THE EFFECT OF CASHLESS TRANSACTIONS AND FINANCIAL TRADING INCOME ON NON-FUNDED INCOME IN COMMERCIAL BANKS IN KENYA

By

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DECLARATION

STUDENT

I, the undersigned, declare that this research project is my original work and that it has not been presented in any other university or institution for academic credit.

Signed: …………………………………… Date: ………………………………

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SUPERVISOR

This research project has been submitted for examination with my approval as a university supervisor.

Signed: ………………………………… Date: ………………………………

Mirie Mwangi

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DEDICATION

I would like to dedicate this work to my dear mother Agnes Wambui Kiritu whose foresight in education and constant encouragement drove me to this level of education, my sister Fiona Njeri Kamau for her motivation and understanding throughout the period.

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LIST OF ABBREVIATIONS

AMFI	-	Association of Microfinance Institutions
CAPM	-	Capital Asset Pricing Model
CBK	-	Central Bank of Kenya
ES	-	Efficiency Structure
KNBS	-	Kenya National Bureau of Statistics
MFI	-	Microfinance Institutions
MP	-	Market Power
MPT	-	Modern Portfolio Theory
NFI	-	Non-Funded Income
NSF	-	Insufficient Funds
OMO	-	Open Market Operations
OTC	-	Over the counter
RMP	-	Relative Market Power
ROA	-	Return on Assets
SCP	-	Structure Conduct Performance
SPSS	-	Statistical Package for Social Sciences

ABSTRACT

Commercial banks income structures over the years have mainly been dominated by interest income generated from loans and advances to customers followed distantly by non-funded also known as non-interest income. However in recent years Banks have increasingly been generating income from off-balance sheet business and fee income. Technological advancements have greatly increased product base in banks leading to new revenue streams such as mobile banking, card usage, online banking and cashless transactions through bank agents and merchants. The study sought to establish the effect of cashless transactions and financial trading income on non-funded income in commercial banks in Kenya. The research design employed in this study was descriptive in nature. The target population in this study was the 43 commercial banks that were fully registered with CBK by December 2013. The data used in this study was quantitative in nature. The secondary data for five years (2009-2013) was obtained from annual publications by central bank as well as financial statements of commercial banks. This includes statement of financial position and directors reports. Multiple linear regression Analysis was used to examine the relationship between cashless transactions income, financial trading income and non- funded income in commercial banks in Kenya. From the regression model, the study found out that there were factors influencing the non-funded income of commercial banks in Kenya, which are cashless transactions income, financial trading income, banks interest rates, inflation and size. They either influenced it positively or negatively. The study found out that the intercept was 4.312 for all years. The five independent variables that were studied (cashless transactions income, financial trading income, banks interest rates, inflation and size) explain a substantial 89.3% of non-funded income in commercial banks in Kenya as represented by adjusted R^2 (0.893). The study established that the coefficient for cashless transactions income was 0.537, meaning that cashless transactions income positively and significantly influenced the non-funded income in commercial banks in Kenya. The study also established that the coefficient for financial trading income was 0.707, meaning that financial trading income positively and significantly influenced the non-funded income in commercial banks in Kenya. The study concluded that cashless transactions income and financial trading income have a positive effect on non- funded income in commercial banks in Kenya. The study recommended that banks should conduct research on other possible mobile money services packages that are user friendly and develop them so as to enable deposit/withdraw of money using mobile phone which will meet different customer requirements and capture market niches that competitors have not identified hence expand on the market share leading to improved non-funded income.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Commercial banks income structures over the years have mainly been dominated by interest income generated from loans and advances to customers followed distantly by non-funded also known as non-interest income. However in recent years Banks have increasingly been generating income from off-balance sheet business and fee income. Uzhegova (2010) noted that the decline in interest margins, has forced banks to explore alternative sources of revenues, leading to diversification into trading activities and non-traditional financial operations. The concept of revenue diversifications follows the concept of portfolio theory which states that individuals can reduce firm-specific risk by diversifying their portfolios. Olweny and Shipho (2011) noted that because of activity diversification, the economies of scale and scope caused through the joint production of financial activities leads to increase in the efficiency of banking organizations. They further argued that product mix reduces total risks because income from non-interest activities is not correlated or at least perfectly correlated with income from fee based activities and as such diversification should stabilize operating income and give rise to a more stable stream of profits.

Cashless transactions have been on the rise in the recent years due to deregulation and rapid technological advances in information flows, communications infrastructure and financial markets. Commercial banks in the aim of decongesting banking halls and reaching to a large market base are investing heavily in cashless products eventually leading to increased revenue streams. Additionally Commercial banks in the aim of increasing revenue and utilizing customer unused deposits there is increased financial trading especially in Bonds and foreign exchange the preceding being a risk free

investment and has an assured return is becoming quite common in Banks due to increasing competition in the local banking sector.

However there is a long history of debates about the benefits and costs of diversification in banking. The proponents of activity diversification or product mix argue that diversification provides a stable and less volatile income, economies of scope and scale, and the ability to leverage managerial efficiency across products; while those against diversification prefer concentration of products or services offered. They argue that specialization in a specific product or good increases expertise and effectiveness however with increasing competition this may hinder an entity from obtaining maximum profits that accrue from diversification, hinder an entities growth and eventually expose the entity to market specific risk.

1.1.1 Cashless Transactions

Cashless Transactions involve payment for goods and services by use of credit cards, debit cards, mobile devices and electronic funds transfer instead of use of hard cash or checks. Cashless transactions attract transaction fees; debit and credit card application charges and electronic transfers also attract charges depending on whether it's a local or foreign transfer. The wide-ranging economic developments of the previous decade such as the integration of world economies have made a significant impact towards increasing the mobility of the working populace and their families. At the same time, technological developments especially in the field of telecommunication have made it possible to offer innovative, location sensitive services on ubiquitous basis to customers on the move (Tiwari et al., 2006).

1.1.2 Financial Trading Income

Financial Trading involves the sale and purchase of financial instruments traded in the stock markets, derivative markets and commodity markets. They comprise stock exchanges, derivative exchanges and the commodities exchanges (International Accounting Standard (IAS) 32.11). Financial instruments can be categorized by form depending on whether they are cash instruments or derivatives instruments .Cash instruments are financial instruments whose value is determined. They can be divided into securities, which are readily transferable, and other cash instruments such as loans and deposits, where both borrower and lender have to agree on a transfer. Derivative instruments are financial instruments which derive their value from the value and characteristics of one or more underlying entities such as an asset, index or interest rate. They can be divided into exchange-traded derivatives and over-the-counter (OTC) derivatives .Alternatively, financial instruments can be categorized by asset class depending on whether they are equity based ,reflecting ownership of the issuing entity or debt based, reflecting a loan the investor has made to the issuing entity. If it is debt, it can be further categorized into short term which is less than one year or long term .Foreign Exchange instruments and transactions are neither debt nor equity based and belong in their own category.

1.1.3 Non- Funded Income

This income is derived by Banks primarily from fees. Examples of non-interest income include deposit and transaction fees, insufficient funds (NSF) fees, annual fees, monthly account service charges, inactivity fees, check and deposit slip fees. Institutions charge fees that provide non-interest income as a way of generating revenue and ensuring liquidity in the event of increased default rates. In the face of declining net interest margins, depository institutions have entered new product areas

over the past two decades, moving from traditional lending to areas that generate Non-fund based Income. The change is of importance for financial stability. The more unstable is a bank's earnings stream, the more risky the institution is. The conventional wisdom in the banking industry is that earnings from fee-based products are more stable than loan-based earnings and those fee-based activities reduce bank risk through diversifications (Marvaniya, 2012).

The increasing presence of non-interest income in commercial banks has been widely documented and discussed in the industry press and regulatory publications but only a few academic studies have investigated the impact of increased non-interest income on the financial performance of commercial banks. Development of new financial technologies such as cashless transactions and mutual funds are associated with higher levels of non-interest income in the banking system. We also find that increases in non-interest income tend to be associated with higher profitability, higher variation in profits and a worsened risk-return tradeoff. Regulatory, technological, and strategic plans are the major drivers of noninterest income (Young and Tara, 2003).

