

**BANKS' TRANSACTIONAL BASED REVENUE: A SURVEY OF  
COMMERCIAL BANKS IN KENYA**

**BY:**

**ANGELA MONDA**

**D61/22318/2019**

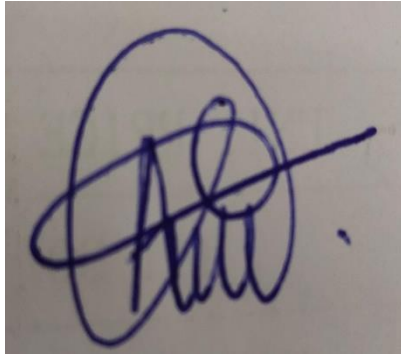
**SUPERVISOR: DR NIXON OMORO**

**A Research Project Submitted in Partial Fulfillment of the Requirements for the  
Award of the Degree of Master of Business Administration, School of Business,  
University of Nairobi**

**NOVEMBER, 2021**

## DECLARATION

I declare that this Research Project is my original work and has not been presented for the award of a Degree or any other award in this University or any other University.



Signed:

Date...20/11/2021.....

**Angela Monda**

**D61/22318/2019**

This Research Project has been submitted for examination with my approval as the University Supervisor



Signed: .....

Date: .....20/11/2021.....

**Dr. Nixon Omoro**

**School of Business,**

**Kisumu Campus, -**

**University of Nairobi**

## **ACKNOWLEDGEMENT**

First and foremost I want to give all thanks and glory to the Almighty God for His Grace in seeing me through my MBA studies.

I would wish to acknowledge my supervisor Dr. Nixon Omoro and my Moderator Dr. Luther for their guidance and insightful additions in the development and writing of this research project.

The entire Fraternity of University of Nairobi Kisumu campus for their unconditional support they accorded me during my study time in the campus.

My comrades, Eric, The late Prester, Damaris, Gordon and Savala for keeping up the team work spirit during our study time together.

Finally, I wish to thank my amazing parents for the immeasurable love and support and constant encouragement they have given me while pursuing my MBA and to my sweet son Ethan to whom I pass this mantle to, may this encourage you follow your dreams and achieve greater heights.

## TABLE OF CONTENT

<b>DECLARATION.....</b>	<b>ii</b>
<b>ACKNOWLEDGEMENT .....</b>	<b>iii</b>
<b>TABLE OF CONTENT .....</b>	<b>iv</b>
<b>LIST OF TABLES .....</b>	<b>viii</b>
<b>LIST OF FIGURE.....</b>	<b>ix</b>
<b>ABBREVIATIONS AND ACRONYMS .....</b>	<b>x</b>
<b>ABSTRACT.....</b>	<b>xi</b>
<b>CHAPTER ONE: INTRODUCTION .....</b>	<b>1</b>
1.1 Background of the Study.....	1
1.1.1 Transactional Based Revenue.....	2
1.1.2 Net Interest Income.....	3
1.1.3 Commercial Banks in Kenya.....	4
1.2 Research Problem .....	6
1.3 Research Objectives.....	7
1.4 Value of the Study .....	8
<b>CHAPTER TWO: LITERATURE REVIEW.....</b>	<b>9</b>
2.1 Introduction .....	9
2.2 Theoretical Foundations.....	9
2.2.1 Transaction Cost Theory.....	9
2.2.2 Modern Portfolio Theory.....	10
2.3 Risk and Return Trade Off.....	11

2.4 Empirical Review on Transactional Based Revenue and Net Interest Income.	12
2.5 Summary of Literature Reviewed.....	14
<b>CHAPTER THREE: RESEARCH METHODOLOGY .....</b>	<b>15</b>
3.0 Introduction .....	15
3.1 Research Design .....	15
3.2 Study Population.....	15
3.3 Sample Design.....	<b>Error! Bookmark not defined.</b>
3.4 Data Collection .....	16
3.5 Data Analysis.....	16
<b>CHAPTER FOUR: DATA ANALYSIS RESULTS AND FINDINGS .....</b>	<b>18</b>
4.1 Introduction .....	18
4.2 Descriptive Statistics.....	18
4.3 Diagnostic Tests .....	20
4.3.1 Normality Test .....	20
4.3.2 Homogeneity of Variance .....	21
4.4 Trend of Transactional Based Revenue amongst Commercial Banks of Kenya	21
4.4.1 Tier one Trend of Transactional Based Revenue from 2016-2020.....	21
4.3.2 Tier Two Trend of Transactional Based Revenue from 2016-2020 .....	23
4.3.3 Tier Three Trend of Transactional Based Revenue from 2016-2020 .....	24
4.3.4 Tier Four Trend of Transactional Based Revenue from 2016-2020 .....	26
4.5 Comparisons between Transactional Based Revenue and Net Interest Income	28
4.5.1 Tier 1 Comparisons between Transactional Based Revenue and Net Interest Income .....	28
4.5.2 Tier 2 Comparisons between Transactional Based Revenue and Net Interest Income .....	29

4.5.3 Tier 3 Comparisons between Transactional Based Revenue and Net Interest Income .....	30
4.5.4 Tier 4 Comparisons between Transactional Based Revenue and Net Interest Income .....	31
4.5.5 All Tiers Comparisons between Transactional Based Revenue and Net Interest Income .....	32
4.5.6 Difference in Growth between Income Based Revenue and Transactional Based Revenue .....	34
4.5.7 Contribution of Income Based Revenue and Transactional Based Revenue to Total Operating Revenue.....	35
4.5.8 Analysis of the Variance in Regard to All Tiers and Transactional Based Revenue .....	35
4.6 Discussions.....	37
<b>CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS</b>	<b>40</b>
5.1 Introduction .....	40
5.2 Summary of Findings.....	40
5.3 Conclusions .....	41
5.4 Recommendations for Policy and Practice.....	42
5.5 Limitations of the Study.....	43
5.6 Suggestions for Further Research.....	43
<b>REFERENCES.....</b>	<b>45</b>
<b>APPENDICES.....</b>	<b>51</b>
<b>APPENDIX 1: SECONDARY DATA COLLECTION SHEET.....</b>	<b>51</b>
<b>APPENDIX 2: SECONDARY DATA .....</b>	<b>52</b>



## **LIST OF TABLES**

Table 4. 1: Number of Observation Per Tier .....	18
Table 4. 2: Descriptive Results .....	19
Table 4. 3: Test for Normality .....	20
Table 4. 4: Tier one Trend of Transactional Based Revenue from 2016-2020 .....	21
Table 4. 5: Tier Two Trend of Transactional Based Revenue from 2016-2020.....	23
Table 4. 6: Tier Three Trend of Transactional Based Revenue from 2016-2020.....	24
Table 4. 7: Tier Four Trend of Transactional Based Revenue from 2016-2020 .....	26
Table 4. 8: Tier 1 Comparisons between Transactional Based Revenue and Net Interest Income .....	28
Table 4. 9: Tier 2 Comparisons between Transactional Based Revenue and Net Interest Income .....	30
Table 4. 10: Tier 3 Comparisons between Transactional Based Revenue and Net Interest Income .....	31
Table 4. 11: Tier 4 Comparisons between Transactional Based Revenue and Net Interest Income .....	32
Table 4. 12: Comparisons between Transactional Based Revenue and Net Interest Income for Commercial Banks in Kenya.....	33
Table 4. 13: Difference in Growth between Income Based Revenue and Transactional Based Revenue .....	34
Table 4. 14: ANOVA for All Tiers in Regards to Transactional Based Revenue .....	36



## **LIST OF FIGURE**

Figure 4. 1: Tier one Trend of Transactional Based Revenue between 2016-2020 .....	22
Figure 4. 2: Tier Two Trend of Transactional Based Revenue between 2016-2020 .....	24
Figure 4. 3: Tier three Trend of Transactional Based Revenue between 2016-2020 .....	25
Figure 4. 4: Tier Four Trend of Transactional Based Revenue between 2016-2020.....	27
Figure 4. 5: Average Trend between 2016 and 2020 .....	28
Figure 4. 6: Contribution of Income Based Revenue and Transactional Based Revenue to Total Operating Revenue.....	35

## **ABBREVIATIONS AND ACRONYMS**

<b>ATM:</b>	Automated Teller Machine
<b>CBK:</b>	Central Bank of Kenya
<b>EFT</b>	Electronic Funds Transfer
<b>IFMIS:</b>	Integrated Financial Management and Information System
<b>KBA:</b>	Kenya Bankers Association
<b>KCB:</b>	Kenya Commercial Bank
<b>MPT:</b>	Modern Portfolio Theory
<b>NSE:</b>	Nairobi Stock Exchange
<b>RTGS</b>	Real Time Gross Settlement.
<b>NPL</b>	Non-Performing Loans

## ABSTRACT

The survival of banks is pegged on its ability to engage in activities that will result to increase in total operating income (includes both non interest and interest); in terms of attaining profit and cost efficiencies. There has been a need to diversify into the both traditional interest and non-traditional revenue based activities in order to achieve economies of scales and competitive advantage. However, there is still a non-consensus between scholars regarding the impact of transaction based revenue on financial performance of banks. The research sought to establish the trend of transactional based revenue amongst commercial banks of Kenya and to compare between transactional based revenue and net interest income. Descriptive research design was used. The study entailed 34 no. commercial banks in Kenya which were clustered into tiers for comparison and therefore formed unit of analysis across a period of 5 years from 2016-2020. The range of 5 year was chosen since average ratios change over a period of time. The study used secondary data extracted from audited and published books of financial accounts of the 34 commercial banks in Kenya. Data was analyzed using descriptive and inferential statistics. Independent sample t-test was used to compare transaction based revenue and interest based revenue. Descriptive analysis was employed to establish the trends in transaction based revenue. It was presented using table and graphs. The results indicated that there has been fluctuation in transaction based revenue trends especially in tiers 1, 2 and 3 commercial banks in regard to the mean. The overall trends of transactional based revenue increased from 27% in 2016 to 30% in 2020 due to the interest and transaction fee waivers that was passed by CBK and other commercial banks to cushion against impact of Covid 19 pandemic however a peak was recorded in 2019 at 33.0%: The transactional based revenue differ significantly from the interest based revenue, which implies that net interest based revenue was better as compared to transactional based revenue for all commercial banks. However, transaction based income increased from 28% in 2016 to 32% in 2020 while income based revenue decreased from 72% in 2016 to 68% in 2020. It was found that smaller banks are more involved in transactional based earning activities relative to their larger counterparts with tier four banks registering the highest mean difference of 128.9% between 2016 and 2020. Therefore, transaction based revenue increasing trend especially in tiers 3 and 4 is a clear indication that small banks are diversifying their operating income to reduce risks and volatility in their earnings. The study recommended that bank management should ensure that an effective balance is struck between the drive for increasing transaction based revenue and focusing on the core intermediary functions of the banks since it is more beneficial for retail-oriented banks in Kenya to increase their share of transaction based revenue. The fluctuations in transaction based income which is an indication that transaction based income can grow if the government adopts policies that would encourage diversification in other sources of income. A policy that encourages commercial banks to engage in transactional based income activities should also be considered.

# CHAPTER ONE: INTRODUCTION

## 1.1 Background of the Study

Transactional based revenue is deemed as a silent revenue whose impact can easily be ignored since for the longest time banks have been putting more limelight on the mainstream interest income about how to revitalize the shrinking interest income which has been greatly affected by government policies, technology, digitalization and corporate governance. The impact of traditional based income on banks performance has not been vividly elaborated by scholars. Some existing literature highlight that increase in non-traditional based income will lead to improvement in banks financial performance contrary to that, others literatures state that an increase in non-traditional based income rarely occurs without a concomitant changes in variable inputs, interest income and financing structure. Focus on transactional based revenue trended up in the 1990s and it was strongly believed that adjusting the bank models to enable shift from the traditional role of intermediating where they are exposed to interest rate and credit rate risk (due to the increase on loan defaults and impairment on NPL) to transaction based activities and products, would improve bank performance.

This study focuses on the nexus between transaction based revenue and net interest income and will look into two underpinning theories namely: cost theory and Modern portfolio theory. Transaction cost theory postulates that commercial banks improve their financial performance by play a key role in reducing transaction cost since they have developed an expertise in minimizing such costs due to their large sizes which gives them an opportunity maximize on economies of scale, Eakins & Mishkins( 2016). This means that commercial banks are now be able to offer liquidity services to their customers in order to conduct transactions. The modern portfolio theory, an investment theory developed by Markowitz, (1952) to demonstrate how investors who are risk averse in this case, commercial banks, can be able to come up with a combination set of portfolios in which will in turn maximize on returns and minimize risks. This theory has been used to elaborate how banks invest in diversified portfolio in order to ensure going concern and increase their profitability.

Commercial banks felt the need to diversify and put more strategic focus on transactional based revenues in order to strengthen their earnings, EGH-PLC (2019). Transactional based revenue recorded a 6.4 percent weighted average in FY'2020 compare to 17.4 percent in FY'2019, Cytonn Report (2021). The banking sector's has seen the growth of non-interest income to above the threshold of 37 percent and this contributes to a significant 41 percent of the revenue, EGH-PLC (2019). The observed growth on transactional based income was buttressed by 0.2 percent increase in income from foreign exchange trading and 0.6 percent from fee and commission income, Kenya Bankers Association (2020). This is clear indication that transactional based revenue plays a significant role in driving the growth of commercial banks. Banks need to change their business models and strategies in order to accommodate product mix of both non-traditional income activities and traditional interest income such that as banks hopes onto the digital revolution wave, channeled diversification will boost bank efficiency and revenue expansion. According to Thygerson, (1995) interest income is more susceptible to economic turmoil compared to non-interest income; which as a results leads to loan delinquencies and increased interest rate risk. Since non-interest income are less exposed to economic recession, its returns offsets with the loss derived from interest income. However, studies done by Deyoung, (2004) conventionally believed that the increase in volatility of earnings were due the diversification effects like poor risk-return tradeoffs by investing in transaction based products and services. This survey study with tend to establish the contribution of transactional based revenue against the net interest income of the commercial banks of Kenya.

