 8.73%. These findings indicate significant fluctuations in commercial banks foreign exchange trading income during the study period. Banks have picked up foreign exchange income as an income diversification tool. The upward trend between 2015 and 2017 showed the recent trend on how banks have taken foreign exchange income seriously. This can be evidenced by the increasing contribution to total income from 7.07% in 2015 to 8.73% in 2017. Income fluctuation in this area was also evidenced by a standard deviation of 0.64% recorded during the study period. The trend of foreign exchange trading income size effect on total income during the study period is as shown in Figure 4.3.





**Figure 4.3: Foreign Exchange Trading Income**

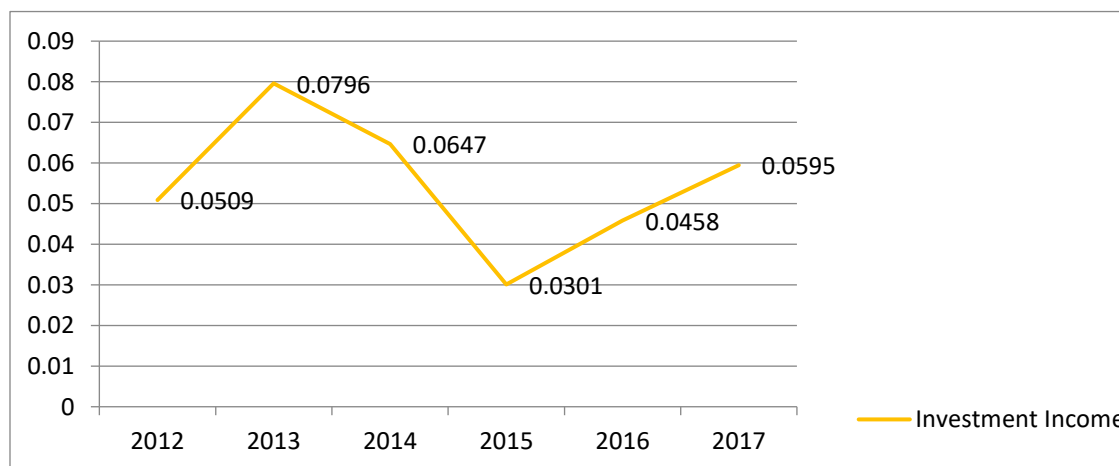
#### 4.2.4 Investment Income

The study further sought to analyze the trend of commercial banks investment income between 2012 and 2017. The results of the study are as tabulated in Table 4.4.

**Table 4.4: Investment Income**

Year	2012	2013	2014	2015	2016	2017
Investment Income	.0509	.0796	.0647	.0301	.0458	.0595

Commercial banks recorded an increase in investment income between 2012 and 2013 with an average contribution of 5.09% and 7.96% respectively. Then falling to 3.01% through 2015 and rising again through 2017 at 5.95%. The year 2015 recorded the lowest contribution to total income at 3.01% while the year 2013 recorded the highest contribution to total income at 7.96%. There has been a steady increase in contribution from 3.01% in 2015 to 5.95% in 2017 which showed how banks used investment income to improve performance. Investment income increasing trend from 2015 to 2017 showed banks are actively taking up investment to improve performance. The variance in investment income over the study period was at 1.7%. The trend of commercial banks investment income during the study period is as shown in Figure 4.4.