1.1.4 Cashless Transactions, Financial Trading Income and Non-Funded Income

Muia (2013) sought to establish whether income from Islamic debit and credit cards which is a form of cashless revenue source has a high margin that contributes positively to bank annual profitability and from the findings he established that there is a weaker linear relationship between return on assets (ROA) and Margins from the Bank Cards. Ngugi (2001) concurs that mobile banking has revolutionized the money transfer business and has created further innovations that have lowered the transaction costs for both the banks and customers.

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Securities have expanded due to the substantial accumulation of holdings of government or central bank securities. The market for innovative financial products has continued to expand and banks have increased their off-shore positions over the past decade. Still low interest rates have fueled the growth of core deposits but the rise is insufficient to fund the increase in banks assets. As a result, banks relied more on managed liabilities notably long-term borrowing (Plihon and Gamra, 2013).

1.1.5 Commercial Banks in Kenya

Commercial Banks in Kenya are licensed and regulated pursuant to the provisions of the Banking Act and the Regulations and Prudential Guidelines issued thereunder. Traditional Banking in Kenyan banks has been on the decline over the years. Although the decline is not pronounced, it reflects a rise in fee based activity in the industry. This result is consistent with world trends where banking systems are slowly increasing fees and commission based revenue (Busch and Kick, 2009).

Additionally CBK in the aim of controlling Commercial Banks' reserves and inflation as well as generation of income through government securities; Open Market Operations (OMO) which involves buying or selling of government securities from or to commercial banks by the Central Bank in order to achieve desired level of bank reserve is carried out additionally Repurchase Agreement (Repo) which are agreements between the CBK and commercial banks to purchase/sell Government securities from/to commercial banks at agreed interest rates (REPO rate) for a specified period with an understanding that the commercial bank will repurchase/resell the security from/to the CBK at the end of the period is also undertaken (CBK,2014).

1.2 Research Problem

Technological advancements have greatly increased product base in banks leading to new revenue streams such as mobile banking, card usage, online banking and cashless transactions through bank agents and merchants (Busch and Kick 2009). Financial trading is also becoming a significant source of income in recent years. All these developments have brought an increasing trend on non-funded income making it a source of income that cannot be assumed by banks. Non funded income as a form of revenue diversification in commercial Banks in Kenya is important because banks play a critical role in the stability of the global financial system.

Banking in the emerging economies such as Kenya was traditionally a highly protected industry, living off good spreads achieved on regulated deposit and lending rates and pervasive restrictions on domestic and foreign entry. Global market, technology developments and macroeconomic pressures have forced the banking industry and the regulators to change the old way of doing business and to deregulate the banking industry at the national level and open up financial markets to foreign competition. As a result, borders between financial products, banks and non-bank financial institutions and the geographical locations of financial institutions have started to break down. These changes have significantly increased competitive pressures on banks in the emerging economies and have led to deep changes in the banking strategies.

Kiweu (2012) through his research study assessed the level of diversification within fees based activities and discovered Kenyan commercial banks tended to concentrate in certain fee based activities. However, after 2005 there has been a trend of diversifying within trade fees, foreign exchange commission, dividend income and

other income. The research also established bigger banks are more diversified than small banks and tend to have higher non-funded returns. A positive correlation between net interest and non- interest income exists. There are two pillars in Bank performance that are affected by increased non-funded income that is: profitability (ROA) and capital adequacy then followed by strengthened customer relationships and reduced operational risk .Banks have benefited greatly due to diversification to non-funded income. Some of these benefits are: Increased customer base, increased revenue streams, risk spreading, economies of scale, high loyalty base of clients and increased efficiency.

Based on literature findings most of the studies have focused on the impact of diversification of bank products to the stability and volatility of Bank earnings, some of these studies are: Kiweu (2012) Income Diversification in the Banking Sector and Earnings Volatility: Evidence from Kenyan Commercial Banks. This study had a general overview of income sources and did not give each income source much attention. Muia (2013) focused on the impact of mobile banking on financial performance of commercial banks in Kenya.

None of above studies reviewed has specialized on the effect of cashless transactions and financial trading income to non-funded income. Therefore, there remain considerable debate surrounding the effect of cashless transactions and financial trading income to non- funded income in commercial banks in Kenya as there is no major study that has been done. Therefore the study sought to answer the questions: what is the effect of cashless transactions and financial trading income on non-funded income in commercial banks in Kenya?

1.3 Research Objectives

The study sought to establish the effect of cashless transactions and financial trading income on non-funded income in commercial banks in Kenya.

1.4 Value of the Study

This study will be of value to various players in the banking industry such as: Commercial banks will obtain insights on what impact cashless transactions and financial trading income has to the banks income and what they can do to maximize on these revenue streams in order to achieve greater value and will also be able to make informed decisions on what is the most preferred source of non-funded income depending on the banks clientele and financial needs. The Central bank will be able to increase its efficiency in its regulatory role. The finding of this study will inform CBK of necessary measures to adopt in monitoring how banks obtain non-interest income in order to provide fair playing ground for large and small commercial banks. Additionally, it will make informed decision on funding regulations in commercial banks. Finally academicians and researchers will get reference materials for further research on other related topics. The study will also highlight other important relationships that will require further research.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter introduces the literature review adopted by the researcher where it captures the theoretical review and empirical review. It is guided by the past studies derived by the topic under study where findings would be helpful while making conclusions and summary in comparison of the researcher's finding and the literature findings.

2.2 Theoretical Review

Numerous economists have explained the role of finance in the market with the help of different finance theories. The concept of finance theory involves studying the various ways by which businesses and individuals raise money while considering the risk factors associated with them. This study therefore intends to assess cashless transactions income and financial trading income which provide a non-interest based product mix and their potential to boost the performance of Kenyan banks.

2.2.1 Portfolio Theory

Portfolio theory was introduced by Markowitz (1952), he proposed that investors focus on selecting portfolios based on those portfolios overall risk reward characteristic, instead of merely compiling portfolios from securities that each individually have attractive risk reward characteristics. The theory attempts to maximize portfolio expected return for a given amount of portfolio risk, or equivalently minimize risk for a given level of expected return, by carefully choosing the proportions of various assets .MPT is a mathematical formulation of the concept of diversification in investing, with the aim of selecting a collection of investment assets that has collectively lower risk than any individual asset.

Elton and Gruber (1997) concurs with MPT stating it is possible, intuitively speaking, because different types of assets often change in value in opposite ways for example, to the extent prices in the stock market move differently from prices in the bond market, a collection of both types of assets can in theory face lower overall risk than either individually. MPT models an assets' return as a normally distributed function and defines risk as the standard deviation of return, and models a portfolio as a weighted combination of assets, so that the return of a portfolio is the weighted combination of the assets' returns. By combining different assets whose returns are not perfectly positively correlated, MPT seeks to reduce the total variance of the portfolio return. MPT also assumes that investors are rational and markets are efficient (Elton and Gruber, 1997).

2.2.2 Capital Asset Pricing Model

The Capital Asset Pricing Model was introduced by Treynor (1961), Sharpe (1964), Lintner (1965) and Mossin (1966) independently, building on the earlier work of Markowitz (1952) on diversification and modern portfolio theory. This model introduced the concepts of diversifiable and non-diversifiable risk. Synonyms for diversifiable risk are idiosyncratic risk, unsystematic risk, and security-specific risk. Synonyms for non-diversifiable risk are systematic risk, beta risk and market risk. Non diversifiable risk is whereby an investment is exposed both to index movements and movements in the stock based on its underlying company while diversifiable risk can be reduced by diversifying among stocks. Korajczyk (1999) however there is also the risk of over diversifying to the point that your performance will suffer and you will end up paying mostly for fees. The Capital Asset Pricing Model argues that investors should only be compensated for non-diversifiable risk. Other financial

models allow for multiple sources of non-diversifiable risk, but also insist that diversifiable risk should not carry any extra expected return (Korajczyk, 1999).

Korajczyk (1999) noted in corporate portfolio models, diversification is thought of as being vertical or horizontal. Horizontal diversification is expanding a product line or acquiring related companies. Vertical diversification is synonymous with integrating the supply chain or amalgamating distributions channels. Young and rice (2003) non-incremental diversification is a strategy followed by conglomerates, where the individual business lines have little to do with one another, yet the company is attaining diversification from exogenous risk factors to stabilize and provide opportunity for active management of diverse resources.