### **1.1.1 Transactional Based Revenue**

Transactional based revenue in the banking context can be described as income generated through activities carried out on operational bank accounts in the event of default rates, Haubrich, 2019 & Atellu (2016). Transactional based revenue can be otherwise referred to as "fee based income", "non-interest income", "nontraditional based income" or" non-funded income". Transactional based revenue is so fundamental in the banking business due to its recurrence and the opportunity to retain client and boost loyalty. This brings efficiency and financial optimizing creating an avenue for sustainability and digitization. Banks are now putting more focus on non-interest income due to the increased competition and low loan rates

which is eroding profits hence the need to focus on building and broadening banking relationships with corporates, parastatals and business owners.

These can be clustered into three streams namely service income, trading income and transaction income which entails account operating charges, forex trading, online and mobile banking charges, over the counter and ATM withdrawal fees, check and deposit slip charges, insufficient fund fees, credit card charges, penalty fees, over the limit fees, deposit and transaction fee, dividend income, inactivity fee, cheque encashment charges and fee and commission for loan advances.

The ratio of transactional based revenue to total operating income in the banking sector improved from 22.7 percent in Q1'2020 to a significant 35.3 percent in Q1'2021, Cytonn Report (2021). Banks that have invested more on non-interest activities tend to earn higher risk adjusted profits and profits especially when they diversify more on trading activities, Forex Ahamed (2017). The weighted average growth of non-interest income recorded at 2.9 percent in Q1'2021 post Covid compared to a growth of 15.9 percent in Q1'2020 pre Covid. This was attributed by the waiver placed on fees and commission on loans and advances issued by the CBK on March 2020. The contribution of transactional based revenue is expected to grow tremendously since waiver on fee and commissions was lifted in March 2021 Cytonn Report (2021).

### **1.1.2 Net Interest Income.**

Net Interest income is defined as the difference between the interest earned from extension of loan facilities to customers and the interest paid on deposits made by customers, The Economic Times (2021) The components of net income include: interest on loans, interest on bank placements and government securities and interest expense from deposits.

The whole banking sector recorded a Net interest margin of 7.4 percent in Q1'2021 up from 7.2 percent in Q1'2020 , Cytonn Report (2021). Despite the growth, there has been a decline in interest income affected by interest rate capping regime enacted in september 2016 considering interest on loan has been the main source of revenue to banks. The growth of interest income was greatly contributed by yields from government securities. Though other interest on earning assets like loans might be higher than government securities it is still

evident that there is an increase in allocation of government securities giving a growth of 22.3 percent from 122 billion in 2019 to 149 billion in 2020 (CBK, 2019) due to perception of less risk. Banks have been giving more preference to government securities due to the increase in credit risk imposed by the Covid 19 pandemic and evidenced by the slow loan growth at 11 percent in Q1'2021 compared to 14 percent growth realized in Q1'2020, Cytomn Report (2021).

The banking sector has been experiencing increase in non performing loans which poses a big concern to the operating income, asset quality and with the recent adoption of the IFRS 9 which requests for early recognition of impairment of loans as opposed to future date. Banks have been forced to adopt more stringent credit screening controls and risk assesment framework to curb the loan impairment rate and default on payment. This has led to a drastic drop on loan issuance which causes a negative ripple effect on interest on loans, fees and commission of loans and advances. Also the capping of the Central Bank Rate and the Inter Bank Rate at 7 percent and 4 percent respectively has adversely reduced the returns from loans, Cytomn Report (2019).

### **1.1.3 Commercial Banks in Kenya.**

The banking system is used as a barometer of a country' economic stability (Dadang Agus Suryanto, 2021). The performance of commercial banks is an indicator of the direction an economy is taking as they lubricate the financial system and liberalization of an economy' Commercial banks' role and contributions in the economic development of any country is tremendous as they offer credit facilities, regulate the circulation of money in an economy as well as act as buffers for central bank reserves, Aburime (2005). Currently in Kenya, there are 38 commercial banks: 36 banks being privately owned while the government has majority share ownership on the 2 remaining banks. The main role of commercial banks in the economy is to act as financial intermediaries and its mandate has been to accumulate deposits from savers and in turn use the deposit to create loan facilities for individuals, firms and government agencies, Madura (2014). In the recent past, the main source of income for commercial banks was from the traditional interest income which was solely based on loans and advances. The interest rate capping that was passed in September 2016 under section 33B of the banking Act as law in the Kenyan parliament before being lifted grossly affected the financial performance

of the commercial bank because interest income from loans form the basis for banks' profitability backbone and with controlled interest rate, the banks profit margins are greatly reduced (CBK, 2019). The profitability of Commercial banks in Kenya has been a major concern to shareholders in the recent years as some of the banks such as Chase Bank, Dubai Bank, City Bank and Imperial Bank have collapsed and have been liquidated due to non-performance while others such as NIC and CBA, Guardian and First National, banks among others have been forced merge in order to improve their survival chances in the ever increasing competitive market environment, Githaiga (2019).

Commercial banks whose core mandates are to provide credit facilities have been struggling to meet this mandate and therefore with dwindling deposits and the customers' inability to effectively service their credit facilities to generate enough revenue has led to bank seeking alternative revenue options in order to improve their competitive advantage and also in order to meet their operational costs. Other factors like the capping of the interest of loan interest rates and the Inter Bank Rate by the CBK has led to reduction in profits hence the need to focus on the transaction based activities which is less regulated in order to compensate for the diminishing earnings also to keep them afloat in the ever dynamic business environment that has further been made rocky by the outbreak and spread of COVID-19 pandemic that has ravaged different economies across the world, CBK ( 2019). There has been huge decline in interest rates by 2.7 percent. In 2019 the operating expenses have also been surging due to the increase in loss provision on loans. Income from other interest earning assets and government securities have also been declining at a rate of 0.1 and 0.6 percent respectively. The net interest margins (NIM) were on the rise from 2003-2013. However, after 2014, it has been shrinking thus reflecting industry competition. In 2019, the net interest margins stood at 5.4 percent compare to 6.1 percent and 5.8 percent in 2017 and 2018 respectively. Net interest income is seen to be the highest amongst large banks compare to the small and medium sized banks, Kenya Bankers Association (2020). The inability of the banks to make healthy profit margins has also impacted negatively on the banks' ability to access more financial resources to expand their investment plans since accessing debt capital from possible financiers and venture capitalists requires close analysis of the banks' books account and the same case applies for equity capital financiers, CBK (2019).



## 1.2 Research Problem

The survival of banks is pegged on its ability to engage in activities that will result to increase in total operating income (includes both non interest and interest); in terms of attaining profit and cost efficiencies. There has been a need to diversify into the both traditional interest and non-traditional revenue based activities in order to achieve economies of scales and competitive advantage. Commercial banks have been experiencing a downward trend of interest income since 2016 mostly attributed to the interest rate capping, new technology, entrance of other non-bank digital lending platforms etc. It was therefore imperative for banks to consider investing in other streams of income for survival. According to Cytonn Report, (2021) there has been a tremendous growth in the ratio of non-interest income to operating income across commercial banks ranging from 22% to 46%. However, there is still a non-consensus between scholars regarding the impact of transaction based revenue on financial performance of banks. Scholars like Stiroh, (2006), Mercieca, (2007), Ng'endo, (2012) and Dadang Agus Suryanto, (2021) highlight that diversification benefits into non-traditional activities do not have any impact on the financial performance of the bank and increase income volatility. Research done by Emongor, (2020) and Okello, (2018) concluded that the impact of non-traditional interest income is significant to the banks financial performance. This clearly indicates that there are still inconsistencies surrounding the existing literature on the effect of transaction based activities on the performance of banks hence the need to advance the theoretical debate.

Recent studies have shown that transaction income, foreign exchange income, fee and commission income on loans, dividend income had a positive significant effect on insolvency risk measured by Z score (Emongor, 2020). Research done by Okello, (2018) concluded that there was a positive relationship between non-interest income and financial performance of commercial bank since it influenced 28.5% of the overall variance of bank financial performance. Research done by Nguyen, (2015) alluded to banks with high non-traditional income are exposed to less risk compared to bank who rely only on interest income. Other existing literature done by Saunders, (2014) stated that higher transaction based revenue ratio to interest income is as a result of higher profitability across the banking sector and these results hold across the different bank size groups. Oniang'o, (2015) found out that

nontraditional income had a positive effect on performance since diversification of income activities often leads to greater returns.

On the contrary according to Stiroh, (2004) the increase in focus on transactional revenue based activities has resulted to a decline in risk adjusted profits since these activities are both into industrial and commercial lending and trading. There is also a risk that managers may have inadequate experience during making decisions regarding the new avenues of income generating activities compared to the ones made on traditional interest based activities (Stiroh, 2004). Research done by Ng'endo, (2012) and Gichure, (2015) established that there is a no significant increase in revenue if the banks decided to focus on transactional based activities, in fact it may lead to increase in earnings volatility and reduced the return on equity since this required expansion of fixed costs like infrastructure, new technology and expertise. According study done by Weerasuriya, (2021) concluded that profit efficiency and cost efficiency of the banks declined due to transaction based revenue. It went further to state that under the Cobb-Douglas form the effect of transaction based revenue is insignificant whereas it shows significance under the translog form. The researchers further concluded that all inputs and outputs of the banks including ATM development has a significant effect on banks efficiency therefore it is the mandate of the bank to decide whether to be more cost efficient by engaging in both traditional and non-traditional activities or to be achieve profit efficiency by engaging into traditional banking activities only Weerasuriya (2021) & Sanya (2011). Doan, (2018) highlighted that increased diversification tends to improve bank efficiency however this benefits seems to be offset by increase in exposure to volatile non-traditional based activities. Since there still exists no clear prediction regarding the impact of transaction based revenue on bank performance amongst scholars. This paper mainly looked to answer this and narrow this gap by finding out if transaction based revenue is as relevant as net interest income; to the total operating income of commercial banks.

### **1.3 Research Objectives**

- i. To establish the trend of transactional based revenue amongst commercial banks of Kenya.
- ii. To compare between transactional based revenue and net interest income.

#### **1.4 Value of the Study**

It is hoped that this study would be important to general public, policy makers and banks regulatory authorities in determining fees and commission appropriate in money transaction processes such that the fees charged along money transaction chains are appropriate. The study would also be useful to banks' top management in determining key investment areas to put more resources so as to optimize profitability

It is further hoped that the study would be critical in contributing to the body of knowledge by adding new facts and information to make it richer and also confirming the facts already established by previous scholars thus making them more acceptable and verifiable. The study can also be used as a reference document by possible investors and would be shareholders planning to buy shares in public owed commercial banks listed in the Nairobi Stock Exchange.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Introduction**

This chapter presents reviewed of related empirical literature of studies on transactional based revenue and financial performance of commercial banks. The theoretical foundations underpinning the study, the conceptual framework of the study, gaps in literature and summary of the literature reviewed.

### **2.2 Theoretical Foundations**

The study was underpinned on the following two Theories; Transaction Cost Theory and Modern Portfolio Theory

#### **2.2.1 Transaction Cost Theory**

This is the main theory underpinning this study and is linked to the independent variable. The theory posits that optimum organization structure is one that achieves economic efficiency by minimizing transaction costs, Robe (2011). It was first postulated in 1937 by Ronald Coase and later revised in 1986 by Williamson. The theory explains theoretically a firm's relationship and behavior to the market forces as it emphasizes on constant returns to scale rather increasing returns to scale. Transaction cost is the cost incurred in the market while trading on any commodity or a service. Transaction cost should be efficient as possible in order to increase the profit margins. That is to say, the cost incurred while making a transaction should be much lower that the profit made out of such a transaction. Williamson pointed out that transaction cost is dependent on a number of factors such as specificity, the interest of the parties involved in the transaction and risks and uncertainty involved in the transaction, Choi & Contractor (2016).

Transaction cost can be divided into two broad categories of coordination and production costs. Coordination cost is the cost incurred while processing information or coordination people and various components in the banking system, this can be as a result of undertaking customer call backs, construction customer information from the various documents provided, cheque processing among others (Griffith et al, 2009). Therefore, Coordination cost can be

equated to a systems friction in the physical systems which when too high, will hinder the transaction process. On the other hand, production costs are costs incurred when the bank charges a fee in its production services that includes, cheque book production, Debit card and ATM cards production, duty stamps among other items. Transaction costs are thus classified into four categories that include; Search Costs, which is the cost for looking for sellers, buyers and the product to be involved in the transaction; Monitoring cost which is the transaction cost involved in ensuring that the terms of contracts are adhered to; Contract cost which is the transaction cost involved in executing a contract and adaptation cost which is the cost involved in the review of any contract, Lesthaeghe (2001).

### **2.2.2 Modern Portfolio Theory**

This theory was postulated by Harry Markowitz in 1952 and it is used to demonstrate how investment can be modelled to form a portfolio of multiple assets that will maximize returns and minimize risks, Foss (2000). It further demonstrates that investors are risk averse and therefore prefer less risky ventures to riskier ones and would therefore concentrate their investment in such portfolios. In the banks' set up, transactional revenue can be seen as a cheaper and efficient alternative to interest revenue that is not only expensive but also very risky since the rate of default is inversely proportional to economic growth of an economy. Diversification of portfolio means that the risks are spread and if one portfolio is not performing well to the required standards, then they can be covered by the other performing portfolios. Finance as an asset portfolio is liquid and therefore requires assessments at any point to determine their transactional income contribution, Chandra & Shadel (2003).

