THE EFFECT OF CREDIT INFORMATION SHARING ON PROFITABILITY OF COMMERCIAL BANKS IN KENYA

BY

KARIUKI JOSPHINE WANGARI

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DECLARATION

I hereby declare that this research project is my original work and has not been presented in any other university or institution of higher learning before.

Signed………………………………………… Date………………………………

Kariuki Josphine Wangari   D61/81289/2015

This research project has been submitted for examination with my approval as the University of Nairobi Supervisor.

Signed…………………………………………. Date………………………………

Dr. Kennedy Okiro

Lecturer, Department of Finance and Accounting

School of Business, University of Nairobi

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DEDICATION

I dedicate this research project to my loving parents and siblings for the support, encouragement and prayers during the entire period of my study. God bless you.

TABLE OF CONTENT

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

ANOVA: Analysis of variance

CAR: Capital Adequacy Ratio

CBK: Central bank of Kenya

CIS: Credit Information Sharing

CRB: Credit Reference Bureau

EPS: Earnings Per Share

FSD: Financial Sector Deepening

GDP: Gross Domestic Product

KBA: Kenya Bankers Association

MRP: Money Remittance Providers

NPLs: Non-Performing Loans

OLS: Ordinary Least Square

ROA: Return on Assets

SPSS: Statistical Package for the Social Sciences

ABSTRACT

Credit Information Sharing has the impact of minimizing the default risk and therefore motivating Banks to create more credit for firms and consumers. Sharing of credit information drastically reduces adverse selection cases by availing credit profile of the borrowers enhancing the banks allocation of credit efficiently through improved credit risk assessment. The study sought to the effect of credit information sharing on profitability of commercial banks in Kenya and a descriptive research design was used. The population for this study was all the 41 commercial banks operating in Kenya. A census approach was used in this study to allow all commercial banks to be included in the study since the number is small and reachable. This study obtained secondary data, where data was from CBK banking supervision reports. A bivariate regression analysis was used to establish link between the variables. Trend analysis was carried out to identify the movement of profitability and request of credit reports among commercial banks.

The study concludes that there was a strong positive relationship between profitability as measured by return on assets and credit information sharing. This is because the price of credit continually goes down with increase in the levels of information sharing. The study established a negative relationship between non- performing loans to gross loans ratio and profitability. This is because increase in credit information sharing reduces the level of non- performing loans. Association between interest rate and bank profitability was strong, positive and statistically significant. This was because high risky borrowers would be charged high interest rates. There was a strong positive relationship between volume of lending and profitability of commercial banks since the loan collection is the major assets of banks and the predominate source of revenue. Finally, specific loan provisions to total loans provisions and banks profitability was strong positive and significant. The study recommends that banks should continue to utilize credit information sharing as they reduce transaction costs involved in identifying suitable clients that the bank can advance loans to. The study recommends that banks should utilise credit information sharing service as they reduce loan default. The study recommends that the Central Bank of Kenya should regulate the interest rates charged across the commercial banks to different borrowers. The study recommends that commercial banks should ensure that as they increase their volume of lending they should carefully screen their customers.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Sharing of credit information can make an important contribution to the development of the financial system which is an important determinant of economic growth (Luoto, McIntosh &. Wydick, 2013). Credit scores have immense benefits to both lenders and borrowers. Borrowers are able to negotiate with lenders on better terms. Highly rated borrowers with good credit history can convincingly negotiate for lower interest rates or even waiver of collateral. Banks and other credit providers use credit reports obtained from credit bureaus as part of the lending decision process (Walsh, 2013). Credit reference bureau services assist in reducing the incidence of non-performing loans and hence in improving the bank profitability (Riungu, 2014).

This study will be anchored on the Credit Rationing theory, Moral Hazard theory, Adverse Selection theory and the Credit Market theory. Credit Rationing theory states asymmetric information leads to credit rationing, as lenders cannot distinguish between high quality and low-quality borrowers affecting the profitability of commercial banks (Diamond & Rajan, 2001). The moral hazard theory implies that a borrower has the incentive to default unless there are consequences for this future application for credit which affect profitability of commercial banks (Akerlof, 1970). Adverse selection theory states that adverse selection problems result from the inability of the buyer to observe the traits of the seller or the circumstances that the seller operates which affect performance (Mishkin, 1990). The Credit Market theory postulates that if collateral and other restrictions remain given, then

it is only the lending rate that determines the amount of credit that is dispensed by the banking sector thus affecting profitability (Ewert, Szczesmy & Schenk, 2000).