**Figure 4.4: Investment Income**

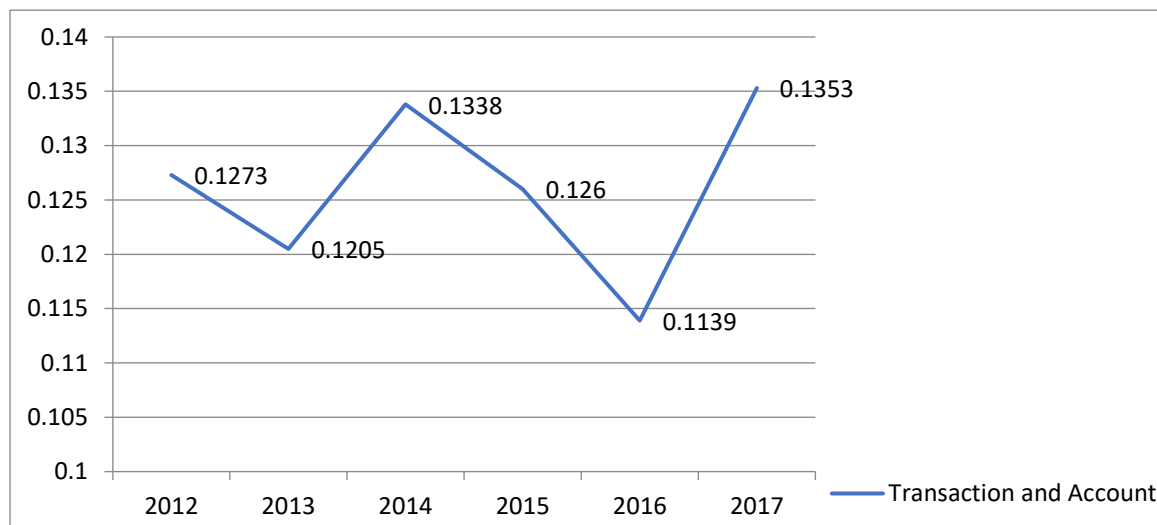
**4.2.5 Transaction and Account Related Income**

The study lastly sought to analyze the trend of commercial banks transaction and account related income during the study period. The results of the study are as tabulated in Table 4.5.

**Table 4.5: Transaction and Account Related Income**

Year	2012	2013	2014	2015	2016	2017
Transaction and Account Related	.1273	.1205	.1338	.1260	.1139	.1353

The contribution of transaction and account related income on total income fluctuated during the study period. This contribution reduced from 12.73% in 2012 to 12.05% in 2013, rose to 13.38% in 2014, declined again through 2016 to 11.39% and increased again to 13.53% in 2017. The year 2016 recorded the lowest contribution to total income at 11.39% while 2017 recorded the highest contribution to total income at 13.53%. Transaction and account related income showed significant potential and flexibility for growth and manipulation by banks to attain more revenue. Of all the four non interest income sources, transaction and account related income had the biggest size effect on total income. The largest improvement in income contribution was between 2016 and 2017. This showed that transaction and account related income had played a major role in income diversification especially for 2017. Overall, commercial banks recorded varying transaction and account income as indicated by the standard deviation of 0.81% recorded during the study period. The trend of commercial banks transaction and account related income during the study period was as shown in Figure 4.5.



**Figure 4.5: Transaction and Account Related Income**

**4.3 Correlation Analysis**

In order to establish if the study variables are correlated, Pearson product- moment analysis and Multi-collinearity analysis were done using SPSS.

**4.3.1 Pearson Product-Moment Correlation Analysis**

The researcher further carried out Pearson product-moment correlation analysis to test whether the study variables were correlated. The researcher used a p-value of 0.05 or less as an indicator of significant correlations. The results of the study are as shown in Table 4.6.

**Table 4.6: Pearson Product-Moment Correlation Analysis**

		Return on Equity (ROE)	Commission on Loans	Foreign Exchange	Dividend Income	Transaction and Account
Return on Equity (ROE)	Pearson Correlation	1				
	Sig. (2-tailed)					
Commission on Loans and Advances	Pearson Correlation	.457**	1			
	Sig. (2-tailed)	.000				
Foreign Exchange Trading Income	Pearson Correlation	.178	-.234	1		
	Sig. (2-tailed)	.169	.069			
Investment Income	Pearson Correlation	-.301*	-.199	-.117	1	
	Sig. (2-tailed)	.018	.125	.367		
Transaction and Account related Income	Pearson Correlation	.202	.011	.196	-.272*	1
	Sig. (2-tailed)	.118	.931	.129	.034	

\*. Correlation is significant at the 0.05 level (2-tailed).  
 \*\*. Correlation is significant at the 0.01 level (2-tailed).

The study found out that there was a positive and statistically significant correlation between commercial banks’ performance and non-interest income. The study also found out that there was a positive and significant correlation between return on equity and commission on loans and advances ( $r = .457, p = .000$ ); return on equity and foreign exchange trading income showed positive and insignificant correlation ( $r = .178, p = .169$ ); return on equity and investment income showed a negative and significant correlation ( $r = -.301, p = .018$ ) and return on equity and transaction and account related income showed positive and insignificant correlation ( $r = .202, p = .118$ ) as evidenced by the respective r-values and p-values.