2.2.3 Adaptive Market Hypothesis

The adaptive market hypothesis, as proposed by Lo (2004) attempts to reconcile economic theories based on the efficient market hypothesis which implies that markets are efficient with behavioral economics by applying the principles of evolution to financial interactions such as competition, adaptation and natural selection. Under this approach, the traditional models of modern financial economics can coexist with behavioral models. Lo (2004) suggests adaptive market hypothesis can be viewed as a new version of the efficient market hypothesis, derived from evolutionary principles which say prices reflect as much information as dictated by the combination of environmental conditions and the number and nature of "species" in the economy. By species, he means distinct groups of market participants, each behaving in a common manner such as pension fund managers, retail investors, market makers and hedge fund managers among others. If multiple members of a single group are competing for rather scarce resources within a single

market, then that market is likely to be highly efficient on the other hand, if a small number of species are competing for rather abundant resources, then that market will be less efficient.

Market efficiency cannot be evaluated in a vacuum, but is highly context-dependent and dynamic. The degree of market efficiency is related to environmental factors characterizing market ecology such as the number of competitors in the market, the magnitude of profit opportunities available, and the adaptability of the market participants. The adaptive market hypothesis has several implications that differentiate it from efficient market hypothesis such as : relation between risk and reward exists and is unlikely to be stable over time, there are opportunities for arbitrage, investment strategies including: quantitatively, fundamentally and technically based methods will perform well in certain environments and poorly in others, the primary objective is survival and profit utility maximization is secondary ,the key to survival is innovation: as the risk/reward relation varies, the better way of achieving a consistent level of expected returns is to adapt to changing market conditions (Lo,2004) .

2.2.4 Financial Intermediation Theory

The theory regarding financial intermediation was developed by Gurley and Shaw (1960). The financial intermediation theory is based on the theory of informational asymmetry and the agency theory. A banks core activity is to act as a financial intermediary. It pays interest to depositors, while it receives income from the borrowers. The interest income received from borrowers is higher than that paid to depositors, since the bank has to be remunerated for services rendered but also for the risk it takes in order to lend money to third parties. The fact that banks have usually large numbers of customers means that they have potential buyers of other bank and

or non –bank related services like insurance ,bank assurance ,stock brokerage ,factoring ,asset management and other services (Karlos, 2009).

Over the years and according to different needs and conditions, several types of banking institutions have evolved such as: Commercial banks which offer core banking activities, which are financial intermediation and offering of liquidity. However some banks offer nearly any service on the financial spectrum; they can be categorized as corporate or retail depending on clientele. Finally, Merchant banks which originally charged a fee to guarantee clients bills of exchange. This way they provided their clients with liquidity in time. These banks have evolved and are considered as investment banks.

If a banking group is big enough in order to be able to render a wider spectrum of financial services it can be considered to be a financial conglomerate, these institutions benefit from economies of scale and scope as well as high number of customers which they can sell a lot of different services (Karlos, 2009). Diamond (1984) argues that diversification within the financial intermediary is the main reason financial intermediaries exist.

2.3 Determinants of Non-Funded Income in Commercial Banks

In modern economies commercial banks offer a wide range of financial services, but have also let other financial institutions offer services close to core banking services. Also the increase of existing level of information, has led people to invest and to offer funds in money markets (Karlos, 2009). Technological progress has allowed the banks develop new products and services for which they can charge fee income. Deregulation has also widened the field of services that banks can provide hence leading to extra income beyond interest income (Karlos, 2009). Young and rice

(2003) state that deregulation has fostered competition between banks, nonbanks and financial markets where none existed before. In response to these competitive threats and opportunities, many banks have embraced the new technologies that have drastically altered production and distribution strategies and resulted in large increases in non-interest income. Banks can extract fee income from customers willing to pay a convenience premium for doing their banking at ATMs or over the Internet. Banking industry deregulation has removed a whole host of restrictions that had stunted the evolution of the banking industry, constrained the efficiency of financial product markets and extended the lives of thousands of poorly run and suboptimal-sized commercial banks (Young and Rice, 2003). Additionally Scholars also contend that other major external factors that influence non-interest income are interest rate and inflation.

2.3.1 Interest Rate

Interest rate is the price a borrower pays for the use of money they borrow from a lender/financial institution or fee paid on borrowed assets (Crowley, 2007). Interest can be thought of as "rent of money". Interest rates are fundamental to a capitalist society and are normally expressed as a percentage rate over one year. Interest rate as a price of money indicates market information concerning probable change in the purchasing power of money or future inflation (Ngugi, 2001). Financial institutions facilitate mobilization of savings, diversification, pooling of risks and allocation of resources (Collins and Wanjau, 2011). However, since the receipts for deposits and loans are not harmonized, intermediaries like banks incur certain costs (Ngugi, 2001). They charge a price for the intermediation services offered under uncertainty and set the interest rate levels for deposits and loans. Rhyne (2002) disparity between the gross costs of borrowing and the net return on lending defines the intermediary costs

which include information costs, transaction costs, administration, default costs and operational costs

2.3.2 Inflation

This is the rise in the general level of prices quoted in units of money. The magnitude of inflation or the inflation rate is usually reported as the annualized percentage growth of some broad index of money prices (White, 2008). Inflation is significantly negatively related with the performances of commercial banks. This is probably due to the fact that inflation could affect the value for money, purchasing power of people and the real interest rate that banks charge and receive.

2.3.3 Size

Company size positively affects performance measured by ROA, which proves to be a direct link with another indicator of financial performance, net profit margin. The size of the company can have a positive effect on financial performance because larger firms can use this advantage to get some financial benefits in business relations (Mathur and Kenyon, 1997). Large companies have easier access to the most important factors of production, including human resources. Also, large organizations often get cheaper funding.

In the classical theory, capital structure is irrelevant for measuring company performance, considering that in a perfectly competitive world performance is influenced only by real factors. Recent studies contradict this theory, arguing that capital structure play an important role in determining corporate performance (Kakani, Biswatosh and Reddy, 2001). Barton and Gordon (1988) suggest that entities with higher profit rates will remain low leveraged because of their ability to finance their own sources. On the other hand, a high degree of leverage increases the risk of

bankruptcy of companies. Total assets are considered to positively influence the company's financial performance, assets greater meaning less risk (Beaver, Ketller and Scholes, 2000). Large firms tend to be more diversified and fail less often, enabling the firms to use more debt, tolerating high debt ratios. The certainty of easier access to debt and better borrowing conditions reduces the transaction costs and tax rates making large firms more easily to attract a debt.

2.4 Empirical Studies

Several related studies have been carried out but there is no specific study that has been carried out to establish the effect of cashless transactions and financial trading income to non-funded income in commercial banks. Mugendi (2002) analyzes the vital role Microfinance institutions play in the economic development of many developing countries through the provision of a wide range of financial products and services to the poor, low-income households and micro and small enterprises. This study investigated the factors that influence financial innovation in MFI's and its impact on financial performance in micro finance institutions in Kenya.

Tarazi et al. (2007) investigated the relationship between bank risk and product diversification in the changing structure of the European banking industry. Based on a broad set of European banks for the period 1996-2002, the study first shows that banks expanding into non-interest income activities present higher risk and higher insolvency risk than banks which mainly supply loans. However, considering size effects and splitting non-interest activities into both trading activities and commission and fee activities they showed that the positive link with risk is mostly accurate for small banks and essentially driven by commission and fee activities. A higher share of

trading activities is never associated with higher risk and for small banks it implies, in some cases, lower asset and default risks.

Macharia (2009) aimed at determining how commercial banks perceive the influence of mobile phones on growth of commercial banking business in Kenya. The study was modeled on a descriptive design. The population of interest in this study consisted of forty-five commercial banks. Based on the findings, it was concluded that majority of the commercial banks do offer services through the customers' mobile phones. It can also be concluded that commercial banks use mobile services for purposes of accounts request and the maintenance of high quality service is extremely important for the commercial banks in the Kenyan banking industry. Commercial banks management should change their perception on cost leadership, market share leadership and technology leadership in order to take advantage of the mobile banking technology in the growth of the banking industry.