According to CBK (2016) since the commencement of the Credit Information Sharing Mechanism in July 2010, all the 41 licensed commercial banks in Kenya and institutions under the Deposit Protection Fund Board continue to submit negative information to licensed CRBs within the required timeframes. The credit information sharing mechanism remained instrumental in the decision-making process of credit providers in Kenya as they seek to mitigate risks associated with information asymmetry. The use of credit reports for credit appraisal process by financial institutions witnessed growth of 256%. As at 31st December 2015, a total of 11.2 million credit reports had been requested by the subscribing banks. Meanwhile, the requests made by customers increased by 125% to 75,078 in 2015. The increased usage by customers is an indication of growing awareness by customers who are increasingly requesting to check their credit status through the CRBs as is evident in the rise of requests made by customers during the year. This has enhanced the banks income as it increased by 9.1 per cent in the period ended December 2015 (Central bank of Kenya Report, 2016).

1.1.1 Credit Information Sharing

Credit Reference Bureaus have enhanced credit information sharing whereby the grantors of the loan exchange information on the credit performance of their clients. Knowledge or facts sharing is the principle of lenders according to share endorsed or numerous aspects of their customers repayment and credential information mutually for the benefit of minimizing risk and lending more competently (Gertler & Gilchrist, 2013). Every time a

lender extends credit to a borrower, they are faced with the like hood of losing their resources and anticipated incomes if the debtor defaults; or decline of profits if the borrower does not pay back on time due to the time value of money; or profit reduction due to the cost of giving the credit (Luoto, McIntosh & Wydick, 2013).

CRB was initially licensed in 2010 and subsequently in 2011. The third amendment was completed in 2012 and eventuated to the CRB regulations 2013, which now has authorized Banks and Microfinance Banks to share both negative and positive information. Presently, all the 41 Commercial Banks and 12 Microfinance Banks share information with the three licensed CRBs in the Kenyan market which are the Credit Reference Bureau Limited, Credit Reference Bureau Africa Limited t/a TransUnion, Metropol Credit Reference Bureau Limited (Financial Sector Deepening-Kenya, 2015). CRB has been in operation for eight years, presently its feasible to assess the impact of CIS on the non-performing loans which impacts on the profitability of banks (Mutie, 2016).

1.1.2 Profitability

Profitability refers to money that a firm can produce with the resources it has. The goal of most organization is profit maximization (Niresh & Velnampy, 2014). Profitability involves the capacity to make benefits from all the business operations of an organization, firm or company (Maigua. & Mouni, 2016). Profit usually acts as the entrepreneur's reward for his/her investment. As a matter of fact, profit is the main motivator of an entrepreneur for doing business. Profit is also used as an index for performance measuring of a business. Profit is the difference between revenue received from sales and total costs which includes material costs, labor and so on (Staikouras & Wood, 2011).

3

Profitability can be expressed either accounting profits or economic profits and it is the main goal of a business venture (Arasa & Ottichilo, 2015). Profitability portrays the efficiency of the management in converting the firm's resources to profits (Maigua & Mouni, 2016). Thus, firms are likely to gain a lot of benefits related increased profitability (Niresh & Velnampy, 2014). One important precondition for any long-term survival and success of a firm is profitability. It is profitability that attracts investors and the business is likely to survive for a long period of time. Profitability is one of main aspects of financial reporting for many firms (Ishaya & Abduljeleel, 2014).

Profitability ratios are normally used to measure earnings generated by a firm for a certain period of time based on the firm's sales level, capital employed, assets and earnings per share (EPS). Profitability ratios are also used to measure the firm's earning capacity and considered as a firm's growth and success indicator (Mirzaei, 2012). Profitability is generally measured using accounting ratios with the commonly used profitability ratio being ROA. ROA determines the amount of the profit earned per shilling of assets (Sehrish, Irshad & Khalid, 2011). ROA simply connotes the management efficiency and depicts how effective and efficiently the bank management operate as they employ the organization's assets into the earnings. A high ROA ratio is a clear indicator a good performance or profitability of a banking entity (Bentum, 2012).

1.1.3 Credit Information Sharing and Profitability

Credit information sharing is a mechanism, which allows credit information providers to share the borrowing details of their debtors with the licensed credit reference bureaus. The mechanism helps to build a registry from which the credit market feeds. According to

Odunga *et al* (2013) historical information exhibit great predictive power on the likely behavior of a borrower. The default predictive power is enhanced when all lenders enrich the credit registries with their debtors' information. Credit information sharing reduces chances of information asymmetry and gives lenders visibility that enables them to know about customers before they engage them on credit.