Modern Portfolio theory is not consistent with rational choice theory that states that if investing in portfolio X gives more return than portfolio Y, then rationally one would invest more in portfolio X than Y. However, for modern portfolio theory the key focus is on variance aversion which according to Kasuda (2001), implies that whenever mean and variance are sufficient to characterize expected utility preference, if 1 is more variance averse than 2 then 1 is more risk averse than 2 and thus one would choose to invest more in 2 than in 1 while satisfying monotonicity axiom.

In the banking industry, investing in interest income is a more financially sound practice than investing in transactional based return income. However according to modern portfolio theory, transactional based income would be a better alternative for the sake of risk aversion since in the modern economies there are very high probabilities that a bank customer would default in loan repayment and the loss would negatively affect the financial performance of the bank. This theory is therefore very critical in supporting and justifying this study since it explains banks' operational dynamics.

### **2.3 Risk and Return Trade Off.**

This is a principle that postulates that high levels of uncertainty guarantees a possibility of high profits whereas low levels of uncertainty guarantees a possibility of low profits (Chan, 2020). In the banking context, this principle is used by management to make informed decisions while choosing which product to diversify in other than the traditional loan product and how to restructure the bank' business model in order to support these income generating activities. The risk-return trade off depends on factors like: the lines of business, correlation between different activities and prices of different investments. According to Köhler, (2013) the impact of transaction based revenue with reference to risk is dependent on the business model of a bank. He further stated that the stability of operating income of banks that have adopted the retail oriented business model (cooperative and savings banks and other retail banks) will improve if they increase their share on transactional based activities as compared to banks with investment oriented business model. This is beneficial since they already have significant share under interest income through loans, it will allow them to diversify their income structure which will increase their ability to withstand economic recession and will reduce their dependence on maturity transformation. Contrary to retail-oriented banks, earnings from investment banks become unstable if they increase their share in transactional based income due to the fact that they already have a lion's share of investment under non-interest income derived from capital market trading activities. To curb this effect, investment banks should increase their share on interest income instead. This implies that banks have the ability to achieve risk diversification if they invest in product mix' that have a balanced income structure which does not wholesomely depend on either interest income or transactional based revenue. The risk and return tradeoff is not only dependent on the share

of non-interest income to the total operating income of a banks but other factors like asset base, liquidity, capital structure and profitability also play a fundamental role.

#### **2.4 Empirical Review on Transactional Based Revenue and Net Interest Income.**

The findings of a study conducted by Hugo, (2013) on effects of diversification of income by commercial banks in Kenya indicates that commercial banks are currently undergoing paradigm shift on their major sources of income. Transactional based income from funds transfer is being given much attention since it is a cheaper alternative to Interest based revenue. The study further revealed that there has been an increasing trend inter-bank related transfer and borrowing that forced the CBK to review the amounts upwards. The study further established that funds + encashment and general account operational charges.

According to Abongo (2016) financial transfer exist due to imperfections on market financial intermediaries and is it is conducted to bridge the gap between the deficits. A study conducted by Vila (2013) established that financial transfer has increased eightfold between 2013 and 2017 due to innovative financial practices that commercial banks have come up with. The study further notes that banks have been able to steadily grow their revenue from transactional based sources such as EFT, M-Pesa, RTGs among others.

According to a study conducted by Mangatu and Mutuma, (2016), on effects on non-interest income on aversion of systematic risks of commercial banks in Kenya, found out that banks earn substantial revenue on transaction that are due to account operational activities that range from salary processing and withdrawals, agricultural proceeds remittances, overdraft and salary advance processing, and general payments due to transactional activities in the account. These transactional activities also extend to ever increasingly popular agency banking model in Kenya

Abduh and Indrees, (2013), conducted a study to determine performance of commercial banks in Greece and found out that from the financial reports of a bank over a period of time one can determine the financial performance of commercial banks by comparing the results of each individual banks and the average performance of banks in the industry under the same category. The study indicated that ROA provides a good basis for determining how wells the banks' assets are used to generate income for the bank and Rao and Lakew (2012) corroborate

the findings by Abduh and Indrees (2013) also stated that Return on Assets indicates how efficient the assets are used to generate bank's revenue as efficiently and optimally utilized assets give a greater return to the bank from their use and investments

Other Key determinants of commercial banks performance as studied by Curak, Poposki and Pepur, (2012) in Switzerland found out that a higher ratio of Capital adequacy means a lower financial performance of commercial banks. The same study found out that a higher equity ratio means a better performance by commercial banks while a lower equity ratio is an indicator of a low performance of commercial banks. According to a study by Said and Mohd,(2011) revealed that a higher liquidity by a commercial bank is a riskier affair as the banks is likely to lose very lucrative financial deals at the expense of financially sound investment. Wasiuzzaman and Tarmisi (2010) in their study found out that a higher operational efficiency from the banks' management leads to a higher profitability. This efficiency will result into a lower operational costs.

A study conducted by Kiragu (2017) on effects on Funds transfer on total operational income of commercial banks in Kenya established that commercial banks earn a lot of instant revenue that is money transfer related. This revenue was also reported to be growing over the last few years as foreign remittances according to the study was found to be on a steady increase trajectory. The study also compared interest income and transactional income trends and reported that while transactional income was on steady growth trajectory, interest income growth was staggering, an indication of a bad loan book with potential high rates of default.

According another a study by King (2012) on effects of transactional income on banks performance in Kenya, he found out that banks are increasingly looking for avenues to diversify their portfolios and therefore are aggressively maximizing fees on fees charged on payments by cheque encashment, commissions and fees on the use of debit and cards at POS machines. However, since these fees are capped and regulated by the Central bank of Kenya, therefore the commercial banks cannot increase them on their own, the banks resort to a system that seek to open up new transactional revenue frontiers for maximization of profitability.

E-payments are transactions done electronically using available electronic technological tools that do not involve the use of liquid cash. Mangatu and Mutuma, (2016). e-payment are



effective in forex trading and according to Larue (2010) on a study on forex trading profitability in Kenya, the study found out that banks earn substantial fees on forex trading as they buy the foreign currencies at a lower price and charge a transaction fee when selling to customers. Other charges that the banks gain are charges due to electronic remittances using platforms such as RTGs, MoneyGram, Western Union and EFTs. M-pesa transactions are equally growing and becoming popular among different banks' customers and the banks equally rake in substantial profits using these platforms from fees charged.

According to a study by Okello, (2018) on growth of transactional income in Kenya, the study found out that the m-pesa payments and transaction are becoming more popular with banks creating pay bills to enable their customers transact conveniently from and to their banks accounts at a fee that is normally based on the amount transacted. This fee is charged even when the customers do not have sufficient balances to support their transactions much to their dissatisfaction. The study further established that there was a steady increase in transactional based revenue from 2012 to 2017 which formed his study period. This he noted was as a result of increase in the number of customers transacting using e-payment related platforms such as M-pesa global, pesa-link and paypal among others increasingly becoming popular methods of e-payments and transactions. The study also established that there is a positive correlation between transactional income and financial performance of commercial banks in Kenya.

## **2.5 Summary of Literature Reviewed**

From the empirical literature reviewed by scholars such as Bashir, (2013), Hugo, (2013) Abongo (2016), Kiragu, (2017), Mangatu and Mutuma, (2016), and King (2012) the studies indicate that transactional income is more cheap and reliable than interest based revenue which is expensive with high administrative costs. Focus on interest income activities might not be ideal for banks in this modern era due to factors like introduction Islam banking which forbids charging of interest, improvement in technology and innovation digital platforms. The studies further indicated that income diversification has been the focus of commercial banks in recent times for risk aversion and also in order improve on their competitive advantage to remain relevant in the banking industry.

## CHAPTER THREE: RESEARCH METHODOLOGY

### 3.0 Introduction

This Chapter presents Research Design that was employed by the study, the study population, sample size and sampling technique, data Collection, analysis and presentation Techniques

### 3.1 Research Design

Research Design according to Kothari, (2014) is the overall arrangement for data Collection, analysis and presentation in a manner than was meet the objectives of the study with aim of solving the stated research problem. This study employed descriptive research design since it allows the researcher to describe the characteristics of the population of interest. It creates linkages between variables by observing the existing phenomena without changing it (Kothari, 2014). Researchers like Oniang'o, (2015), Gichure, (2015) and Ng'endo, (2012) have managed to successfully use the descriptive research design in their master's thesis.

### 3.2 Study Population

According to Mugenda and Mugenda (2003), study population refers to a group of individual or items where the researcher would wish to collect required information or data that is related to his/her subject of inquiry. The study entailed 34 commercial banks in Kenya which were clustered into tiers for comparison and therefore formed unit of analysis across a period of 5 years from 2016-2020 forming 170 observations (34\*5). The range of 5 year was chosen since average ratios change over a period of time. Bank tiers are a way of categorizing banks based on their relative size to the overall banking market (in terms of total banking assets, as provided by the bank's balance sheet). CBK (2021) classifies Tier 1 banks with assets greater kes150bn, Tier 2 banks with assets between kes 50bn and 150bn, Tier 3 banks with assets between kes 15bn and 50bn and tier 4 banks with assets less than kes 15bn. The classification of observation based on tiers is as shown in Table 3.1

**Table 3. 1: Number of Observation Per Tier**

<b>Tier</b>	<b>Number of Banks (i)</b>	<b>Number of Years (t)</b>	<b>Total Observations (N=i*t)</b>
-------------	----------------------------	----------------------------	-----------------------------------

1	8	5	40
2	7	5	35
3	11	5	55
4	8	5	40
All	34	5	170

### 3.4 Data Collection

According to Mugenda and Mugenda (2003), data collection is the process of acquiring information that is relevant to the topic of study so that meaning inferences can be made from them. The study used secondary data extracted from audited and published books of financial accounts of the 34 commercial banks in Kenya that forms the study population for this study for a five-year period spanning 2016-2020. The data included transactional based revenue which as per the CBK data base report comprises of account operating charges, forex trading, online and mobile banking charges, over the counter and ATM withdrawal fees, check and deposit slip charges, insufficient fund fees, credit card charges, penalty fees, over the limit fees, deposit and transaction fee, dividend income, inactivity fee, cheque encashment charges and fee and commission for loan advances whereas net interest income included interest on loans, interest on bank placements and government securities and interest expense from deposits.

### 3.5 Data Analysis

The study analyzed data longitudinally over a period of five years. The study made comparisons and analyze trends of transactional based revenue against net interest income. The study utilized both descriptive and inferential statistics. Descriptive statistics included minimum, maximum, mean, standard deviation while Skewness and kurtosis were used to establish the nature and shape of distribution. Inferential analysis included independent sample t-test and one way Analysis of Variance (ANOVA). Independent t-test was specifically used to transactional based revenue against net interest income. The purpose of the independent t-test was to determine whether there is statistical evidence that the mean

difference between interest and transaction based revenue observations is significantly different from zero. Further, the study conducted one way ANOVA to establish significant difference among the four tiers commercial banks. A post hoc test was conducted using Least Square Difference (LSD). All statistical tests were conducted at 0.05 significance level (95.0% confidence level). The trends of transactional based revenue were presented using line graphs and tables.

## CHAPTER FOUR: DATA ANALYSIS RESULTS AND FINDINGS

### 4.1 Introduction

This chapter deals with the analysis of data. The objectives of the research were to establish the trend of transactional based revenue amongst commercial banks of Kenya and to compare between transactional based revenue and net interest income. Patterns were studied by descriptive and inferential analysis, that were then analyzed and conclusions drawn on them, in accordance with the specific objectives.

### 4.2 Descriptive Statistics

Data was collected from 34 commercial in Kenya which were clustered into tiers for comparison and therefore formed unit of analysis across a period of 5 years from 2016-2020. The presentation of the findings is based on the four tiers as specified in Chapter three of the study as well as 34 commercial banks that were used in this study. The purpose of this presentation is the establish trend of transactional based revenue for each tiers and the overall trend for all tiers. This was also done for comparing between transactional based revenue and interest based revenue. The number of observation is based on the number of banks in each tier multiplied by the number of years as indicated in Table 4.1

**Table 4. 1: Number of Observation Per Tier**

<b>Tier</b>	<b>Number of Banks (i)</b>	<b>Number of Years (t)</b>	<b>Total Observations (N=i*t)</b>
1	8	5	40
2	7	5	35
3	11	5	55
4	8	5	40
All	34	5	170

**Source: Research Findings (2021)**

The study sought to describe the data in terms of their minimum, maximum, mean and standard deviations. The descriptive analysis was necessary as it helps in understanding the

characteristics of the collected data before conducting inferential analysis. The results are as shown in Table 4.2.

**Table 4. 2: Descriptive Results**

<b>Stats</b>	<b>Net Interest income</b>	<b>Transaction based income</b>	<b>Total operating income</b>
	<b>Tier 1</b>		
N	40	40	40
Min	10647	3089	15000
Max	66776	36250	92746
Mean	23526.04	11062.98	34589.02
Sd. Dev	13204.57	6800.142	19078.59
	<b>Tier 2</b>		
N	35	35	35
Min	290	211	1287
Max	7625	4098	9517
Mean	4135.8	1395.143	5530.943
Sd. Dev	1781.372	1158.576	2497.689
	<b>Tier 3</b>		
N	55	55	55
Min	362	92	466
Max	2205	2363	3766
Mean	1106.764	578.9818	1705.745
Sd. Dev	469.0298	484.7651	702.7946
	<b>Tier 4</b>		
N	40	40	40
Min	0	0	0
Max	1097	857	1778
Mean	434.175	222.775	656.95
Sd. Dev	285.1304	196.9904	454.6124
	<b>Total</b>		
N	170	170	170
Min	0	0	0
Max	66776	36250	92746
Mean	7323.794	3356.68	10680.47
Sd. Dev	11741.5	5732.937	17184.28

**Source: Research Findings (2021)**

As indicated in Table 4.2, for tier one, interest based revenue ranged from 10647 to 66776 and calculated mean of 23526.04 and a standard deviation of 13204.57. In tier two, Interest based revenue ranged from 290 and 7625 and calculated mean of 4135.8 and a standard

deviation of 1781.372. In tier three, Interest based revenue ranged from 362 to 2205 and calculated mean of 1106.764 and a standard deviation of 469.0298. Lastly, in tier four, Interest based revenue ranged from 0 to 1097 and calculated mean of 434.175 and a standard deviation of 285.1304. For the four tiers combined, Interest based revenue ranged from 0 to 66,776 and calculated mean of 7323.794 and a standard deviation of 11741.5.