Chen (2009) in his study used bank level data to study the efficiency of banks in Sub-Saharan African middle-income countries and provide possible explanations for the difference in the efficiency levels of banks. It was found that banks, on average, could save 20-30 percent of their total costs if they were operating efficiently, and that foreign banks are more efficient than public banks and domestic private banks. Among the factors that could affect the efficiency levels are macroeconomic stability, depth of financial development, the degree of market competition, strong legal rights and contract laws, and better governance, including political stability and government effectiveness. Our findings point to the importance of policies that aim to build stronger institutions, promote more competition, and improve governance.

Busch and Kick (2009) analyzed the determinants of non-interest income and its impact on financial performance and the risk profile of German banks between 1995 and 2007. They found out that empirical evidence for all German universal banks risk-adjusted returns on equity and total assets are positively affected by higher fee income activities. Additionally, for commercial banks they show that a strong engagement in fee-generating activities goes along with higher risk. In order to analyze possible cross-subsidization effects between interest and fee business they also examined how banks' expansion in fee-based services has affected their interest margin. For savings and commercial banks they found that institutions with a strong focus on fee business charge lower interest margins when credit risk is controlled.

Williams and Rajaguru (2010) studied the time series relationship between bank non-interest income and bank net interest margins in Australia using panel vector auto regressions. It is found that increases in bank non-interest income are being used to supplement decreases in net interest margins, but that the magnitude of the increase in non-interest income is smaller than the decrease in net interest margins. It is also found that increases in non-interest income pre-date declines in margin income, suggesting that Australian banks were pro-active in the process of disintermediation. The agency risks of increased bank non-interest income are explored from the perspectives of regulators, consumers, bank shareholders, borrowers and bank management.

Kiweu (2012) examined the extent of income diversification by Kenyan banks away from traditional banking activities. The concentration growth indicates that focus on traditional activity for Kenyan banks has been on the decline over the years. Although the decline is not pronounced, it reflects a rise in fee based activity in the industry.

This study also assesses the level of diversification within fees based activities; before 2005 banks tended to concentrate in certain fee based activities. However, after 2005 there has been a trend of diversifying within trade fees, foreign exchange commission, dividend income and other income sources. The study also used a measure of asset diversity, loan to asset ratio to assess the extent to which the Kenyan banking sector has been diversifying to fee based revenues. The figures indicate that there have been attempts on diversification by the sector. A downward trend is clear to 2003 showing a shift to fee based activities until a rise in the ratio kicked off to 2006.

Kaberia (2012) analyzed different sources of income of commercial banks that operated in Kenya during the period of 2007-2011. By using Regression Model, the researcher identified the various sources of income which significantly influence the bank's financial performance to be interest income, fees and commissions on loans and advances, other fees and commissions, foreign exchange, trading income and other non-interest income. From the regression conducted specifically as revealed by the coefficient correlation (R), it was established that the independent variables have a positive strong impact on the dependent variable. On this basis of analysis, it can be concluded that increased diversification of income sources leads to increased profitability of commercial banks.

Hugo (2013) in the research paper attempts to find out the effect of diversifying income sources of Commercial Banks in Kenya during the financial period 2007 – 2011 on financial performance. The findings of this study reveal that commercial banks in Kenya are diversified in income source generating activities. If banks diversify their income generating activities, the problem of profitability and stiff competition in the industry will ease, hence improving financial performance. The

regression analysis conducted established that the independent variables have a positive strong correlation with the dependent variable. Each of the independent variables: interest income, fees and commissions on loans and advances, other fees and commissions, foreign exchange trading income and other non- interest income contribute positively to financial performance of commercial banks. It is also evident from the study that without the diversification of income sources by commercial banks in Kenya most of them would have struggled with their objectives of maximizing shareholders wealth or eventually collapsed.

2.5 Summary of Literature Review

Several scholars have studied the effect of cashless transactions and financial trading income to non-funded income in commercial banks. Tarazi et al. (2007) investigated the relationship between bank risk and product diversification in the changing structure of the European banking industry. Macharia (2009) aimed at determining how commercial banks perceive the influence of mobile phones on growth of commercial banking business in Kenya. Busch and Kick (2009) analyzed the determinants of non-interest income and its impact on financial performance and the risk profile of German banks between 1995 and 2007.

The impact of cashless transactions and financial trading income on non-funded income has not been filly analyzed by researchers. Even theories do not seem to conclusively answer the relationship. Diversification of income sources is said to comparatively yield to advantages since it can reduce the shocks to net interest margins (idiosyncratic risk) arising from adverse changes in lending rates. Bank expansion into fee-based services leads to low lending rates, observing that diversification impacts on loan pricing and interest rate margins effectively curbs

volatility in bank earnings. This finding ties in well with the fact that it has been established lending to specific loan activities is one cause of banking crises in the last 5 years. Examples are Argentinean financial crisis of 2001 and 2002 and Australian bank crisis over the years 1997-2003.

Empirically, the reviewed studies have been characterized by vagueness and have made generalized conclusion with absolute disregard of the effect of cashless transactions and financial trading income on non- funded income on commercial banks. This study therefore seeks to fill this research gap.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the procedures and strategies that were used during the study. The study design and locations of the study, study population, sample size and sampling procedures are described in this chapter. The chapter explains the instruments used for collecting data. The section concludes with the overview of data analysis procedures and data presentation methods employed in the study.

3.2 Research Design

The research design employed in this study was descriptive in nature. Descriptive studies describe characteristics related with the subject population. Saunders et al. (2003) asserts that a descriptive research portrays an accurate profile of persons, events or situations. The method involves range from the survey which describe status quo, the correlation studies which investigate relationships between variables, to developmental studies which seek to determine changes over time (Key, 2007).

3.3 Population

According to Cooper and Schindler (2000), a population is the total collection of elements about which we wish to make inferences. The target population in this study was the 43 commercial banks that were fully registered with CBK by December 2013. A census survey was carried out on all commercial banks therefore there was no need for sampling.

3.4 Data Collection

The data used in this study was quantitative in nature. The secondary data for five years (2009-2013) was obtained from annual publications by central bank as well as

financial statements of commercial banks. This includes statement of financial position and directors reports. Secondary data from CBK was used to supplement data issued by Kenya National Bureau of Statistics (KNBS).The researcher organized, tabulated, summarized and carried out the necessary analysis

3.5 Data Analysis

Data analysis generally involves reducing accumulated data to a controllable size, developing summaries, looking for patterns, and applying statistical techniques Cooper and Schindler (2000). Multiple linear regression Analysis was used to examine the relationship between cashless transactions income, financial trading income and non- funded income in commercial banks in Kenya. In Linear regressions two or more independent variables are applied to explain or predict the dependent variable. The purpose it to make the model more realistic, control other variables and explain more of variance in the dependent variables.

The relationship of the equation was a multiple linear equation as shown below;

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \varepsilon$$

Where;

Y is the Non-Funded Income (Income from fees and commissions) (Non-Funded Income to Total Income);

α is the Constant term

$\beta_1 - \beta_4$ are beta coefficients (intercepts for independent variables)

X_1 = Cashless Transactions Income (debit and credit cards income) (Cashless transactions income to Net Profit)

X_2 = Financial Trading Income (government securities and foreign exchange gains) (Financial trading income to Total Assets)

X_3 X_4 and X_5 = Control variables were Banks interest Rates, inflation and Size (These are other independent variables likely to affect Non-interest income)

X_3 = Banks interest Rates

X_4 = Inflation

X_5 = Size, defined as the natural log (Ln) of Total assets

ε = error term of the model (significance level of the model).

The Pearson's product moment coefficient (r) was used. This was used to estimate the association between variables based on the sampling data. A coefficient of determinations (R^2) was performed to determine how much of dependent variable comes about as a result of the independent variable being tested. The data was analyzed using statistical package for social science (SPSS). Non funded income in this research was measured as a ratio of fees and commissions to total income in Commercial Banks. Cashless transactions were specified to ATM application and withdrawal fees. Financial trading income was measured using bonds trading income and foreign exchange gains. Bank size in terms of Asset base is also a great factor in determining non- funded income.