This happens through countering cases of adverse selection by availing the historical account of borrowers hence ensuring that only the safe borrowers are given credit. This will include the borrowers who are good but previously have been presumed bad hence enables banks to grow their businesses by expanding their acceptance criterion (Pagano & Jappelli, 2013). Other benefits of the mechanism of information sharing to the commercials banks include increasing the borrowers cost of default and hence increasing their repayment by countering the moral hazard. By availing the borrowing histories credit reference bureaus have bridged this information monopoly which for long, domicile banks have capitalized to charge higher interest rates and other rent (Pagano & Jappelli, 2013).

Bennardo, Pagano and Piccolo (2009) sharing of credit information generally leads to reduction of over-indebtedness of the borrower which is one of the contributors to default. Thuo (2015) on effect of credit information sharing on profitability of commercial banks in Kenya established that failure to share credit information increases credit risk, which in turn reduces banks" performance in financial perspective. Kimutai and Jagongo (2013) on the effect of credit information sharing on profitability of commercial banks in Kenya noted that credit information sharing assist in reducing the incidence of non-performing loans and hence in improving the bank profitability. This is made possible through the reduction

of transaction costs, enhanced information sharing, reduced loan loss and delinquency, and enhanced credit evaluation practices due to credit reference bureau services are used.

1.1.4 Commercial Banks in Kenya

Commercial banks are financial institutions that are authorized by law to receive money from businesses and individuals and lend money to them. They are open to the public and serve individuals, institutions and businesses. Their operations are licensed, supervised and regulated by the central bank. The need to introduce credit referencing as a risk management tool was identified by Kenyan lenders as necessary to create a vibrant and globally competitive financial sector. Following remarkable efforts and support of the Central Bank of Kenya (CBK), Kenya Bankers Association (KBA), and Financial Sector Deepening Trust (FSD–Kenya), a successful roll out of the credit information sharing mechanism amongst banks was officially launched in July 2010 (Central bank of Kenya Report, 2016).

As at 31st December 2016, the banking sector comprised of the Central Bank of Kenya, as the regulatory authority, 41 banking institutions (40 commercial banks and 1 mortgage finance company), 8 representative offices of foreign banks, 12 Microfinance Banks (MFBs), 3 credit reference bureaus (CRBs), 15 Money Remittance Providers (MRPs) and 80 foreign exchange (forex) bureaus. Out of the 41 banking institutions, 40 were privately owned while the Kenya Government had majority ownership in 3 institutions. Of the 40 privately owned banks, 26 were locally owned while 14 were foreign-owned (Central bank of Kenya Report, 2016).

The banking sector registered improved financial strength in 2015, with total net assets recording an increase of 9.2% per cent. This was attributable to growth in investments and loans and advances, which increased by 23.2 per cent and 15.12 per cent respectively. Despite the improved financial strength, the banking sector registered declined profitability with profit before tax decreasing by 5.03 per cent from Ksh. 141.1 billion in 2014 to Ksh. 134.0 billion in 2015. The decline in profitability in 2015 could be explained by a faster growth in expenses compared to the growth in income. The sector also registered a decline in asset quality (NPLs) ratio increasing from 5.6 per cent in 2014 to 6.8 per cent in 2015. Net loans and advances registered an increase of 11.2 per cent from Ksh. 1,881.0 billion in 2014 to Ksh. 2,091.4 billion in 2015 (Central bank of Kenya Report, 2016).

1.2 Research Problem

Credit Information Sharing has the impact of minimizing the default risk and therefore motivating Banks to create more credit for firms and consumers (Pagano & Jappelli, 2013). Sharing of credit information drastically reduces adverse selection cases by availing credit profile of the borrowers enhancing the banks allocation of credit efficiently through improved credit risk assessment (Houston, Lin & Ma, 2010). Positive information sharing is vital in creation of reputational collateral which is imperative in elimination of the challenges in access to credit. Credit information sharing and thus lead to increase in non-performing loans and profitability decline (Gehrig & Stenbacka, 2013).