Table 4.1 shows that in regard to tier one, transactional based revenues ranged from 3,089 to 36,250 and calculated mean of 11,100.85 and a standard deviation of 6,623.804. In tier two, transactional based revenues ranged from 211 to 4,098 and calculated mean of 1,395.143 and a standard deviation of 1,158.576. In tier three, transactional based revenues ranged from 92 to 2,363 and calculated mean of 578.9818 and a standard deviation of 484.7651. Lastly, in tier four, transactional based revenues ranged from 0 to 857 and calculated mean of 222.775 and a standard deviation of 196.9904. For the four tiers combined, transactional based revenues ranged from 0 to 36,250 and calculated mean of 3356.68 and a standard deviation of 5732.937.

### 4.3 Diagnostic Tests

A number of diagnostic tests were done, like normality, and homogeneity of variance in regard to Independent Sample T-Test and One Way ANOVA

#### 4.3.1 Normality Test

To test whether the collected data assumed a normal distribution, normality test was conducted using the Shapiro-Wilk Test. The threshold was that, if the p value is greater than 0.05, then the data assumes a normally distribution.

**Table 4. 3: Test for Normality**

<b>Tier</b>	<b>W</b>	<b>V</b>	<b>Z</b>	<b>Prob&gt;z</b>
<b>Transactional Based Revenue</b>				
1	0.85681	9.829	5.007	0.05533
2	0.93005	4.306	3.175	0.06575
3	0.93936	5.423	3.77	0.06008
4	0.91269	5.747	3.82	0.45007
<b>Net Interest Income</b>				
1	0.97124	1.093	0.187	0.42599
2	0.94524	2.777	2.19	0.07424

3	0.97908	0.747	-0.61	0.72913
4	0.86774	5.228	3.481	0.10025

**Source: Research Findings (2021)**

The normality test results revealed a p- value above 0.05 thus the null hypothesis rejection and acceptance of the alternate hypothesis meaning the normality test revealing normal distribution in the data.

### **4.3.2 Homogeneity of Variance**

Independent Sample t-test and One Way Analysis of Variance requires that the sampled groups should have approximately equal variances. The assumption of homogeneity of variance is an assumption of the ANOVA stating that all comparison groups have the same variance. This assumption was tested using Levene’s test for homogeneity of variances. The results for this assumption are presented in respective analysis throughout the chapter.

## **4.4 Trend of Transactional Based Revenue amongst Commercial Banks of Kenya**

The first objective of the study was to establish the trend of transactional based revenue amongst commercial banks between 2016 and 2020.

### **4.4.1 Tier one Trend of Transactional Based Revenue from 2016-2020**

Table 4.4 shows trend of transactional based revenue between 2016 and 2020 for tier one commercial banks in Kenya.

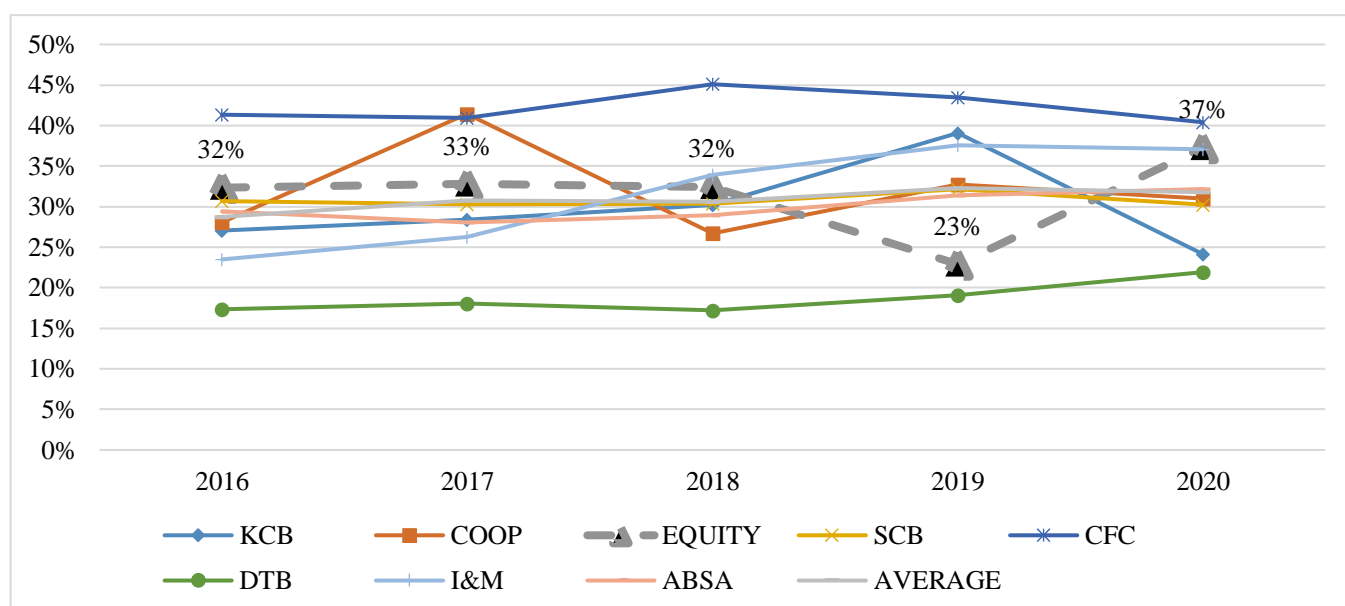
**Table 4. 4: Tier one Trend of Transactional Based Revenue from 2016-2020**

<b>Year</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>Sd</b>	<b>Skewness</b>	<b>Kurtosis</b>
2016	8	3089	17023	8997.222	5066.132	0.374701	1.857317
2017	8	3198	17568	9401.778	5531.406	0.449638	1.656962
2018	8	3122	19221	9682.111	5142.473	0.571065	2.441574
2019	8	3256	36250	13808.67	9698.469	1.442	4.300325
2020	8	3665	23778	13425.11	7263.223	0.202264	1.538568
Total	40	3089	36250	11062.98	6800.142	1.316716	5.415862

**Source: Research Findings (2021)**



Table 4.4 shows that transactional based revenues ranged from 3,089 to 17023 and calculated mean of 8997.222 and a standard deviation of 5066.132 in 2016. In 2017, transactional based revenues ranged from 3198 to 17568 and calculated mean of 9401.778 and a standard deviation of 5531.406. In 2018, transactional based revenues ranged from 3122 and 19221 and calculated mean of 9682.11 and a standard deviation of 5142.473. In 2019, transactional based revenues ranged from 3256 to 36250 and calculated mean of 13808.67 and a standard deviation of 9698.469. In 2020, transactional based revenues ranged from 3665 to 23778 and calculated mean of 13425.11 and a standard deviation of 7263.223. Lastly the overall transactional based revenues for the five years ranged from 3089 to 36250 and calculated mean of 11062.98 and a standard deviation of 6800.142.



**Figure 4. 1: Tier One Trend of Transactional Based Revenue from 2016-2020**

**Source: Research Findings (2021)**

Figure 4.1, show tier one trend of transaction based revenue between 2016 and 2020 using line graph. The average transactional based revenue increased to 33.0% in 2017 from 32% in 2016 and reduced to 32% in 2018, reduced to 23% in 2019 before increasing 37% in 2020. From the above figure, is evident that one of the banks recorded transaction based revenue higher than the average mean of transactional based revenue for the all five years while one

of the banks recorded transaction based revenue lower than the average mean of transactional based revenue for the all five years.

#### 4.3.2 Tier Two Trend of Transactional Based Revenue from 2016-2020

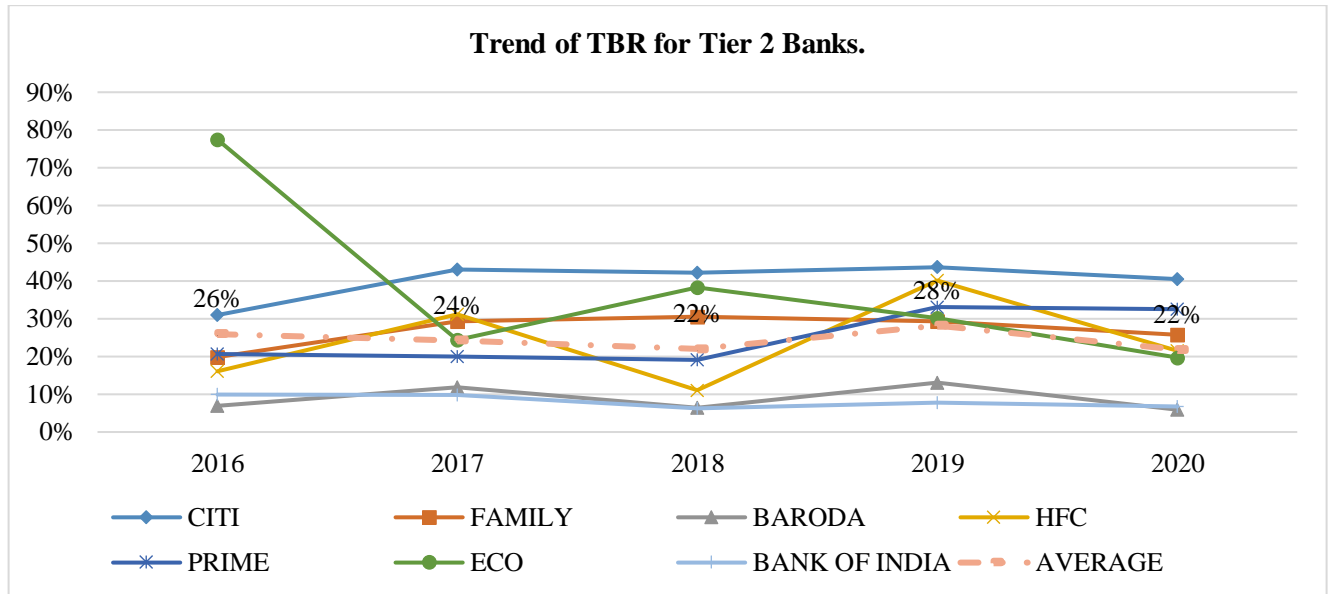
Table 4.5 shows trend of transactional based revenue between 2016 and 2020 for tier two commercial banks in Kenya.

**Table 4. 5: Tier Two Trend of Transactional Based Revenue from 2016-2020**

<b>Year</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>Sd</b>	<b>Skewness</b>	<b>Kurtosis</b>
2016	7	273	2784	1121.571	876.8491	0.999299	2.840641
2017	7	328	4098	1426.714	1270.961	1.492739	3.942037
2018	7	211	3873	1269	1315.565	1.226779	3.184547
2019	7	271	4093	1730	1261.675	0.841445	2.807085
2020	7	256	3573	1428.429	1288.591	0.61887	1.852402
Total	35	211	4098	1395.143	1158.576	1.092268	3.141678

**Source: Research Findings (2021)**

Table 4.5 shows that transactional based revenues ranged from 273 to 2784 and calculated mean of 1121.571 and a standard deviation of 876.8491 in 2016. In 2017, it ranged from 328 to 4098 and calculated mean of 1270.961 and a standard deviation of 1270.961. In 2018, transactional based revenues ranged from 211 to 3873 and calculated mean of 1269 and a standard deviation of 1315.565. In 2019, transactional based revenues ranged from 271 to 4093 and calculated mean of 1730 and a standard deviation of 1261.675. In 2020, it ranged from 256 to 3573 and calculated mean of 1428.429 and a standard deviation of 1288.591. Lastly the overall transactional based revenues for the five years ranged from 211 to 4098 and calculated mean of 1395.143 and a standard deviation of 1158.576.



**Figure 4. 2: Tier Two Trend of Transactional Based Revenue from 2016-2020**

**Source: Research Findings (2021)**

Figure 4.2, show tier two trend of transaction based revenue between 2016 and 2020 using line graph. The average transactional based revenue reduced to 24.0% in 2017 up from 26% in 2016 and further reduced to 22% in 2018, increased to 28% in 2019 before decreasing 22% in 2020. It is evident that one of the banks recorded transaction based revenue higher than the average mean of transactional based revenue for the all five years while two of the banks recorded transaction based revenue lower than the average mean of transactional based revenue for the all five years.

#### 4.3.3 Tier Three Trend of Transactional Based Revenue from 2016-2020

Table 4.6 shows trend of transactional based revenue between 2016 and 2020 for tier three commercial banks in Kenya.

**Table 4. 6: Tier Three Trend of Transactional Based Revenue from 2016-2020**

Year	N	Min	Max	Mean	Sd	Skewness	Kurtosis
2016	11	106	2363	566.5455	627.3639	2.355815	7.471126
2017	11	103	1194	502.7273	331.0339	0.501594	2.824987
2018	11	93	1044	530.2727	336.3133	0.158725	1.848123
2019	11	92	1778	688	540.4552	0.831735	2.524983
2020	11	104	2009	607.3636	580.9319	1.446365	4.141083

Total 55 92 2363 578.9818 484.7651 1.709665 6.177955

Source: Research Findings (2021)

Table 4.6 shows that transactional based revenues ranged from 106 to 2363 and calculated mean of 566.5455 and a standard deviation of 627.3639 in 2016. In 2017, it ranged from 103 to 1194 and calculated mean of 502.7273 and a standard deviation of 331.0339. In 2018, it ranged from 93 to

1044 and calculated mean of 530.2727 and a standard deviation of 336.3133. In 2019, transactional based revenues ranged from 92 to 1778 and calculated mean of 688 and a standard deviation of 540.4552. In 2020, transactional based revenues ranged from 104 to 2009 and calculated mean of 607.3636 and a standard deviation of 580.9319. Lastly the overall transactional based revenues for the five years ranged from 92 to 2363 and calculated mean of 578.9818 and a standard deviation of 484.7651.