**4.3.2 Multi-collinearity Analysis**

Significant correlation was recorded among the independent variables. Investment income and Transaction and Account related income showed negative and significant correlation ( $r = -.272, p = .034$ ). This indicated that there might be multi-collinearity between the two independent variables. The researcher carried out multi-collinearity analysis to determine if the independent variables are related. If they did, was relationship making it hard to determine how they affected the dependent variable? This was achieved by regressing each of the independent variables as a dependent variable against the other 3 independent variables. The researcher then determined the Variance Inflation Factor (VIF) of each of the individual function to determine multi-collinearity among the independent variables. VIF measures how much the variance of an estimated regression coefficient increases the independent variables are if they are correlated, (Neter, 2004). The results were documented in the tables 4.7, 4.8, 4.9 and 4.10 below:

**Table 4.7: Multi-collinearity Test with Commission on Loans and Advances (X1) as a dependent variable.**

Coefficients <sup>a</sup>			
Model		Collinearity Statistics	
		Tolerance	VIF
1	X2	.957	1.045
	X3	.922	1.085

	X4	.899	1.113
a. Dependent Variable: X1			

The VIF values for the model of Commission on Loans and advances (X1) as a dependent variable and foreign exchange trading income (X2), investment income (X3) and transactional and account related income (X4) as independent variables were all close to 1.

**Table 4.8: Multi-collinearity Test with Foreign Exchange Trading Income (X2) as a dependent variable.**

Coefficients <sup>a</sup>			
Model		Collinearity Statistics	
		Tolerance	VIF
1	X1	.958	1.043
	X3	.888	1.127
	X4	.924	1.082
a. Dependent Variable: X2			

The VIF values for the model of foreign exchange trading income (X2) as a dependent variable and commission on loans and advances (X1), investment income (X3) and transactional and account related income (X4) as independent variables were all close to 1.

**Table 4.9: Multi-collinearity Test with Investment income (X3) as a dependent variable.**

Coefficients <sup>a</sup>			
Model		Collinearity Statistics	
		Tolerance	VIF
1	X1	.942	1.062
	X2	.905	1.104
	X4	.958	1.044
a. Dependent Variable: X3			

The VIF values for the model of investment income (X3) as a dependent variable and commission on loans and advances (X1), foreign exchange trading income (X2) and transactional and account related income (X4) as independent variables were all close to 1.

**Table 4.10: Multi-collinearity Test with Transaction and Account Related Income (X4) as a dependent variable.**

Coefficients <sup>a</sup>			
Model		Collinearity Statistics	
		Tolerance	VIF
1	X1	.893	1.120
	X2	.917	1.090
	X3	.932	1.073
a. Dependent Variable: X4			

The VIF values for the model of transaction and account related income (X4) as a dependent variable and commission on loans and advances (X1), foreign exchange trading income (X2, and investment income (X3) as independent variables were all close to 1.

According to Neter (2004), The fact that some or all predictor (independent) variables are correlated among themselves does not, in general, inhibit our ability to obtain a good fit nor does it tend to affect inferences about the mean responses or predictions of new observations. Low VIF values (close to 1) indicated low correlation among variables. Since the independent variables had shown low correlation among themselves, therefore

commission on loans and advances, income from foreign exchange trading, investment income and transaction and account related income could be used as determinants of commercial banks financial performance.

#### 4.4 Regression Analysis

In order to establish the relationship between non-interest income and financial performance of commercial banks listed on the Nairobi Securities Exchange, regression analysis was done using SPSS. The results of the model's summary are as shown in Table 4.11.

**Table 4.11: Model Summary**

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.577 <sup>a</sup>	.333	.285	.0703746

a. Predictors: (Constant), Transaction and Account, Commission on Loans, Foreign Exchange, Investment Income, Transaction and Account Related Income.

The study sought to determine the effect size of non-interest income on the financial performance of commercial banks listed on the NSE. The study established that there was a positive relationship (R= 0.577) between non-interest income and financial performance of commercial banks. The study further established that non-interest income influenced 28.5% (adjusted r-square = 0.285) of the total variance in commercial banks financial performance.

#### 4.4.1 Coefficients of Determination

The study further sought to establish how commission on loans and advances, income from foreign exchange trading, investment income and transaction and account related income individually affected the financial performance of commercial banks listed at the NSE. Regression coefficients of determination are as shown Table 4.12.