4.1 Introduction

This chapter presents the information processed from the data collected during the study on the effect of cashless transactions and financial trading income on non-funded income in commercial banks in Kenya. The sample composed of 43 commercial banks that were fully registered with CBK by December 2013.

4.2 Descriptive Statistics

Table 4. 1: Summary of the Study Variables for the Study Period

	2009	2010	2011	2012	2013	Min.	Max.	Mean	Std. Dev.
Cashless Transactions Income	2,701,607,672	1,950,320,999	2,073,175,496	2,458,717,989	2,710,247,190	1950 3209 99	2710 2471 90	2,378,813,869	352,650,502.84
Financial Trading Income	180616.51	295873.48	315953.92	512598.88	584617.64	1806 16.5 1	5846 17.64	377932.08	166104.19
Banks interest Rates	0.85	0.85	0.59	0.57	0.48	0.48	0.85	0.67	0.17
Inflation	10.5	4.1	9.4	10.9	10.5	4.1	10.9	9.1	2.8
Size	6.98	7.08	7.12	7.26	7.33	6.98	7.33	7.15	0.14

Table 4.1 shows the trend of the various variable of the study for the study period. The findings depict that cashless transactions income improved over the years with a mean score of 2,378,813,869. It was also clear that the financial trading income was

almost improving over the study period although the highest value was recorded in 2013 (584617.641). This is not the case for bank interest rates which were on a downward trend over the period of study with a mean score of 0.6672. Inflation posted mixed results with the highest values being recorded in 2009 at 10.5. The size of the commercial banks in Kenya improved steadily with a mean of 7.1567.

4.3 Correlation Analysis

The data presented before on cashless transactions income, financial trading income, banks interest rates, inflation and size were computed into single variables per factor by obtaining the averages of each factor. Pearson's correlations analysis was then conducted at 95% confidence interval and 5% confidence level 2-tailed.

Table 4. 2: Correlations Matrix

		Non-Funded Income	Cashless Transactions Income	Financial Trading Income	Banks interest Rates	Inflation	Size
Non-Funded Income	Pearson Correlation	1					
Cashless Transactions Income	Pearson Correlation	.592	1				
Financial Trading Income	Pearson Correlation	.653	.597	1			
Banks interest Rates	Pearson Correlation	.521	.544	.738	1		
Inflation	Pearson Correlation	-.382	-.133	-.308	-.267	1	
Size	Pearson Correlation	.685	.464	.684	.489	.558	1

The table above indicates the correlation matrix between the factors (cashless transactions income, financial trading income, banks interest rates, inflation and size) and non-funded income. According to the table, there is a positive relationship

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between non-funded income and cashless transactions income, financial trading income, banks interest rates, inflation and size of magnitude 0.592, 0.653, 0.521, - 0.382 and 0.685 respectively. The positive relationship indicates that there is a correlation between the factors and the non-funded income while the negative value in inflation indicates there is a negative relationship between inflation and non-funded income. This infers that size has the highest effect on non-funded income while inflation has a negative effect on nun-funded income.

4.4 Regression Results

The study conducted a multiple linear regression on several cashless transactions and financial trading income variables over the period 2009 - 2013 and of non-funded income. Coefficient of determination explains the extent to which changes in the dependent variable can be explained by the change in the independent variables or the percentage of variation in the dependent variable (non-funded income) that is explained by all the five independent variables (cashless transactions income, financial trading income, banks interest rates, inflation and size).

Table 4.3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.962	0.925	0.893	0.637

Source: Author (2014)

The five independent variables that were studied, explain 89.3% of the non-funded income in commercial banks in Kenya as represented by the adjusted R^2. This therefore means the five variables contribute to 89.3% of non-funded income in

commercial banks in Kenya, while other factors not studied in this research contributes 10.7% of non-funded income in commercial banks in Kenya. Therefore, further research should be conducted to investigate the other (10.7%) factors influencing non-funded income in commercial banks in Kenya.

Table 4.4: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.184	5	1.637	4.771	.013
	Residual	9.11	37	.345		
	Total	16.294	42			

Source: Author (2014)

From the ANOVA statistics in table 4.3, the processed data, which are the population parameters, had a significance level of 0. 013 which shows that the data was ideal for making a conclusion on the population's parameter. The F calculated at 5% Level of significance was 4.771. Since F calculated is greater than the F critical (value = 2.47), this shows that the overall model was significant i.e. there is a significant relationship between cashless transactions and financial trading income and non-funded income.

Table 4.5: Regression coefficients of the Relationship between Non-Funded Income and the Five Predictive Variables

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	Constant	4.312	0.974		4.427	.00815
	Cashless transactions income	0.537	0.24	0.006	2.238	.0314
	Financial trading income	0.707	0.368	0.066	1.921	.0424
	Banks interest rates (%)	0.395	0.172	0.092	2.297	.0274
	Inflation (%)	-0.214	0.411	-0.107	-0.521	.0106
	Size	0.792	0.341	0.166	2.323	.0258
Dependent variable: non-funded income						

Source: Author (2014)

The coefficient of regression in table 4.4 above was used in coming up with the model below:

NFI = 4.312+ 0.537CTI+0.707FTI + 0.395BIR-0.214I+0.792S

Where NFI is non-funded income, CTI is cashless transactions income, FTI is financial trading income, BIR is banks interest rates, I is inflation and S is size. From

the model, taking all factors (cashless transactions income, financial trading income, banks interest rates, inflation and size) constant at zero, non-funded income in commercial banks in Kenya was 4.312. The data findings analyzed also shows that taking all other independent variables at zero, a unit increase in cashless transactions income will lead to a 0.537 increase in non-funded income in commercial banks in Kenya; unit increase in financial trading income will lead to a 0.707 increase in non-funded income in commercial banks in Kenya; a unit increase in bank interest rates will lead to a 0.395 increase in non-funded income in commercial banks in Kenya, a unit increase in inflation will lead to a 0.214 decrease in non-funded income in commercial banks in Kenya while a unit increase in size will lead to a 0.792 increase in non-funded income in commercial banks in Kenya.

According to the model, all the variables were significant as their significance value was less than 0.05. However, inflation was negatively correlated with non-funded income of commercial banks in Kenya while cashless transactions income, financial trading income, banks interest rates and size were positively correlated with non-funded income of commercial banks in Kenya.

4.5 Discussion of Research Findings

From the above regression model, the study found out that there were factors influencing the non-funded income of commercial banks in Kenya, which are cashless transactions income, financial trading income, banks interest rates, inflation and size. They either influenced it positively or negatively. The study found out that the intercept was 4.312 for all years.

The five independent variables that were studied (cashless transactions income, financial trading income, banks interest rates, inflation and size) explain a substantial

89.3% of non-funded income in commercial banks in Kenya as represented by adjusted R^2 (0.893). This therefore means that the five independent variables contributes 89.3% of the non-funded income in commercial banks in Kenya while other factors and random variations not studied in this research contributes a measly 10.7% of non-funded income in commercial banks in Kenya.

The study established that the coefficient for cashless transactions income was 0.537, meaning that cashless transactions income positively and significantly influenced the non-funded income in commercial banks in Kenya. This correlates with Muia (2013) who sought to establish whether income from Islamic debit and credit cards which is a form of cashless revenue source has a high margin that contributes positively to bank annual profitability and from the findings he established that there is a weaker linear relationship between return on assets (ROA) and Margins from the Bank Cards. Ngugi (2001) concurs that mobile banking has revolutionized the money transfer business and has created further innovations that have lowered the transaction costs for both the banks and customers.

The study established that the coefficient for financial trading income was 0.707, meaning that financial trading income positively and significantly influenced the non-funded income in commercial banks in Kenya. This is in line with Olweny and Shipho (2011) who posit that commercial banks in the aim of decongesting banking halls and reaching to a large market base are investing heavily in cashless products eventually leading to increased revenue streams. Additionally Commercial banks in the aim of increasing revenue and utilizing customer unused deposits there is increased financial trading especially in Bonds and foreign exchange the preceding being a risk free investment and has an assured return is becoming quite common in Banks due to increasing competition in the local banking sector. Thereby there is an

expected positive relationship between financial trading income and non-funded income in commercial banks.