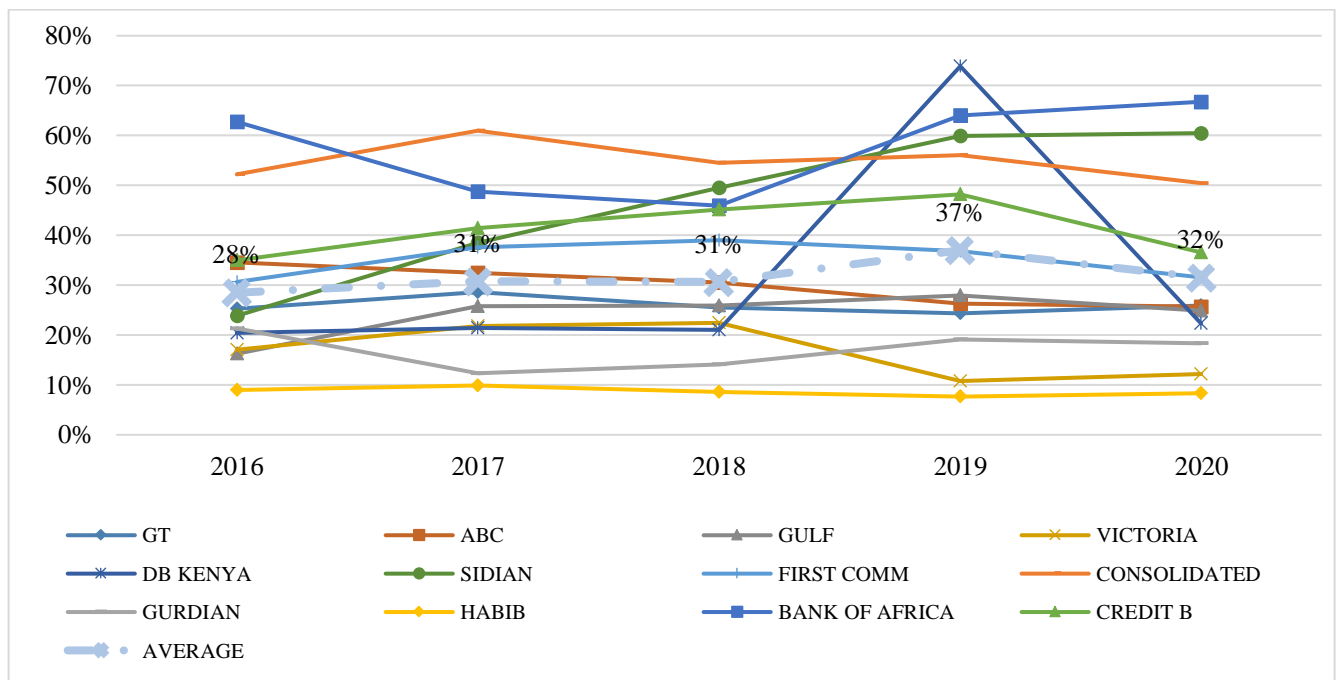


Figure 4. 3: Tier Three Trend of Transactional Based Revenue from 2016-2020

Source: Research Findings (2021)

Figure 4.3, show tier three trend of transaction based revenue between 2016 and 2020 using line graph. The average transactional based revenue reduced to 24.0% in 2017 up from 26% in 2016 and further reduced to 22% in 2018, increased to 28% in 2019 before decreasing 22%

in 2020. It is evident that two of the banks recorded transaction based revenue higher than the average mean of transactional based revenue for the all five years while four of the banks recorded transaction based revenue lower than the average mean of transactional based revenue for the all five years.

#### 4.3.4 Tier Four Trend of Transactional Based Revenue from 2016-2020

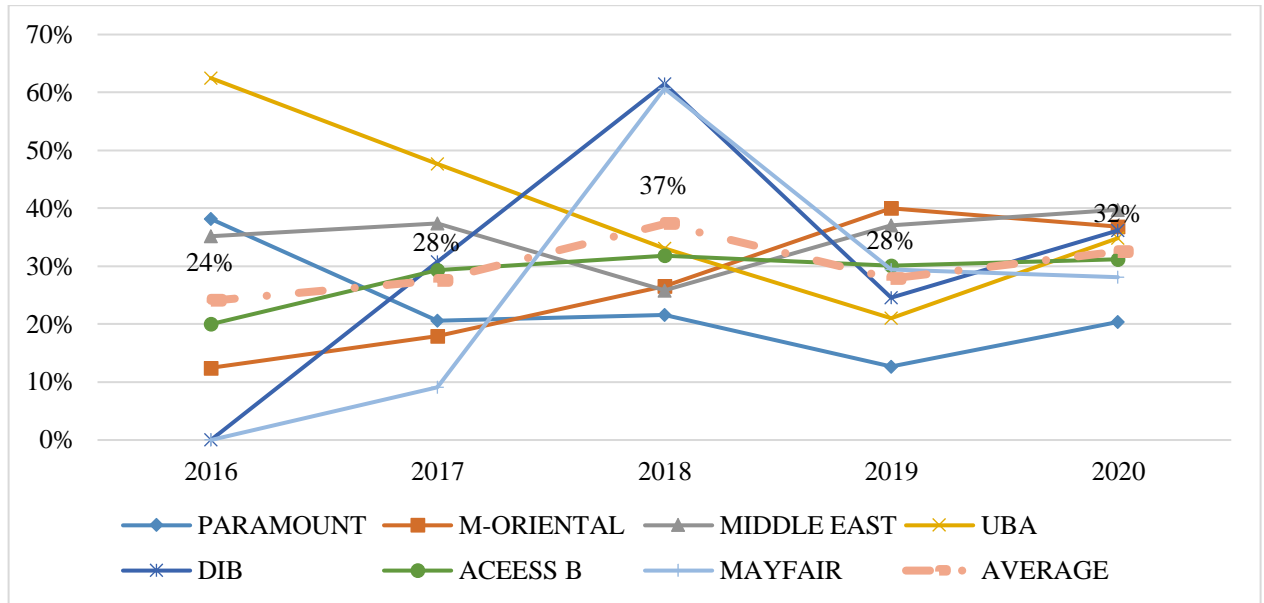
Table 4.7 shows trend of transactional based revenue between 2016 and 2020 for tier four commercial banks in Kenya.

**Table 4. 7: Tier Four Trend of Transactional Based Revenue from 2016-2020**

Year	N	Min	Max	Mean	Sd	Skewness	Kurtosis
2016	6	0	432	176	158.8377	0.465801	1.959027
2017	8	4	560	186	185.7418	0.981194	3.02016
2018	8	83	768	235.125	225.6916	1.879238	5.162662
2019	8	54	857	243.875	262.0079	1.801629	5.010691
2020	8	113	633	272.875	171.1386	1.163751	3.479342
Total	38	0	857	222.775	196.9904	1.590235	5.377224

**Source: Research Findings (2021)**

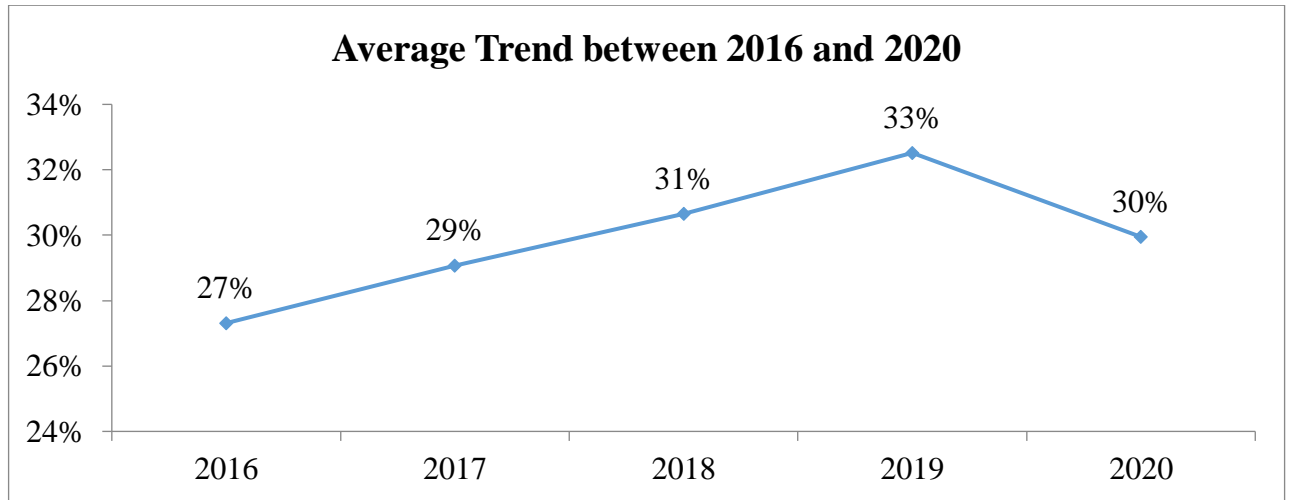
Table 4.7 shows that transactional based revenues ranged from 0 to 432 and calculated mean of 176 and a standard deviation of 158.8377 in 2016. In 2017, it ranged from 4 to 560 and calculated mean of 186 and a standard deviation of 185.7418. In 2018, transactional based revenues ranged from 83 to 768 and calculated mean of 235.125 and a standard deviation of 225.6916. In 2019, it ranged from 54 to 857 and calculated mean of 243.875 and a standard deviation of 262.0079. In 2020, transactional based revenues ranged from 113 and 633 and calculated mean of 272.875 and a standard deviation of 171.1386. Lastly the overall transactional based revenues for the five years ranged from 0 to 857 and calculated mean of 222.775 and a standard deviation of 196.9904.



**Source: Research Findings (2021)**

**Figure 4. 4: Tier Four Trend of Transactional Based Revenue from 2016-2020**

Figure 4.4, show tier four trend of transaction based revenue between 2016 and 2020 using line graph. The average transactional based revenue increased to 29.0% in 2017 down from 24% in 2016 and further increased to 37% in 2018, then reduced to 28% in 2019 before increasing 32% in 2020. It is evident that none of the banks recorded transaction based revenue higher or lower than the average mean of transactional based revenue. The average for the study period increased from 27.0% in 2016 to 33.0% in 2019 before reducing to 30% in 2020 as indicated in Figure 4.5.



**Figure 4. 5: Average Trend between 2016 and 2020**

**Source: Research Findings (2021)**

#### **4.5 Comparisons between Transaction Based Revenue and Net Interest Income**

The second objective of the study was to compare between transactional based revenue and net interest income. This was accomplished using Independent Sample t-test and one way ANOVA for each tier.

##### **4.5.1 Tier 1 Comparisons between Transactional Based Revenue and Net Interest Income**

Table 4.8 shows group statistics for Net interest based revenue and Transactional based revenue, Levene's Test for Equality of Variances and Independent sample t-test for Tier one commercial banks.

**Table 4. 8: Tier 1 Comparisons between Transactional Based Revenue and Net Interest Income**

Tier 1	N	Group Statistics		
		Mean	Std. Deviation	Std. Error Mean
IBR	40	24606.80	13499.354	2134.435
TBR	40	11100.85	6623.804	1047.315
<b>Levene's Test for Equality of Variances</b>				
	<b>F</b>		<b>Sig.</b>	
	1.839			.0889

<b>T-test for Equality of Means</b>						
<b>T</b>	<b>Df</b>	<b>Sig. (2-tailed)</b>	<b>Mean Difference</b>	<b>Std. Error Difference</b>	<b>95% Confidence Interval of the Difference</b>	
					<b>Lower</b>	<b>Upper</b>
5.681	78	.000	13505.950	2377.537	8772.637	18239.2

**Source: Research Findings (2021)**

From Table 4.8 in regard to tier one, Interest based revenue had higher mean score (Mean=24606.80, S.D=13499.3544) as compared Transactional based revenue (Mean=11100.85, S.D=6623.804). The equivalence of the groups was confirmed by the Independent Sample T-test using their means. The assumption of Homogeneity was assessed using Levene’s test of homogeneity of variances, whose results yielded a non-significant p value of 0.0889 which is greater than 0.05. This implied that the difference in variances between the groups under investigation was not significant, hence this assumption was met. Therefore, the two groups have equal variance. This is further supported by small levene statistics value of 1.839 implying that on average- the data values are not “further away” from their mean. Hence, the Independent Sample t- test can be considered to be robust.

The result of the independent sample t-test analysis showed that there is a significant difference between Interest based revenue and Transactional based revenue as indicated by  $t(78) = 5.681, P=0.00, \alpha=0.05$ . By extension, the mean difference is 13505.950 at a confidence level of 95%. The mean score of transactional based revenue differ significantly from the mean score of interest based revenue, which implies that Interest based revenue was better as compared to transactional based revenue for tier one commercial banks in Kenya.

#### **4.5.2 Tier 2 Comparisons between Transactional Based Revenue and Net Interest Income**

Table 4.9 shows group statistics for Interest based revenue and Transactional based revenue, Levene's Test for Equality of Variances and Independent sample t-test for Tier two commercial banks.