**Table 4.12: Coefficients of Determination**

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.078	0.039		1.997	.051
	Commission on Loans and Advances	1.464	0.348	.486	4.210	.000
	Foreign Exchange Trading Income	.0430	0.196	.254	2.198	.032
	Investment Income	-.227	0.182	-.146	-1.247	.217
	Transaction and Account Related Income	.162	0.174	.107	.930	.356

a. Dependent Variable: Financial Performance (ROE)

The study found out that at 95% confidence level, commission on loans and advances, foreign exchange trading income, investment income and transaction and account related income had a varying degree of significance on the effect of financial performance of commercial banks listed at the NSE. They recorded varying degree of t-values and p-values as follows: commission on loans and advances showed a positive and significant effect (t= 4.210, p= 0.000), foreign exchange trading income showed a positive and significant effect (t= 2.198, p=

0.032), investment income showed a negative and insignificant effect ( $t = -1.247, p = 0.217$ ) and transaction and account related income showed a positive and insignificant effect ( $t = .930, p = 0.356$ ).

The following regression equation was estimated:

$$Y = 0.078 + 1.464X_1 + 0.430X_2 - 0.227X_3 + 0.162X_4$$

Where,

Y = Financial Performance (ROE)

X<sub>1</sub> = Ratio of Commission on Loans and Advances to Total Income

X<sub>2</sub> = Ratio of Foreign Exchange Trading Income to Total Income

X<sub>3</sub> = Ratio of Investment Income to Total Income

X<sub>4</sub> = Ratio of Transaction and Account Related Income to Total Income

The constant value of 0.078 in the regression model above showed that if commercial banks didn't have non-interest income, their performance would be dismal at only 7.8%. A unit increase in Commission on Loans and Advances, Foreign Exchange Trading Income and Transaction and account related income would lead to an increase in banks financial performance by 1.464, 0.430 and 0.162 respectively. A unit increase Investment Income would lead to a decrease in banks financial performance by 0.227.

Since Investment income has a negative beta, therefore the model was adjusted to:

$$Y = 0.078 + 1.464X_1 + 0.430X_2 + 0.162X_4$$

#### 4.4.2 Analysis of Variance

Analysis of Variance (ANOVA) was further conducted to test whether the regression model had goodness of fit of the regression. The results of the study are as shown in Table 4.13.

**Table 4.13 Analysis of Variance (ANOVA)**

ANOVA <sup>a</sup>						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.138	4	.035	6.987	.000 <sup>b</sup>
	Residual	.277	56	.005		
	Total	.416	60			
a. Dependent Variable: Return on Equity (ROE)						
b. Predictors: (Constant) , Commission on Loans and Advances, Foreign Exchange Trading Income, Investment Income, Transaction and Account Related Income						

The analysis of variance results indicated that the regression model had goodness of fit since it recorded a significance level (p-value) of 0.000 which was less than the 5%. The model was therefore reliable in establishing the effect of non-interest income on the financial performance of commercial banks listed on the NSE.

#### Findings and Discussion

The findings of the study concluded that listed commercial banks have moderately diversified their income from the core bank business into noninterest income. The findings also showed that there was a positive

relationship ( $R= 0.577$ ) between non-interest income and financial performance of commercial banks and that non-interest income influenced 28.5% of the total variance in commercial banks financial performance.

The findings of the study established that increasing noninterest income increases RoE. The findings agree with studies conducted by Murithi (2013) and Oniang'o (2015), on the effects of revenue diversification into non-interest income on financial performance of banks in Kenya and found out that noninterest income affects performance of commercial banks to a great extent. The findings of the study were also consistent with studies carried out by Njenga, (2014) on determinants of non-interest income in Kenya's commercial banks and Gichure, (2015) on the relationship between non interest income and financial performance of commercial banks in Kenya. The studies concluded that there was a positive relationship between noninterest income and financial performance of commercial banks.

The findings of the study were not in agreement with a study by Mndeme (2015) on impact of noninterest income on bank performance in Tanzania. The findings concluded that increase in share of noninterest income has a negative impact on bank performance across all types of banks. However, the results supported the hypothesis that diversification was better for the performance of banks. On the other hand Ng'eno (2012) found out that expansion into fee-based services will diminish ROE and enlarge earnings volatility.