Busch and Kick (2009) argue that financial trading is becoming a significant source of income in recent years. All these developments have brought an increasing trend on non-funded income making it a source of income that cannot be assumed by banks. Non funded income as a form of revenue diversification in commercial Banks in Kenya is important because banks play a critical role in the stability of the global financial system.

The study further revealed that the coefficient for banks interest rates was 0.395, meaning that banks interest rates positively and significantly influenced the non-funded income in commercial banks in Kenya although the effect is moderate. This concur with Rhyne (2002) who argues that commercial banks charge a price for the intermediation services offered under uncertainty and set the interest rate levels for deposits and loans. The interest earned is a form of non-funded cash and thereby there is a positive relationship between non-funded income and bank interest rates.

The study also deduced that the coefficient for inflation was -0. 214, meaning that inflation negatively but significantly influenced the non-funded income in commercial banks in Kenya. This correlates with White (2008) inflation is significantly negatively related with the performances of commercial banks. This is probably due to the fact that inflation could affect the value for money, purchasing power of people and the real interest rate that banks charge and receive. As a consequence there is an expected negative relationship between non-funded income in commercial banks and inflation. The study further established that the coefficient for size was 0.792, this implies that size positively and significantly influence the non-funded income in commercial

banks in Kenya. This is in line with Mathur and Kenyon (1997) who posits that company size positively affects performance measured by ROA, which proves to be a direct link with another indicator of financial performance, net profit margin. The size of the company can have a positive effect on financial performance because larger firms can use this advantage to get some financial benefits in business relations. Large companies have easier access to the most important factors of production, including human resources. Also, large organizations often get cheaper positive relationship funding. This therefore means that there is a between the size of a commercial bank and the non-funded income with the larger the size the higher the expected no-funded income.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a summary, conclusion and recommendations of the main findings on the effect of cashless transactions and financial trading income on non-funded income in commercial banks in Kenya.

5.2 Summary of Findings

Commercial banks income structures over the years have mainly been dominated by interest income generated from loans and advances to customers followed distantly by non-funded also known as non-interest income. However in recent years Banks have increasingly been generating income from off-balance sheet business and fee income. Technological advancements have greatly increased product base in banks leading to new revenue streams such as mobile banking, card usage, online banking and cashless transactions through bank agents and merchants.

The study sought to establish the effect of cashless transactions and financial trading income on non-funded income in commercial banks in Kenya. The research design employed in this study was descriptive in nature. The target population in this study was the 43 commercial banks that were fully registered with CBK by December 2013. The data used in this study was quantitative in nature. The secondary data for five years (2009-2013) was obtained from annual publications by central bank as well as financial statements of commercial banks. This includes statement of financial position and directors reports. Multiple linear regression Analysis was used to examine the relationship between cashless transactions income, financial trading income and non- funded income in commercial banks in Kenya. From the regression

model, the study found out that there were factors influencing the non-funded income of commercial banks in Kenya, which are cashless transactions income, financial trading income, banks interest rates, inflation and size. They either influenced it positively or negatively. The study found out that the intercept was 4.312 for all years. The five independent variables that were studied (cashless transactions income, financial trading income, banks interest rates, inflation and size) explain a substantial 89.3% of non-funded income in commercial banks in Kenya as represented by adjusted R^2 (0.893). The study therefore concludes that cashless transactions income and financial trading income have a positive effect on non- funded income in commercial banks in Kenya.

5.3 Conclusion

This study examined the relationship between cashless transactions income, financial trading income and non- funded income in commercial banks in Kenya. The five independent variables that were studied (cashless transactions income, financial trading income, banks interest rates, inflation and size) explain a substantial 89.3% of non-funded income in commercial banks in Kenya as represented by adjusted R^2 (0.893). This therefore means that the five independent variables contributes 89.3% of the non-funded income in commercial banks in Kenya while other factors and random variations not studied in this research contributes a measly 10.7% of non-funded income in commercial banks in Kenya.

From the findings the study concludes that cashless transactions income positively and significantly influences the non-funded income in commercial banks in Kenya. This correlates with Muia (2013) who sought to establish whether income from Islamic debit and credit cards which is a form of cashless revenue source has a high

margin that contributes positively to bank annual profitability and from the findings he established that there is a weaker linear relationship between return on assets (ROA) and Margins from the Bank Cards. Ngugi (2001) concurs that mobile banking has revolutionized the money transfer business and has created further innovations that have lowered the transaction costs for both the banks and customers.

The study also concludes that financial trading income positively and significantly influences the non-funded income in commercial banks in Kenya. This is in line with Olweny and Shipho (2011) who posit that commercial banks in the aim of decongesting banking halls and reaching to a large market base are investing heavily in cashless products eventually leading to increased revenue streams. Additionally Commercial banks in the aim of increasing revenue and utilizing customer unused deposits there is increased financial trading especially in Bonds and foreign exchange the preceding being a risk free investment and has an assured return is becoming quite common in Banks due to increasing competition in the local banking sector. Thereby there is an expected positive relationship between financial trading income and non-funded income in commercial banks.

Busch and Kick (2009) argue that financial trading is becoming a significant source of income in recent years. All these developments have brought an increasing trend on non-funded income making it a source of income that cannot be assumed by banks. Non funded income as a form of revenue diversification in commercial Banks in Kenya is important because banks play a critical role in the stability of the global financial system.

5.4 Recommendations

This study has important policy implications. The fact that net non-funded income margin is positive implies that the financial sector should capitalize more on ways to aid them reap more benefits. Improved management of commercial banks operations is essential as opposed to increment in the fee structures, so as to release more positive non-interest margins.

The banking institutions need to have proper measures in place in order to deal with inflation effects on non-funded income. There should be more cooperation with the use of systems that help derive non-funded income like the clearing house for cheques. This could be achieved by identifying new and effective ways to handling cross bank activities and payments so that customer retention is maintained in the industry.

Commercial banks appreciate the e-commerce as evidenced by its wide adoption. Although most commercial banks have introduced e-commerce services and products it is not yet very popular with most of their customers. This could be because the majority of the customers who the banks serve, lack enough access to information technology infrastructure, knowledge and skills. The banks should popularize the use of e-commerce by educating their customers about their use and the advantages that come with it.

Effective regulatory measures should be continuously implemented at the domestic and international level. In other words, legal, regulatory and economic policy frameworks should evolve to cope with these new cashless banking products.

Further, the study recommends that banks should conduct research on other possible mobile money services packages that are user friendly and develop them so as to

enable deposit/withdraw of money using mobile phone which will meet different customer requirements and capture market niches that competitors have not identified hence expand on the market share leading to improved non-funded income.

5.5 Suggestions for Further Studies

Since the study focused on the effect of cashless transactions and financial trading income on non-funded income in commercial banks in Kenya, further studies should be done on companies in micro finance institutions to find out whether the study will yield the same information.

This study was confined to commercial banks in Kenya. There is therefore need to study the effect of cashless transactions and financial trading income on non-funded income in commercial banks in a wider perspective. The study recommends that a similar study can be conducted on all the countries in the East Africa region.

5.6 Limitations of the Study

There were challenges which were encountered during the study. Some officers who are concerned with safe custody of commercial banks in Kenya files containing statement of financial position and directors reports were initially reluctant to release them. That reluctance delayed the completion of data collection.

There was also limited availability of local literature with respect to the relationship between cashless transactions income, financial trading income and non- funded income in commercial banks in Kenya which was overcome by consultation of foreign literatures and reference to other relevant locally published materials.

Further, the data was tedious to collect and compute as it was in its very raw form. Due to lack of standardization of financial statements from various commercial banks in Kenya, data computation was made even harder.

In addition, time and resources allocated to this study could not allow the study to be conducted as deeply as possible in terms of other predictor variables for operational efficiency of commercial banks in Kenya.