**Table 4. 9: Tier 2 Comparisons between Transactional Based Revenue and Net Interest Income**

		Group Statistics				
Tier 2	N	Mean	Std. Deviation	Std. Error Mean		
IBR	35	4135.80	1781.372	301.107		
TBR	35	1395.14	1158.576	195.835		
<b>Levene's Test for Equality of Variances</b>						
		<b>F</b>			<b>Sig.</b>	
		1.430			.105	
<b>T-test for Equality of Means</b>						
		<b>Sig. (2-tailed)</b>	<b>Mean Difference</b>	<b>Std. Error Difference</b>	<b>95% Confidence Interval of the Difference</b>	
<b>T</b>	<b>Df</b>				<b>Lower</b>	<b>Upper</b>
7.630	68	.000	2740.657	359.189	2023.907	3457.408

**Source: Research Findings (2021)**

From Table 4.9 in regard to tier two, Interest based revenue had higher mean score (Mean=4135.80, S.D=1781.372) as compared Transactional based revenue (Mean=1395.14, S.D=1158.576). Levene’s test of homogeneity of variances yielded a non-significant p value of 0.105 which is greater than 0.05. This implied that the difference in variances between the groups under investigation was not significant, hence this assumption was met. The result of the independent sample t-test analysis showed that there is a significant difference between Interest based revenue and transactional based revenue as indicated by  $t(68) = 7.630, P = 0.000$   $\alpha = 0.05$  with a mean difference is 13505.950 at a confidence level of 95%. The mean score of transactional based revenue differ significantly from the mean score of Interest based revenue, which implies that Interest based revenue was better as compared to transactional based revenue for tier two commercial banks in Kenya.

#### **4.5.3 Tier 3 Comparisons between Transactional Based Revenue and Net Interest Income**

Table 4.10 shows group statistics for Interest based revenue and transactional based revenue, Levene's Test for Equality of Variances and Independent sample t-test for Tier three commercial banks.

**Table 4. 10: Tier 3 Comparisons between Transactional Based Revenue and Net Interest Income**

Tier 3		N	Group Statistics		Std. Error Mean		
			Mean	Std. Deviation			
IBR		55	1106.76	469.030	63.244		
TBR		55	578.98	484.765	65.366		
<b>Levene's Test for Equality of Variances</b>							
		<b>F</b>			<b>Sig.</b>		
		.062			.803		
<b>T-test for Equality of Means</b>							
		<b>T</b>	<b>Df</b>	<b>Sig. (2-tailed)</b>	<b>Mean Difference</b>	<b>Std. Error Difference</b>	
		5.803	108	.000	527.782	90.953	
						<b>95% Confidence Interval of the Difference</b>	
						<b>Lower</b>	<b>Upper</b>
						347.497	708.067

**Source: Research Findings (2021)**

From Table 4.10 the Interest based revenue had higher mean score (Mean=1106.76, S.D=469.030) as compared Transactional based revenue (Mean=578.98, S.D=484.765). Levene’s test of homogeneity of variances yielded a non-significant p value of 0.803 which is greater than 0.05 therefore, the difference in variances between the groups under investigation was not significant, hence this assumption was met. The independent sample t-test analysis showed that there is a significant difference between Interest based revenue and transactional based revenue as indicated by  $t(108) = 5.803, P = 0.000, \alpha = 0.05$  with a mean difference is 527.782 at a confidence level of 95%. The mean score of transactional based revenue differ significantly from the mean score of Interest based revenue, which implies that Interest based revenue was better as compared to transactional based revenue for tier three commercial banks in Kenya.

#### **4.5.4 Tier 4 Comparisons between Transactional Based Revenue and Net Interest Income**

Table 4.10 shows group statistics for Interest based revenue and transactional based revenue, Levene's Test for Equality of Variances and Independent sample t-test for Tier four commercial banks.

**Table 4. 11: Tier 4 Comparisons between Transactional Based Revenue and Net Interest Income**

		Group Statistics		
Tier 4	N	Mean	Std. Deviation	Std. Error Mean
IBR	38	457.03	273.803	44.417
TBR	38	234.50	195.138	31.656

Levene's Test for Equality of Variances	
F	Sig.
1.432	.098

T-test for Equality of Means					95% Confidence Interval of the Difference	
T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
4.080	74	.000	222.526	54.543	113.847	331.205

**Source: Research Findings (2021)**

From Table 4.10 the Interest based revenue had higher mean score (Mean=457.03, S.D=273.803) as compared transactional based revenue (Mean=234.50, S.D=195.138). Levene’s test of homogeneity of variances yielded a non-significant p value of 0.098 which is greater than 0.05 therefore, the difference in variances between the groups under investigation was not significant, hence this assumption was met. The independent sample t-test analysis showed that there is a significant difference between Interest based revenue and transactional based revenue as indicated by  $t(74) = 4.080$ ,  $P = 0.000$   $\alpha = 0.05$  with a mean difference is 222.526 at a confidence level of 95%. The mean score of transactional based revenue differ significantly from the mean score of Interest based revenue, which implies that Interest based revenue was better as compared to transactional based revenue for tier four commercial banks in Kenya.

#### **4.5.5 All Tiers Comparisons between Transactional Based Revenue and Net Interest Income**

Table 4.12 shows group statistics for interest based revenue and transactional based revenue, Levene's Test for Equality of Variances and Independent sample t-test for all commercial banks in Kenya.

**Table 4. 12: Comparisons between Transactional Based Revenue and Net Interest Income for Commercial Banks in Kenya**

All Tiers	N	Group Statistics		Std. Error Mean		
		Mean	Std. Deviation			
IBR	170	7186.10	11849.319	914.195		
TBR	170	3176.30	5522.802	426.093		
<b>Levene's Test for Equality of Variances</b>						
	<b>F</b>		<b>Sig.</b>			
		1.946		.176		
<b>T-test for Equality of Means</b>						
		<b>Sig. (2-tailed)</b>	<b>Mean Difference</b>	<b>Std. Error Difference</b>	<b>95% Confidence Interval of the Difference</b>	
	<b>T</b>	<b>Df</b>			<b>Lower</b>	<b>Upper</b>
	3.976	334	.000	4009.792	1008.617	2025.750 5993.83

**Source: Research Findings (2021)**

From Table 4.12, the Interest based revenue had higher mean score (Mean=7186.10, S.D=3176.30) as compared transactional based revenue (Mean=3176.30, S.D=5522.802). Levene’s test of homogeneity of variances yielded a non-significant p value of 0.176 which is greater than 0.05 therefore, the difference in variances between the groups under investigation was not significant, hence this assumption was met. The independent sample t-test analysis showed that there is a significant difference between Interest based revenue and transactional based revenue as indicated by  $t(334)= 3.976$ ,  $P=0.000$   $\alpha=0.05$  with a mean difference is 4009.792 at a confidence level of 95%. The mean score of transactional based revenue differ significantly from the mean score of Interest based revenue, which implies that Interest based revenue was better as compared to transactional based revenue for tier all commercial banks in Kenya.

#### 4.5.6 Difference in Growth between Income Based Revenue and Transactional Based Revenue

**Table 4. 13: Difference in Growth between Income Based Revenue and Transactional Based Revenue**

	Mean Growth (%)	Independent Sample t-Test
<b>Tier One</b>		
Income Based Revenue	3.0	t(78)= 1.2019,P= 0.234
Transactional Based Revenue	9.8	
Mean Difference	6.8	
<b>Tier Two</b>		
Income Based Revenue	25.5	t(68)=-0.1258, P=0.450
Transactional Based Revenue	21.8	
Mean Difference	-3.7	
<b>Tier Three</b>		
Income Based Revenue	-0.98	t(108)= 2.2417, P=0.012
Transactional Based Revenue	23.3	
Mean Difference	24.28	
<b>Tier Four</b>		
Income Based Revenue	40.8	t(78)= 11.9936, P=0.000
Transactional Based Revenue	169.7	
Mean Difference	128.9	
<b>All Commercial Banks</b>		
Income Based Revenue	15.9	t(334)= 2.4305, P=0.007
Transactional Based Revenue	52.6	
Mean Difference	36.7	

**Source: Research Findings (2021)**

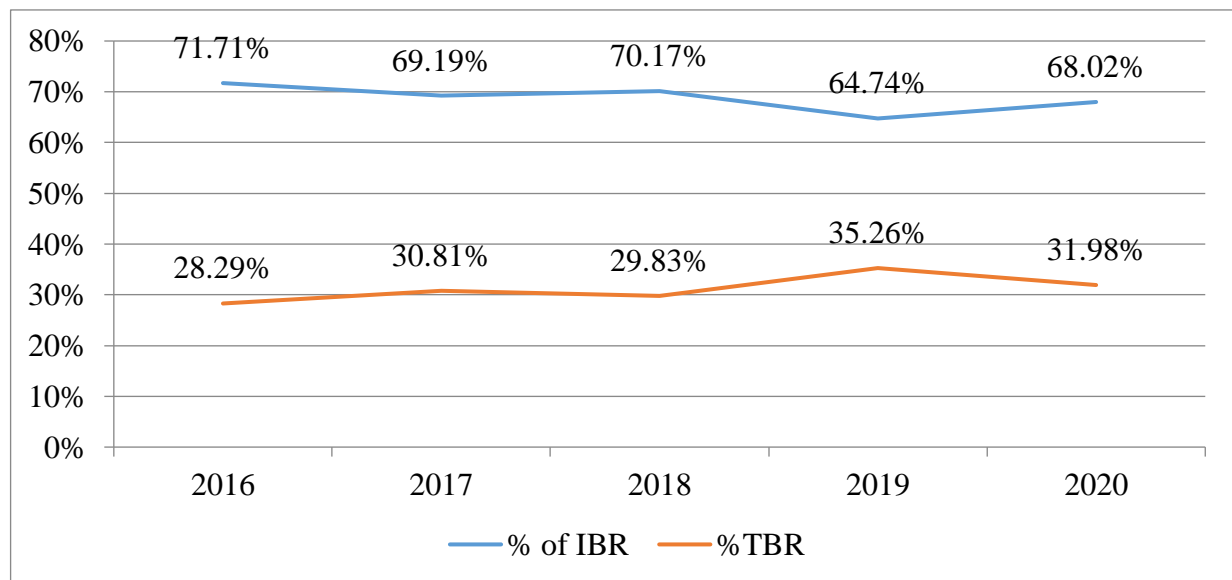
The independent sample t-test failed to produce significant difference in percentage mean growth for tier one and two in regard income based revenue and transactional based revenue at  $P > 0.05$ . However, the independent sample t-test analysis showed that there is a significant difference between the percent mean growth of interest based revenue and transactional based revenue as indicated by  $t(108) = 2.2417$ ,  $P = 0.012$  with a mean difference of 24.38% for tier three,  $t(74) = 11.9936$ ,  $P = 0.000$  with a mean difference of 128.9% for tier four.

For all banks, the independent sample t-test analysis showed that there is a significant difference between in the percent mean growth of interest based revenue and transactional based revenue as indicated by  $t(334) = 2.4305$ ,  $P = 0.007$  with a mean difference of 36.7% at a confidence level of 95%. The percentage growth of transactional based revenue differ significantly from the mean the percentage growth of interest based revenue, which implies

that percentage growth of transactional based revenue was better as compared to growth in interest based revenue for tier all commercial banks in Kenya.

#### 4.5.7 Contribution of Income Based Revenue and Transactional Based Revenue to Total Operating Revenue

Figure 4.6 shows contribution of income based revenue and transactional based revenue to total operating revenue of all commercial banks in Kenya. It is evident that from 2016 to 2020, income based revenue decreased from 72.0% to 68% in 2020 with a dip in 2019 at 65% of the total operating income. For Transactional based income, it increased from 28% in 2016 to 32% in 2020 with a peak of 35% of the total operating income in 2019.



**Figure 4. 6: Contribution of Income Based Revenue and Transactional Based Revenue to Total Operating Revenue**

**Source: Research Findings (2021)**

#### 4.5.8 Analysis of the Variance in Regard to All Tiers and Transactional Based Revenue

When determining whether or not there are statistical significance differences among means of more than two groups, the one-way analysis of variance (ANOVA) was utilized. In this study analysis of variance was conducted to compare significant difference among the four

tiers of commercial banks in Kenya. A post-hoc was further conducted to establish which pair differs significantly using Fisher's Least Significant Difference (LSD).

**Table 4. 14: ANOVA for All Tiers in Regards to Transactional Based Revenue**

Levene Statistic		df1	df2	Sig.			
42.499		3	164	.000			
ANOVA							
		Sum of Squares	Df	Mean Square	F	Sig.	
Between Groups		3322870445.650	3	1107623481.883	102.578	.000	
Within Groups		1770853455.868	164	10797886.926			
Total		5093723901.518	167				
Multiple Comparisons							
(I) TIER		Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval		
					Lower Bound	Upper Bound	
LSD	1	2	9705.707*	760.564	.000	8203.95	11207.47
		3	10521.868*	682.841	.000	9173.57	11870.16
		4	10866.350*	744.380	.000	9396.55	12336.15
	2	1	-9705.707*	760.564	.000	-11207.47	-8203.95
		3	816.161	710.518	.252	-586.78	2219.10
		4	1160.643	769.848	.134	-359.45	2680.73
	3	1	-10521.868*	682.841	.000	-11870.16	-9173.57
		2	-816.161	710.518	.252	-2219.10	586.78
		4	344.482	693.167	.620	-1024.20	1713.16
	4	1	-10866.350*	744.380	.000	-12336.15	-9396.55
		2	-1160.643	769.848	.134	-2680.73	359.45
		3	-344.482	693.167	.620	-1713.16	1024.20

**Source: Research Findings (2021)**

Levene's test of homogeneity of variances yielded a non-significant  $F(3,146)=42.499$  which is greater than 0.05 therefore, the difference in variances between the groups under investigation was not significant, hence this assumption was met. There was significant difference on Transactional based revenue amongst the four tiered commercial banks in Kenya [ $F(3, 167)= 102.578, p<0.05$  at  $\alpha=.05$ ]. This is because the p-value obtained is less than 0.05, the stipulated alpha. This implied there was significant difference in regard to transaction based revenue for commercial banks. A post hoc was further conducted to establish which pairs differed significantly. There was a statistically significant difference in transactional based revenue between tier one and tier two ( $p = 0.000$ ), as well as between tier one and tier three ( $p = 0.000$ ) and between tier one and tier four ( $p = 0.000$ ). However, there were no

significant differences between tier two and tier three ( $p = 0.252$ ) as well as between tier two and tier four ( $p = 0.134$ ) and between tier three and tier four ( $p = 0.620$ ).