### ***Summary of Findings***

The study sought to establish the effect size of non-interest income on the financial performance of commercial banks listed on the NSE. The non-interest income items used in this study were: commission on loans and advances, foreign exchange trading income, investment income and transaction and account related income. Regression analysis was used to test the relationship between non-interest income and the financial performance of commercial banks.

The average performance of commercial banks in Kenya was on a steady decline between 2012 and 2017. Commercial banks saw fluctuation in financial performance as recorded by the standard deviation of 4.2%.

During the study period (2012-2017), commercial banks recorded a steady increase in commission on loans and advances between 2012 and 2013, and then reduced through 2017. The year 2013 recorded the highest contribution from commission on loans and advances to total income while 2017 recorded least contribution. The fluctuation in percentage on commission on loans and advances collected over the study period was evidenced by the standard deviation of 0.82%.

There was an increase in foreign exchange trading income between 2012 and 2013 then declined in 2013. Between 2015 and 2017 contribution total income increased from foreign exchange trading income. The findings revealed significant fluctuations in commercial banks foreign exchange trading income during the study period.

The study found out that there was a steady increase in investment income between 2012 and 2013 the falling through 2015 again increasing again through 2017. This fluctuation in income contribution was recorded at 1.7% the highest of the non interest income in the study period.

The percentage income collected by commercial banks from transaction and account related fees declined between 2012 and 2013 the rose again 2014, declined again through 2016 and rose in 2017. The year 2016 recorded the lowest transaction and account related income contribution while 2017 recorded the highest contribution. Overall, the commercial banks recorded varying transaction and account related income as evidenced by a standard deviation of .81%.

The study established that there was no multi-collinearity among the independent variables. Therefore, commission on loans and advances, income from foreign exchange trading, investment income and transaction and account related income could be used as determinants of commercial banks financial performance. The study also found out that there was a moderate positive relationship ( $R= 0.577$ ) between contribution of non-interest income and financial performance of commercial banks. The study established that non-interest income influences 28.5% of the total variance in commercial banks financial performance.

### ***Conclusion***

The study concluded that there was a positive relationship ( $R= 0.577$ ) between non-interest income and financial performance of commercial banks. The study also concluded that non-interest income influenced 28.5% of the total variance in commercial banks financial performance.

The study concluded that bank commission on loans and advances had a positive and significant influence on the financial performance of Commercial banks listed on the NSE. The hypothesis that bank commission on loans and advances had no significant influence on the financial performance of Commercial banks listed on the NSE is therefore rejected.

The study also concluded that foreign exchange trading income had a positive and significant influence on the financial performance of Commercial banks listed on the NSE. The hypothesis that foreign exchange trading income had no significant influence on the financial performance of commercial banks listed on the NSE is therefore rejected.

The study further concluded that investment income had a negative and insignificant influence on the financial performance of Commercial banks listed on the NSE. The hypothesis that investment income had no significant influence on the financial performance of Commercial banks listed on the NSE is therefore accepted.

The study further concluded that bank transaction and account related income had a positive and insignificant influence on the financial performance of Commercial banks listed on the NSE. The hypothesis that bank transaction and account related income had no significant influence on the financial performance of Commercial banks listed on the NSE is therefore accepted.

### ***Policy Recommendations***

The study found out that commission on loans and advances, foreign exchange trading income and transaction and account related income had diverse significance on effect of the financial performance of commercial banks listed at the NSE. The study therefore recommends that commercial banks in Kenya can rely on non-interest items such as commission on loans and advances, foreign exchange trading income, and transaction and account related income as reliable sources of income for the banks. Income from investment has a negative correlation with financial performance. Commercial banks should be prudent when diversifying into investment income because of the likelihood the returns would move in the opposite direction with the overall performance of banks.

The study also recommends that commercial banks should look for more alternative sources of income other than their core activities and those noninterest income streams discussed in this study.

### ***Suggestions for Future Studies***

The study only focused on the size effect of non-interest items (commission on loans and advances, foreign exchange trading income, investment income and transaction and account related income) on the financial



performance of commercial banks. However, it could only account of 28.5% of the variance in banks financial performance. Therefore, there is a need for further research to establish the specific other variables that influence the performance of commercial listed at the NSE.