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APPENDICES

APPENDIX I: DATA

Inflation					
	2009	**2010**	**2011**	**2012**	**2013**
January	12.1	9.1	4.7	18.9	13.5
February	11.9	5.9	4.1	18.3	12.3
March	10.5	5.3	3.6	16.7	11.1
April	7.8	4.1	4.2	15.6	10.2
May	9.9	2.7	3.9	13.1	8.7
June	6.2	3.2	4.7	12.2	8.0
July	12.8	4.3	4.5	10.1	9.1
August	12.1	3.3	14.49	7.7	11.1
September	10.5	2.6	16.6	6.1	9.8
October	9.9	3.1	15.5	5.4	10.0
November	12.4	2.9	17.3	4.14	11.0
December	9.9	2.7	19.7	3.3	11.1

Banks interest Rates					
	2009	**2010**	**2011**	**2012**	**2013**
January	14.78	14.98	14.03	19.54	18.37
February	14.67	14.98	13.92	17.87	18.42
March	14.87	14.80	13.92	17.92	18.46
April	14.71	14.58	13.92	17.96	18.51
May	14.85	14.46	13.88	21.01	20.55
June	15.09	14.39	13.91	18.05	18.60
July	14.79	14.29	14.14	18.10	18.64
August	14.76	14.18	14.32	18.14	18.69
September	14.74	13.98	14.79	18.19	19.73
October	14.78	13.85	15.21	18.23	18.78
November	14.85	13.95	18.51	18.28	21.82
December	14.76	13.87	20.04	20.33	18.87

Size					
	2009	**2010**	**2011**	**2012**	**2013**
Kenya Commercial Bank	8.2172	8.2373	8.2565	8.2749	8.5096
Equity Bank	8.2259	8.3484	8.4438	8.5220	8.3769
Barclays Bank	8.0931	8.1550	8.2091	8.2573	8.3596
Cooperative Bank of	8.0035	8.1267	8.2226	8.3011	8.3435

Kenya					
Standard Chartered Bank	8.0435	8.1875	8.2954	8.3818	8.3160
CFC Stanbic Bank	7.6735	7.7929	7.8864	7.9634	8.2323
Citibank N.A	7.7110	7.8034	7.8795	7.9443	8.0965
Diamond Trust Bank	7.6499	7.7679	7.8607	7.9371	8.0574
NIC Bank	7.2620	7.7783	8.0076	8.1569	8.0528
National Bank of Kenya	6.7101	7.7386	8.0188	8.1877	8.0426
Bank of Baroda	7.9883	7.7962	7.4435	6.8462	7.9661
Prime Bank	7.3747	8.0299	8.2801	8.4378	7.8841
Chase Bank	7.7606	7.4673	6.0100	7.4358	7.8527
Imperial Bank	6.5641	6.7935	6.9428	7.0537	7.7217
Bank of India	6.8388	7.5111	7.7634	7.9219	7.7162
Fina bank	7.1863	6.6561	6.7992	7.2337	7.6943
Consolidated Bank of Kenya	6.8311	7.0203	7.1517	7.2524	7.6385
Africa bank Corporation	6.5269	7.2878	7.5494	7.7115	7.6335
Gulf African Bank	6.6524	6.9048	7.0634	7.1793	7.5671
Giro Commercial Bank	7.6435	6.6778	7.5376	7.8677	7.4874
Equatorial Commercial Bank	7.3412	7.5096	7.6307	7.7252	7.4089
Fidelity commercial bank	7.2632	7.1496	6.9953	6.7539	7.2931
KRep bank	6.7403	6.9143	7.0382	7.1344	7.2248
Development Bank of Kenya	5.6910	6.2363	6.4706	6.6220	7.2056
Transnational Bank	6.8398	7.0100	7.1320	7.2272	7.1926
Habib Bank A.G Zurich	7.2284	7.4265	7.5620	7.6652	7.1921
Guardian Bank	7.1240	7.3051	7.4325	7.5309	7.1349
Victoria Commercial bank	6.9090	7.0273	7.1202	7.1967	7.1343
Habib Bank	7.1129	7.3396	7.4878	7.5981	7.1205
Oriental Commercial Bank	6.4914	6.6454	6.7589	6.8487	7.1084
Credit Bank	7.1874	7.2938	7.3793	7.4506	7.1065
Paramount Universal Bank	7.7107	7.0170	7.4854	7.8546	7.0533
Middle East Bank	6.6495	7.0149	7.2105	7.3449	7.0418
Dubai Bank Kenya	6.9529	6.6588	5.1615	6.6303	6.9849
Bank of Africa Kenya Ltd	6.4846	7.4296	7.7053	7.8726	6.9073
City Finance Bank Ltd	7.1446	6.9099	6.3626	6.5462	6.9047
Commercial Bank of Africa Ltd	6.8657	6.6041	5.8436	6.4189	6.8638

Eco Bank Limited	6.4971	6.8848	7.0863	7.2234	6.8457
Southern Credit Banking Corporation Ltd	6.8535	6.7344	6.5699	6.3019	6.8455
United Bank of Africa Kenya Bank Limited	6.6683	6.2728	5.9592	6.5676	6.7609
Family Bank Ltd	6.2031	6.9820	7.2453	7.4081	6.5693
First Community Bank Ltd	6.8892	6.8048	6.6999	6.5614	6.4664
Investment & Mortgages Bank Ltd	7.3043	7.4578	7.5709	7.6606	7.7250

Cashless Transactions Income					
	2009	**2010**	**2011**	**2012**	**2013**
Kenya Commercial Bank	35,217,435,900	37,921,080,340	43,018,271,750	47,684,768,700	56,916,063,420
Equity Bank	4,263,476,940	5,157,618,080	5,446,618,320	6,044,853,770	6,954,215,490
Barclays Bank	8,973,434,070	9,841,686,240	10,884,078,460	11,246,393,920	11,482,826,650
Cooperative Bank of Kenya	1,886,067,510	2,381,754,770	2,690,811,240	3,859,922,620	4,624,589,990
Standard Chartered Bank	593,092,460	724,768,150	824,035,030	835,045,250	1,079,060,000
CFC Stanbic Bank	504,641,020	536,054,240	546,260,860	303,871,220	598,097,780
Citibank N.A	318,075,300	286,680,750	334,449,750	405,161,740	150,782,240
Diamond Trust Bank	3,070,315,400	3,114,856,550	3,180,366,000	918,640,310	3,825,265,490
NIC Bank	722,379,950	813,429,890	837,796,500	4,309,383,590	1,059,518,550
National Bank of Kenya	2,764,423,300	2,857,288,310	3,762,611,520	4,695,582,420	4,895,244,170
Bank of Baroda	15,925,870	172,728,470	259,490,590	266,215,310	305,471,090
Prime Bank	200,322,460	215,707,080	236,176,940	248,830,610	262,931,170
Chase Bank	354,814,510	537,301,220	644,547,700	915,291,560	1,199,408,780
Imperial Bank	1,455,537,770	1,717,327,960	2,071,165,270	1,705,872,750	2,390,992,830
Bank of India	806,320,400	915,867,450	1,057,579,830	1,165,403,520	1,410,265,320
Fina bank	629,711,140	686,579,830	723,017,590	754,843,720	400,580,980
Consolidated Bank of Kenya	1,128,052,450	1,241,080,950	1,316,382,170	1,381,078,670	1,958,215,050