#### **4.6 Discussions**

The objectives were to establish the trend of transactional based revenue amongst commercial banks of Kenya and to compare between transactional based revenue and net interest income. The trend of transactional based revenue exhibited some mixed findings implying some factors may be affecting its trend between 2016 and 2020. The overall trends of transactional based revenue increased from 27% in 2016 to 30% in 2020. For tier one, the average transactional based revenue increased to from 32% in 2016 to 37% in 2020. CFC bank recorded transaction based revenue higher than the average mean while Diamond Trust bank recorded transaction based revenue lower than the average mean. For tier two banks, it reduced from 26% in 2016 to 22% in 2020. Citi bank recorded transaction based revenue higher than the average mean while Bank of Baroda and Bank of India recorded transaction based revenue lower than the average mean. For tier three, it reduced from 26% in 2016 to 22% in 2020. Consolidated Bank and Bank of Africa recorded transaction based revenue higher than the average mean while GT, Gulf, Victoria, Guardian and Habib Bank recorded transaction based revenue lower than the average mean. For tier four, it increased from 24% in 2016 to 32% in 2020. None of the banks recorded transaction based revenue higher or lower than the average mean of transactional based revenue.

Transactional revenue, which is a component of overall bank profits, has risen in recent years as competition in the traditional banking sector of deposit mobilization and loan making has increased. In addition, Hunjra et al (2020) found that mixed data suggest that South Asian banks are still in the early stages of boosting transactional-based sources of revenue, which they described as "a rising stage." When transactional based revenue increased in the United States throughout the 1990s, for example, analysts speculated that this was due to lower overall income volatility, which was caused by the diversification of the typical commercial bank over a greater number of product lines (DeYoung and Rice, 2004). When it comes to transactional based income as a percentage of total assets over the period 1992 to 2011, four of the sixteen developed countries studied (Australia, United Kingdom, Norway, and New



Zealand) experienced declines, while the remaining countries (Denmark, Finland, Canada, and France) witnessed the most recognizable expansions in this ratio during the same period (Hawtrey, 2011). According to Craigwell and Maxwell (2016), the prevalence of transactional based income in Barbados has decreased during the course of the study period. It can also be seen that the transactional revenue of banks in Nigeria has likely grown somewhat over the previous several years, if not substantially. An un-even rise in the percentage of transactional based revenue relative to overall income in the banking sector was seen between 1982 and 1990, according to the research of Kaufman and Larry (1994) in the advance developed economy.

In regard to second objective, the mean score of transactional based revenue differ significantly from the mean score of Interest based revenue, which implies that Interest based revenue was better as compared to transactional based revenue for all commercial banks in Kenya regardless of their tier. However, transaction based income increased from 28% in 2016 to 32% in 2020 while income based revenue decreased from 72% in 2016 to 68% in 2020. This implies that transaction income exhibited positive growth while income based revenue exhibited negative growth. Further analysis using percentage mean growth indicated that there is significant difference between growth in transactional based revenue and income based revenue with mean difference of 36.7%. However, there was no significant mean difference amongst tier one and two although tier four registered the highest mean difference of 128.9% between the study periods. This implies that transactional based revenue is a significant source of income of commercial banks in Kenya. Finally, there was a statistically significant difference in transactional based revenue between tier one and tier two ( $p = 0.000$ ), as well as between tier one and tier three ( $p = 0.000$ ) and between tier one and tier four ( $p = 0.000$ ). However, there were no differences between tier two and tier three ( $p = 0.252$ ) as well as between tier two and tier four ( $p = 0.134$ ) and between tier three and tier four ( $p = 0.620$ ).

The decline in interest revenue since the financial crisis runs counter to a widely held belief that low interest rates encourage banks to place more emphasis on noninterest income and other sources of income. Those who subscribe to this narrative believe that the growth in noninterest income represents an effort to maintain revenue. Due to low interest rates on loans, banks receive less interest income on loans and hence must look for other sources of income,

such as noninterest income. It is possible that banks in this circumstance may benefit by swapping noninterest revenue for interest income in a number of ways. A third option is to use noninterest income to protect against interest income by producing fee and sales revenue that is not reliant on market interest rates. If interest and noninterest revenue are not significantly connected, having two income streams may be beneficial to a bank in terms of risk diversification and growth. It is possible that noninterest revenue is less volatile than interest income as a result of the relatively steady nature of fees as compared to interest rates.

Obolaju (2018) shown that in Nigerian banks, revenues derived from transaction sources account for a large proportion of total revenues. Because of this, financial institutions have maintained a steady emphasis on increasing income from sources outside than their core businesses (or lending-based revenues). When looking at the entire US banking industry between 1980 and 2001, the literature by De Young and Rice (2001) shows that transactional based income increased from 0.77 percent to 2.39 percent in overall industrial assets, and from 20.31 percent to 42.20 percent in terms of operating income over that period. According to Stiroh (2006), US banks are growing more dependent on fees, fiduciaries income, processing fees, trade revenue, and other sorts of transactional-based income to meet their financial obligations. As a total, they claimed that transactional based sources accounted for 42 percent of the industry's net operating revenue in 2004, representing a significant rise from 32 percent in 1990 and 20 percent in 1980. According to (Allison Baller, 2013), transaction banking revenues (including payments and securities processing) rose to an estimated US\$200 billion by 2012, outperforming investment and commercial banking in terms of revenue growth. In fact, transaction banking clients spend up to five times more on bank services than credit-only clients.

# **CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS**

## **5.1 Introduction**

This chapter summarizes the findings from the preceding chapter and draws conclusions as well as discusses the study's limitations. It also makes policy recommendations and suggests places where further research should be conducted.

## **5.2 Summary of Findings**

The objective of this research was to establish the trend of transactional based revenue amongst commercial banks of Kenya and to compare between transactional based revenue and net interest income. A descriptive research design was selected to complete the research. Secondary data was gathered from 34 commercial banks in Kenya and an analysis made using SPSS. Yearly data for 34 commercial banks for five years from 2016 to 2020 was obtained from their annual reports.

The first objective was to establish the trend of transactional based revenue amongst commercial banks of Kenya. The trends of transactional based revenue were divided into four tiers to take care of bank size. This was achieved using summary statistics and line graphs. The overall trends of transactional based revenue increased from 27% in 2016 to 30% in 2020 with a peak in 2019 at 33.0%. For tier one, the average transactional based revenue increased from 32% in 2016 to 37% in 2020. CFC bank recorded transaction based revenue higher than the average mean while Diamond Trust bank recorded transaction based revenue lower than the average mean. For tier two banks, it reduced from 26% in 2016 to 22% in 2020. Citi bank recorded transaction based revenue higher than the average mean while Bank of Baroda and Bank of India recorded transaction based revenue lower than the average mean. For tier three, it reduced from 26% in 2016 to 22% in 2020. Consolidated Bank and Bank of Africa recorded transaction based revenue higher than the average mean while GT, Gulf, Victoria, Gurdian and Habib Bank recorded transaction based revenue lower than the average mean. For tier

four, it increased from 24% in 2016 to 32% in 2020. None of the banks recorded transaction based revenue higher or lower than the average mean of transactional based revenue.

The second objective was to assess to compare between transactional based revenue and net interest income. This achieved using independent sample T-tests and further One Way ANOVA. The mean score of transactional based revenue differ significantly from the mean score of Interest based revenue, which implies that Interest based revenue was better as compared to transactional based revenue for all commercial banks in Kenya regardless of their tier. However, transaction based income increased from 28% in 2016 to 32% in 2020 while income based revenue decreased from 72% in 2016 to 68% in 2020. This implies that transaction income exhibited positive growth while income based revenue exhibited negative growth. Further analysis using percentage mean growth indicated that there is significant difference between growth in transactional based revenue and income based revenue with mean difference of 36.7%. However, there was no significant mean difference amongst tier one and two although tier four registered the highest mean difference of 128.9% between the study periods. This implies that transactional based revenue is a significant source of income of commercial banks in Kenya. Finally, there was a statistically significant difference in transactional based revenue between tier one and tier two ( $p = 0.000$ ), as well as between tier one and tier three ( $p = 0.000$ ) and between tier one and tier four ( $p = 0.000$ ). However, there were no differences between tier two and tier three ( $p = 0.252$ ) as well as between tier two and tier four ( $p = 0.134$ ) and between tier three and tier four ( $p = 0.620$ ).

### **5.3 Conclusions**

The objective of this research was to establish the trend of transactional based revenue amongst commercial banks of Kenya and to compare between transactional based revenue and net interest income. The trend of transactional based revenue exhibited some mixed findings although it increased from 27% in 2016 to 30% in 2020 with a pick of 33% in 2019. There was significant fluctuation and variation in the trend of transactional based revenue especially in tier one, two and three as some commercial banks revealed transaction based revenue higher or lower than the mean transaction based revenue during the study period.

However, none of the banks in tier four recorded transaction based revenue higher or lower than the average mean of transactional based revenue.

The study concluded that although Interest based revenue still contributes the highest percentage of all commercial banks' total income although there has been steady growth in transaction based income especially amongst tier three and tier four commercial banks. This shows that commercial banks have resorted to diversification of their incomes due to the instability of Interest based revenue and frequent changes in the economic conditions of the country. However the observed percentage changes are indicative of the fact that transactional based income can grow in future among commercial banks in Kenya. Smaller banks, in comparison to their bigger counterparts, were found to be more active in transactional oriented earning activities. If that's the case, combining interest and transactional revenue will minimize profits volatility.

#### **5.4 Recommendations for Policy and Practice**

Managers of commercial banks may use the findings of this research to enhance their financial prospects by expanding revenue diversification and limiting risk. Traditional sources of revenue, as well as transactional-based sources of income, should be prioritized by the manager in a competitive banking industry. There must be a careful balancing act between the desire to generate transaction-based income and a concentration on fundamental intermediary responsibilities, as retail-oriented banks in Kenya are better served by expanding their share of transaction revenue via e-banking, commissions, and fees activities.

The results also have policy implications for how banks might profitably use transactional based revenue. The fluctuations in transaction based income which is an indication that transaction based income can grow if the government adopts policies that would encourage diversification in other sources of income. To minimize depending on conventional bank activity, the government should also implement a diversification strategy.

It's also worth considering a policy that encourages commercial banks to participate in transactional-based revenue activities. The government should concentrate on policies that promote the use of low-cost modern technology in the banking industry. For example, policies

encouraging digital banking would help commercial banks to diversify and boost productivity, allowing them to shift their reliance on interest revenue and engage in new transactional-based income sources over time. However, in order to safeguard bank consumers from being abused, the regulatory authorities should step in and homogenize the costs of such operations.

### **5.5 Limitations of the Study**

One of the constraints encountered was that the time period covered by the data (2016-2020) was too short to distinguish clearly between long- and short-term trends in relation to transaction-based revenue generation. It's unclear whether the results will last for a longer period of time. It is also unclear whether similar results will be achieved for a longer period like 10 years. In order to account for key economic events, the study should have been conducted over a longer period of time.

The study was a survey in nature and therefore, difficult to establish the effect of transaction based revenue on various performance indicators. This also limited its methodological approach to descriptive analysis to establish trends in transactional income and use of independent sample t-test to compare between transactional based revenue and net interest income. Therefore, the findings were limited to these methodological approaches.

### **5.6 Suggestions for Further Research**

From the aforementioned limitations, the following are suggestion for further studies. Because of the readily available data, the focus of this research was drawn to the last five years. Future studies may span a longer time period, such as ten or twenty years, and might have a significant impact on this study by either complementing or contradicting its conclusions. A longer study has the advantage of allowing the researcher to catch the effects of business cycles such as booms and recessions. Also study can be done one factor that contributes heavily to the non-interest income to see how it impacts the financial performance of a commercial bank.

Finally, this research relied on a descriptive analysis and independent sample t-test because of its methodological approach, hence it impossible to establish cause-effect scenario. Further studies should focus on examining effect of transaction based revenue on various performance

indicators such as profitability or factors that influence transaction based revenue among commercial banks in Kenya. This would allow utilization of fixed or random effect regression models to achieve panel data benefits.

## REFERENCES.

- Ahamed, M. (2017). Economic Modelling. *Asset quality, transactional based income, and bank profitability: Evidence from Indian banks*, 63.
- Al Mamun, A. (2013). Performance Evaluation of Prime Bank Limited in Terms of Capital Adequacy. *Global Journal of Management and Business Research*, 13(9).
- Atellu, A. R. (2016). Determinants of transactional based income in Kenya's commercial banks. *Ghanaian Journal of Economics* 4(1), 98-115.
- CBK. (2019). *Commercial Banks' Credit Officer Survey*. Kenya: Nairobi.
- Dadang Agus Suryanto, D. D. (2021). The Effect of Bank Liquidity and Efficiency on Transactional based Income with National Income as Variables Moderator . *BIRCI-Journal*.
- Dang, U. (2011). The CAMEL rating System in Banking Supervision. *A case study (Degree Thesis)*.
- Deyoung, R. &. (2004). Noninterest Income and Financial Performance at U.S. Commercial Banks. *The Financial Review*, 101–127.
- Doan, A.-T. &.-L.-C. (2018). What drives bank efficiency? The interaction of bank income diversification and ownership. " *International Review of Economics & Finance*, Elsevier, vol. 55(C),, pages 203-219.



Eakins, S. G., & Mishkins, F. S. (2016). *Financial Markets and Institutions*. United states of America: Pearson Education@2015.

EGH-PLC. (2019). *EGH-PLC-2019-Integrated-Report-and-Financial-Statements*. Nairobi.