Further, this study sought to establish the effect of non-interest income on the financial performance of commercial banks using a 6 year data. Similar data should be replicated considering a longer period of time, preferably 10 years. The findings of the study might change and the researcher might be able to get more reliable conclusions.

The exact influence of the law capping interest rates (enacted in 2016) has not been determined because the law has only had been only been in effect since 2017). Other studies should be conducted in future, with a view to find out how well commercial banks have put in place noninterest income diversification strategies to curb the effects of lowering interest income.

## REFERENCES

- Abreu M. & Mendes V., (2000). *Commercial Bank Interest Margins and Profitability: Evidence for Some EU Countries, presented on the 50th International Atlantic Economic Conference.*
- Anyanzwa, J., (2017). *Interest rate caps eat into Kenya banks' profits. The East African. Retrieved 17 August 2017, from <http://www.theeastafrican.co.ke/business/Interest-rate-caps-eat-into-Kenya-banks-profits-/2560-3843916-9c7bd/index.html>*
- Banking (Amendment) Act, (2016). *Kenya Gazette Supplement Acts, as retrieved from [http://kenyalaw.org/kl/fileadmin/pdfdownloads/AmendmentActs/2016/Banking\\_Amendment\\_Act2016.pdf](http://kenyalaw.org/kl/fileadmin/pdfdownloads/AmendmentActs/2016/Banking_Amendment_Act2016.pdf).*
- Barclays Africa, (2017). *Definitions. Retrieved from [www.barclaysafrica.com/investor-relations/announcements-and-publications/definitions/](http://www.barclaysafrica.com/investor-relations/announcements-and-publications/definitions/)*
- CBK , (2017). *Annual report. Retrieved from <http://www.centralbank.go.ke>*
- Celine M., Ruth T. & Tarazi A., (2013). *Is Bank Income Diversification Beneficial? Evidence from an Emerging Economy. Université de Limoges, LAPE, 5 rue Félix Eboué, BP 3127, 87031.*
- Cooper, D. R., & Schindler, P. S., (2001). *Business Research Methods. Boston: McGraw Hill.*
- Gichure K. S., (2015). *The relationship between non interest income and financial performance of commercial banks in Kenya. Master's thesis University of Nairobi.*
- Hickman, K. A., Hunter, H. O. & Byrd, J. W., (2002). *Foundations of corporate finance. Cincinnati, OH: South-Western College Pub.*
- Lintner, J., (1965). *Corporate profits in perspective (National Economic Problems), American Enterprise Association.*
- Markowitz, H., (1952). *Portfolio Selection. The Journal of Finance 7 (1): pg 77-91*
- Mugenda, A. & Mugenda, O., (2003). *Research methods: quantitative and qualitative approaches. Africa Center for Technology (ACTS), Nairobi Kenya.*

- Mndeme, R. K., (2015). Impact of Non Interest Income on Performance of Banks in Tanzania. International Journal of Economics, Commerce and Management, United Kingdom Vol. III, Issue 5.*
- Murithi J. G., (2013). Effects of revenue diversification into non interest income on financial performance of banks in Kenya. MBA thesis, Kenyatta University*
- Mboya J., (2012). Income diversification in banking sector and earnings volatility: Evidence from Kenya commercial banks. KBA centre for research on financial markets & policy working paper series 2*
- Neter J., (2004). Applied Linear Statistical Models, pg 289, 4<sup>th</sup> Edition*
- Ng'endo, K. (2012). The Relationship between Non Interest Income and Financial Performance of Commercial Banks in Kenya. MBA Thesis University of Nairobi.*
- Njenga, E., (2014). Determinants of non-interest income in Kenya's commercial banks. Unpublished MBA project, Kenyatta University.*
- Oniang'o, R., (2015). Effect of Non Interest Income on Profitability of Commercial Banks in Kenya. MBA Thesis University of Nairobi.*
- Ross, S. A., Westerfield R. & Jaffe J. F., (2002). Corporate Finance. 6th Edition.*
- Saira, J., Jamil, A., Khalid, Z. & Abdul G., (2011). Determinants of bank profitability in Pakistan: Internal Factor Analysis .Mediterranean Journal of Social Sciences, 59- 78.*
- Ross, S.A., (1976). The Arbitrage Theory of Capital Asset Pricing, Journal of Economic Theory, Vol (13), 341-360*