Africa bank Corporation	1,260,218,400	1,444,065,550	1,607,199,810	1,782,996,240	1,970,766,660
Gulf African Bank	497,210,120	562,628,730	141,914,960	694,803,640	778,379,760
Giro Commercial Bank	1,377,788,280	1,494,124,970	1,545,787,420	1,668,151,620	1,712,045,620
Equatorial Commercial Bank	133,898,670	154,920,020	168,125,270	186,299,220	222,180,470
Fidelity commercial bank	392,602,970	443,106,690	538,416,430	680,828,590	807,414,240
KRep bank	432,573,160	508,640,970	611,210,390	690,400,510	730,793,960
Development Bank of Kenya	74,984,170	88,988,870	98,407,060	111,051,740	128,480,360
Transnational Bank	211,622,000	238,936,220	263,039,700	306,441,570	342,896,440
Habib Bank A.G Zurich	472,979,930	497,636,530	513,428,750	534,077,770	545,477,810
Guardian Bank	454,374,920	568,859,840	701,818,890	744,391,820	792,694,420
Victoria Commercial bank	260,243,210	372,378,770	466,054,160	489,129,770	529,633,870
Habib Bank	182,670,820	211,234,210	252,091,410	266,850,140	286,712,090
Oriental Commercial Bank	142,018,390	157,665,760	181,000,620	218,163,030	270,002,520
Credit Bank	161,995,700	222,405,990	244,051,400	311,849,890	355,189,990
Paramount Universal Bank	89,889,890	89,696,720	98,240,280	113,224,840	118,020,470
Middle East Bank	87,290,360	95,764,920	151,781,670	150,810,600	302,030,500
Dubai Bank Kenya	67,614,620	91,647,070	105,698,150	161,741,780	227,760,980
Bank of Africa Kenya Ltd	28,375,896,950	2,750,968,640	456,100,900	212,495,670	400,498,400
City Finance Bank Ltd	3,823,942,210	130,546,340	1,264,559,110	148,727,360	138,398,400
Commercial Bank of Africa Ltd	8,347,926,730	188,470,270	107,419,370	126,639,080	2,738,647,570
Eco Bank Limited	1,676,532,840	247,794,040	330,036,980	121,409,280	572,186,580
Southern Credit Banking Corporation Ltd	468,989,150	790,818,520	377,472,000	84,634,190	1,982,395,050
United Bank of Africa Kenya Bank Limited	487,563,470	738,548,350	62,207,490	80,453,250	12,550,560
Family Bank Ltd	190,688,10	579,554,1	161,999,2	48,467,5	155,057,33

	0	40	90	70	0
First Community Bank Ltd	2,970,644,020	1,011,819,680	432,995,820	7,656,711,170	180,272,780
Investment & Mortgages Bank Ltd	622,944,350	1,060,770,860	431,829,470	1,392,963,520	726,613,320

Financial Trading Income					
	2009	**2010**	**2011**	**2012**	**2013**
Kenya Commercial Bank	2354468.5184	5752818.058	6556025.491	9941424.312	12277158.65
Equity Bank	285035.5790	782436.5277	830069.8074	1260244.264	1500068.728
Barclays Bank	599920.6779	1493033.158	1658743.899	2344672.67	2476919.1
Cooperative Bank of Kenya	126093.4098	361324.1429	410082.1898	804725.0647	997553.6184
Standard Chartered Bank	39651.3116	109950.963	125583.7216	174092.0503	232760.1387
CFC Stanbic Bank	33737.8734	81322.11647	83250.67412	63351.73299	129013.5138
Citibank N.A	21264.9860	43490.90745	50970.4597	84469.00094	32524.69287
Diamond Trust Bank	205266.5325	472539.3593	484690.8004	191520.1302	825134.2149
NIC Bank	48294.8519	123401.3936	127680.9827	898429.6655	228544.923
National Bank of Kenya	184816.0567	433464.9657	573425.5709	978945.2377	1055935.455
Bank of Baroda	1064.7271	26203.77512	39546.61248	55501.14695	65892.06649
Prime Bank	13392.5970	32723.84579	35993.59007	51876.74688	56715.93386
Chase Bank	23721.1930	81511.28959	98229.68193	190821.9756	258720.1397
Imperial Bank	97310.2604	260527.2638	315647.5552	355644.0619	515752.4352
Bank of India	53906.7070	138941.6852	161176.171	242965.8611	304203.2431
Fina bank	42099.4606	104157.6033	110188.5677	157371.4608	86407.87765
Consolidated Bank of Kenya	75416.1657	188278.204	200617.8935	287930.2855	422399.502
Africa bank Corporation	84252.1459	219071.9858	244938.7782	371722.9348	425106.9645
Gulf African Bank	33241.0792	85353.59987	21627.97475	144854.1743	167901.4892
Giro Commercial Bank	92112.3031	226666.2508	235579.4716	347779.8786	369299.1826
Equatorial	8951.8216	23502.143	25622.45	38840.0	47925.7474

Bank					
Commercial Bank		94	09	6666	2
Fidelity commercial bank	26247.5478	67221.50701	82055.17554	141940.6255	174164.4121
KRep bank	28919.7626	77163.38594	93149.04421	143936.2002	157636.928
Development Bank of Kenya	5013.0813	13500.05785	14997.32945	23152.30834	27714.03482
Transnational Bank	14148.0299	36247.82282	40087.50022	63887.60515	73964.95369
Habib Bank A.G Zurich	31621.1651	75493.9572	78247.02936	111345.6953	117663.05
Guardian Bank	30377.3235	86298.89051	106957.8657	155192.426	170989.2528
Victoria Commercial bank	17398.6104	56491.72685	71027.09683	101974.8385	114245.4108
Habib Bank	12212.4932	32045.28898	38418.97042	55633.49769	61845.6303
Oriental Commercial Bank	9494.6671	23918.68647	27584.66648	45483.10309	58241.26925
Credit Bank	10830.2540	33740.10403	37193.66526	65015.14346	76616.751
Paramount Universal Bank	6009.6061	13607.44224	14971.91202	23605.36095	25457.76969
Middle East Bank	5835.8140	14528.01862	23131.67073	31441.32196	65149.90924
Dubai Bank Kenya	4520.3886	13903.32012	16108.49849	33720.27815	49129.49909
Bank of Africa Kenya Ltd	1897076.1029	417335.7385	69510.21055	44301.55954	86390.06462
City Finance Bank Ltd	255650.3993	19804.53446	192720.01	31007.00355	29853.41944
Commercial Bank of Africa Ltd	558102.2632	28591.88512	16370.81406	26401.99089	590743.7846
Eco Bank Limited	112084.9287	37591.59853	50297.94935	25311.67081	123424.3024
Southern Credit Banking Corporation Ltd	31354.3607	119971.1354	57527.09148	17644.72004	427615.2825
United Bank of Africa Kenya Bank Limited	32596.1505	112041.4884	9480.480586	16773.06858	2707.236007
Family Bank Ltd	12748.4900	87921.26945	24688.84573	10104.62443	33446.85711
First Community Bank Ltd	198602.9830	153498.1196	65988.9744	1596287.801	38885.99084
Investment & Mortgages Bank Ltd	41647.0655	160924.2591	65811.22155	290408.0649	156735.1372

APPENDIX II: LIST OF COMMERCIAL BANKS IN KENYA

1. African Banking Corporation Ltd.
2. Bank of Africa Kenya Ltd.
3. Bank of Baroda (K) Ltd.
4. Bank of India
5. Barclays Bank of Kenya Ltd.
6. CFC Stanbic Bank Ltd.
7. Charterhouse Bank Ltd - UNDER - STATUTORY MANAGEMENT
8. Chase Bank (K) Ltd.
9. Citibank N.A Kenya
10. Commercial Bank of Africa Ltd.
11. Consolidated Bank of Kenya Ltd.
12. Co-operative Bank of Kenya Ltd.
13. Credit Bank Ltd.
14. Development Bank of Kenya Ltd.
15. Diamond Trust Bank (K) Ltd.
16. Dubai Bank Kenya Ltd.
17. Ecobank Kenya Ltd
18. Equatorial Commercial Bank Ltd.
19. Equity Bank Ltd.
20. Family Bank Ltd
21. Fidelity Commercial Bank Ltd
22. Fina Bank Ltd
23. First community Bank Limited
24. Giro Commercial Bank Ltd.
25. Guardian Bank Ltd
26. Gulf African Bank Limited
27. Habib Bank A.G Zurich
28. Habib Bank Ltd.
29. Imperial Bank Ltd
30. I & M Bank Ltd
31. Jamii Bora Bank Ltd.
32. Kenya Commercial Bank Ltd

33. K-Rep Bank Ltd

34. Middle East Bank (K) Ltd

35. National Bank of Kenya Ltd

36. NIC Bank Ltd

37. Oriental Commercial Bank Ltd

38. Paramount Universal Bank Ltd

39. Prime Bank Ltd

40. Standard Chartered Bank (K) Ltd

41. Trans-National Bank Ltd

42. Victoria Commercial Bank Ltd

43. UBA Kenya Bank Ltd.

44. Housing Finance: Mortgage Finance Company

Source: Central Bank of Kenya Report, 2013.