(2019). *EGH-PLC-2019-Integrated-Report-and-Financial-Statements*. Nairobi.

Emongor, E. M. (2020). Transactional based Income and Insolvency Risk of Commercial Banks in Kenya. . *Journal of Finance and Accounting* 4(5), 41-54.

Gichure K. S. (2015). *The relationship between non interest income and financial performance of commercial*. Master's thesis University of Nairobi.

Githaiga, P. Y. (2019). Income diversification and performance: should banks trade? *Journal of Business Management and Economic Research*, 3(11), 15-28.

Haubrich, J. G. (2019). Trends in the Noninterest Income of Banks. *Economic Commentary*, 14 doi:10.26509/frbc-ec-201914.

Ilhomovich, S. E. (2009). Factors affecting the performance of foreign banks in Malaysia. *{Masters Thesis}. Universiti Utara Malay*.

Kenton, W. (2021, April 30th). Retrieved from Investopedia:

<https://www.investopedia.com/terms/f/financialperformance.asp>

Madura, J. (2014). *Financial Markets and Institutions*. Florida Atlantic University: Cengage learning.

- Mendes, A. M. (2000). Commercial Bank Interest Margins and Profitability. *50th International Atlantic Economic Conference*. Evidence for Some EU.
- Mercioca, S. S. (2007). Small European banks: Benefits from diversification? *Journal of Banking & Finance*.
- Ng'endo, K. (2012). *The relationship between transactional based income and financial performance of commercial banks in Kenya*". University Of Nairobi: Unpublished masters dissertation.
- Nguyen, T. C. (2015). Risk and Income Diversification in the Vietnamese Banking System. *Journal of Applied Finance & Banking*, 5(1), 93-109.
- Okello, P. &. (2018). The influence of transactional based income on the financial performance of commercial banks listed at the Nairobi securities exchange. *Journal of social sciences and information technology*, 4(5), 532-549).
- Oniang'o, R. (2015). *Effect of Non Interest Income on Profitability of Commercial Banks in Kenya*. MBA Thesis University of Nairobi.
- Rostami, M. (2015). CAMELS' ANALYSIS IN BANKING INDUSTRY. *Global Journal of Engineering Science and Research Management*.
- Rozzani, N. &. (2013). Camels and performance evaluation of banks in Malaysia:conventional versus Islamic. *J Islamic Financ Bus Res*,2(1), 36-45.
- Sanya, S. &. (2011). Can Banks in Emerging Economies Benefit from Revenue Diversification? . *Springer Science*, 79–101.

- Saunders, A. S. (2014). *Transactional based Income and Bank Performance : Is Banks 'increased Reliance on Transactional based Income Bad ?\**. Switzerland: St. Gallen : School of Finance, Univ. of St. Gallen.
- Stiroh, K. J. (2004). Do Community Banks Benefit from Diversification? *Journal of Financial Economic*, 25(2/3), 135.
- Stiroh, K. J. (2006). The dark side of diversification: The case of US financial holding companies. *Journal of Banking & Finance*, 30, 2131–2161.
- Weerasuriya, J. R. (2021). Impact of Transactional based Income on Bank Efficiency. *Evidence from Sri Lanka, South Asian Journal of Finance*, 1(1), 16-34.
- Abduh, M., & Indrees, Y. (2013). Determinants of Islamic Banking in Malaysia. *Journal of Accounting and Finance* 5(3) 1-15
- Aburime, U. (2005). Determinants of Banks Profitability; Company Level Evidence; University of Nigeria; Nigeria
- Basal, K. (2005). A case Study of a Joint Venture Banks in Nepal. *The journal of Nepalese Business Studies*. 2(1)1-20
- Chandra, S & Shadel W.G. (2003). Crossing Disciplinary Boundaries. Applying financial portfolio theory to model organization of self-concept. *Journal of research in personality* 41(2) 346-373
- Creswell, J.W. (1994), *Research Design. Qualitative and Quantitative Approaches*. Thousand Oaks. CA Sage Publications

Curak, M., Peposki, K., & Pepur, S. (2012). *Procedia- Social and Behavioral Sciences*

Dzeawuni, W. A & Tanko, M. (2008). *Camels and Banks Performance Evaluation, the way forward, Working Paper*

Foss, N. J. (2000). *Theory of a firm. Critical Management of Business Processes*. New York: Oxford University Press

Idris, F. (2010). Predicting Banks Financial Conditions using a logit regression approach. Empirical evidence from Malaysia. *Interdisciplinary Journal of Contemporary research in Business 1(12) 179-197*

Khaawish, H., A. (2011). Determinants of Commercial Banks Performance: Evidence from Jordan. *Research Journal of Finance and Economics, Zarca University, 5(5) 19-45*

Kothari, C. R. (2014). *Research Methodology Methods and Techniques: New Delhi*

Kusuda, K., (2001). Measures of Variance Aversion and Decreasing Variance Aversion for mean Variance utilities and portfolio choice problems. Mimeo, University of Minnesota

Larue, B. (2010). Exchange Rate Pass through, menu cost and threshold cointegration. *Journal of economics and Finance 38(1) 172-193*

Lesthaeghe, R, (2001). Contemporarily of Economics and Social Explanations. *International Journal of Social and Behavioral Sciences 5(6)123-137*

- Mugenda, O.M., & Mugenda, A.G. (2003). Research Methods; qualitative and quantitative approaches. (Revised Edition). Nairobi. African Centre for Technology Studies. (Acts)
- Murthy, Y., & Sree, R. (2003). A study on Financial Ratios of Major Commercial Banks. College of Banking and Financial Studies; Sultanate of Oman
- Naasiuna, D. K. (2000). Surveying Sampling Theory and Methods. Nairobi. University of Nairobi Press
- Ogula P.A. (2005). Research Methods. Nairobi. CUEA Publications
- Okello, P. (2018). Influence of transactional based income on financial performance of commercial banks listed at the Nairobi Stock Exchange. *International Journal of social sciences and information Technology* 4(5) 532-549
- Osoro, J. & Kiplangat, J. (2020). Market Power and Intermediation Efficiency in Kenya. KBA Centre Publication
- Robe, J.P (2011). Legal Structure of a firm. *Journal of Accounting, Economics and Law*, 1(1)61-133
- Wasiuzziman, S., & Tarmizi, H. (2010) *Journal of Islamic economics and Finance*, 5(2)120-1235

## APPENDICES

### APPENDIX 1: SECONDARY DATA COLLECTION SHEET

NAME OF COMMERCIAL BANK _____					
Measure	2020	2019	2018	2017	2016
Transactional Based Revenue					
Interest Based Revenue					
Total Operating Revenue					

## APPENDIX 2: SECONDARY DATA

Year	Net Interest income	Transactional based income	Total operating income
	<b>KCB BANK-tier 1</b>	millions	millions
2016	42,965	15,963	58,928
2017	44,227	17,568	61,795
2018	44,406	19,221	63,627
2019	56,496	36,250	92,746
2020	66,776	21,279	88,055
	<b>COOP BANK-TIER 1</b>		
2016	29,878	11,685	41,563
2017	23,822	16,858	40,680
2018	31,050	11,315	42,365
2019	31,760	15,448	47,208
2020	35,795	16,075	51,870
	<b>EQUITY BANK-TIER 1</b>		
2016	35,165	16,823	51,988
2017	29,609	14,449	44,058
2018	32,059	15,408	47,467
2019	39,744	11,807	51,551
2020	40,021	23,778	63,799
	<b>SCB BANK-TIER 1</b>		
2016	19,400	8,600	28,000
2017	18,486	8,033	26,519
2018	19,291	8,413	27,704
2019	19,472	9,228	28,700
2020	19,117	8,290	27,407
	<b>CFC STANBIC BANK-TIER 1</b>		-
2016	10,860	7,657	18,517
2017	10,647	7,376	18,023
2018	12,130	9,964	22,094
2019	13,360	10,290	23,650
2020	12,885	8,738	21,623
	<b>DTB BANK-TIER 1</b>		
2016	14,703	3,089	17,792
2017	14,513	3,198	17,711
2018	15,007	3,122	18,129
2019	13,822	3,256	17,078
2020	13,052	3,665	16,717
	<b>I&amp;M BANK-TIER 1</b>		#VALUE!

2016	12,562	3,858	16,420
2017	12,464	4,434	16,898
2018	12,066	6,196	18,262
2019	11,798	7,099	18,897
2020	11,864	7,001	18,865
	<b>ABSA KENYA-TIER 1</b>		-
2016	22,300	9,300	31,600
2017	21,800	8,500	30,300
2018	22,300	9,100	31,400
2019	23,200	10,600	33,800
2020	23,400	11,100	34,500
	<b>CITI BANK-TIER 2</b>		
2016	6,200	2,784	8,984
2017	5,419	4,098	9,517
2018	5,301	3,873	9,174
2019	5,285	4,093	9,378
2020	5,231	3,573	8,804
	<b>Family Bank-TIER 2</b>		-
2016	7,021	1,740	8,761
2017	4,374	1,813	6,187
2018	4,767	2,097	6,864
2019	5,542	2,295	7,837
2020	6,772	2,359	9,131
	<b>Bank of Baroda-TIER 2</b>	million	
2016	4,990	373	5,363
2017	5,776	780	6,556
2018	6,437	445	6,882
2019	6,736	1,014	7,750
2020	7,625	479	8,104
	<b>HOUSING FINANCE-TIER 2</b>	IN 000'	
2016	3,934	756	4,690
2017	2,976	1,346	4,322
2018	2,434	303	2,737
2019	2,018	1,353	3,371
2020	1,866	512	2,378
	<b>PRIME BANK-TIER 2</b>		
2016	3,550	928	4,478
2017	3,628	903	4,531
2018	3,762	888	4,650
2019	4,389	2,172	6,561
2020	4,647	2,241	6,888



	<b>ECO BANK-TIER 2</b>		
2016	290	997	1,287
2017	2,219	719	2,938
2018	1,719	1,066	2,785
2019	2,109	912	3,021
2020	2,357	579	2,936
	<b>BANK OF INDIA-TIER 2</b>		
2016	2,478	273	2,751
2017	3,012	328	3,340
2018	3,159	211	3,370
2019	3,237	271	3,508
2020	3,493	256	3,749
	<b>GT BANK-TIER 3</b>		
2016	1,257	425	1,682
2017	1,338	536	1,874
2018	1,288	441	1,729
2019	1,392	448	1,840
2020	1,483	520	2,003
	<b>ABC BANK-TIER 3</b>		
2016	992	524	1,516
2017	1,080	520	1,600
2018	1,178	519	1,697
2019	1,191	425	1,616
2020	1,246	431	1,677
	<b>GULF AFRICAN BANK-TIER 3</b>		
2016	2,050	398	2,448
2017	1,953	677	2,630
2018	2,205	769	2,974
2019	1,945	754	2,699
2020	2,166	716	2,882
	<b>Victoria Commercial Bank Limited-TIER 3</b>		
2016	1,148	237	1,385
2017	1,284	359	1,643
2018	1,617	468	2,085
2019	1,828	221	2,049
2020	1,883	260	2,143
	<b>Development Bank of Kenya Limited-TIER 3</b>		
2016	483	124	607
2017	396	108	504

2018	424	113	537
2019	404	1,143	1,547
2020	362	104	466
	<b>Sidian Bank Limited-TIER 3</b>		
2016	1,901	596	2,497
2017	1,047	656	1,703
2018	1,063	1,044	2,107
2019	934	1,396	2,330
2020	856	1,310	2,166
	<b>First Community Bank Limited-TIER 3</b>		
2016	1,007	445	1,452
2017	802	484	1,286
2018	719	460	1,179
2019	756	441	1,197
2020	884	408	1,292
	<b>Consolidated Bank of Kenya Limited-TIER 3</b>		
2016	686	751	1,437
2017	498	778	1,276
2018	643	771	1,414
2019	541	691	1,232
2020	643	655	1,298
	<b>Guardian Bank Limited-TIER 3</b>		
2016	970	263	1,233
2017	817	115	932
2018	915	150	1,065
2019	755	179	934
2020	731	164	895
	<b>Habib Bank A.G Zurich-TIER 3</b>		
2016	1,082	106	1,188
2017	938	103	1,041
2018	992	93	1,085
2019	1,109	92	1,201
2020	1,152	104	1,256
	<b>Bank of Africa Kenya Limited-TIER 3</b>		
2016	1,403	2,363	3,766
2017	1,255	1,194	2,449
2018	1,183	1,005	2,188
2019	997	1,778	2,775
2020	1,000	2,009	3,009
	<b>Credit Bank Limited-TIER 4</b>		

2016	803	432	1,235
2017	793	560	1,353
2018	934	768	1,702
2019	921	857	1,778
2020	1,097	633	1,730
	<b>Paramount Bank-TIER 4</b>		
2016	295	182	477
2017	374	97	471
2018	363	100	463
2019	406	59	465
2020	441	113	554
	<b>M-Oriental Bank Limited-TIER 4</b>		
2016	646	92	738
2017	651	142	793
2018	515	186	701
2019	381	254	635
2020	531	310	841
	<b>Middle East Bank (K) Limited-TIER 4</b>		
2016	216	117	333
2017	179	107	286
2018	244	85	329
2019	331	195	526
2020	338	223	561
	<b>UBA Kenya Bank Limited-TIER 4</b>		
2016	221	368	589
2017	315	287	602
2018	470	232	702
2019	725	193	918
2020	683	366	1,049
	<b>DIB Bank Kenya Limited-TIER 4</b>		
2017	9	4	13
2018	52	83	135
2019	166	54	220
2020	215	122	337
	<b>Access Bank Kenya-TIER 4</b>		
2016	868	217	1,085
2017	686	285	971
2018	568	265	833
2019	617	265	882
2020	579	263	842
	<b>Mayfair CIB Bank Limited-TIER 4</b>		

2017	60	6	66
2018	105	162	267
2019	177	74	251
2020	392	153	545