Before 2010 the entire banking industry had faced numerous challenges in acquiring extensive data on the customer's payment history for use through their credit assessment process. The banking sector has registered improved financial strength, with total net assets

recording an increase of 9.2% per cent in year. Despite the improved financial strength, the banking sector registered declined profitability with profit before tax decreasing by 5.03 per cent from Ksh. 141.1 billion in 2014 to Ksh. 134.0 billion in 2015. The banking sector also registered a decline in asset quality with the non-performing loans (NPLs) ratio increasing from 5.6 per cent in 2014 to 6.8 per cent in 2015 hence the need for credit information sharing to reduce non-performing loans and enhance profitability of banks (Central bank of Kenya Report, 2016).

Jappelli and Pagano (2013) conducted a survey in forty-three countries and concluded that bank lending to the private sector is larger and default rates are lower in countries where information sharing is more solidly established and extensive. Other economic and institutional determinants of bank lending include country size, GDP, growth rate, and variables including respect for the law and protection of creditor rights. According to Ishaya and Abduljeleel (2014) credit information sharing plays a key role in improving the efficiency of financial institutions by reducing loan defaults. The banking sector in Kenya was saddled with a momentous NPLs portfolio before the advent of CIS mechanisms.

Locally, Oludhe (2011) studied the effect of credit risk management on financial performance of commercial banks in Kenya and established that there exists a positive relationship between financial performance and credit risk management. Kamau (2013) sought to find out the effects of listing of loan defaulters by credit reference bureaus on non-performing loans of commercial banks in Kenya and established that listing of loan defaulters by CRB help to reduce the level of non-performing loans. None of these studies has addressed the problem of the effect of credit information sharing on profitability, thus

this study therefore seeks to fill the gap by addressing the following question; what is the effect of credit information sharing on profitability of commercial banks in Kenya?

1.3 Research Objective

The objective of the study is to ascertain the impact of credit information sharing on profitability of commercial banks in Kenya.

1.4 Value of the Study

The study will help in theory; Credit Rationing theory helps Commercial banks in credit rationing, as lenders cannot distinguish between high and low-quality borrowers. The moral hazard theory helps Commercial banks avoid borrowers who are risk to default. Adverse selection theory helps seller select borrowers risk to default. The Credit Market theory postulates that if collateral and other restrictions remain given, then it is only the lending rate that determines the amount of credit thus affecting profitability.

From this research, involvement to executive practice on lending by commercial banks will be adhered to therefore aligning banks to these aspects and managerial practices to prevent risks. Fundamentally all credit risk managerial practices should be greater than average and lead to establishment of a proper link between credit information sharing on profitability of listed commercial banks to ensure better performance.

The research will be valuable to the Central Bank as the dictatorial agency might need to come up with policies concerning the intensification of credit information sharing and when a country should reflect on credit information sharing as an option. The study shall have policy implications in terms of amplifying related factors.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

An analysis of literature on credit information sharing, hypothetical framework and empirical studies on credit information sharing and bank profitability will be entailed in this chapter in addition to empirical review and assessment of existing literature.

2.2 Theoretical Review

The following theories, pertinent to information sharing and profitability of commercial banks are reviewed in this study; the Credit Rationing theory, the Moral Hazard theory, Adverse Selection theory and the Credit Market theory theorems will be models used as they relate to credit information sharing and bank profitability.

2.2.1 Credit Rationing Theory

This theory was introduced by Freimer and Gordon (1965) and comprehensively by Stiglitz and Weiss (1981). According to the seminal Stiglitz and Weiss (1981) paper, unsatisfied agents are borrowers. Asymmetric information leads to credit rationing, as lenders cannot distinguish between high quality and low-quality borrowers. However, this dominate view is not without criticism. De Meza & Webb (1987) vigorously contest this result. They show that asymmetric information in credit markets can lead to the inverse result, which is excess of credit. Banks exist because they screen and monitor borrowers more efficiently than other investors can (Allen & Santomero, 1998).

The more interesting form of credit rationing is equilibrium rationing, where the market had fully adjusted to all publicly, i.e. why banks ration credit free, available information and where demand for loans for a certain market interest rate is greater than supply (Freixas and Rochet, 1999). Stiglitz and Weiss (1981) proved that credit rationing occurs if banks charge the same interest rate to all borrowers, because they cannot distinguish between borrowers and screening borrowers perfectly is too expensive. High-risk borrowers pay higher interest rate and credit rationing is less likely. However, banks cannot distinguish borrowers perfectly and screening them perfectly is impossible.

2.2.2 Moral Hazard Theory

The theory of Moral Hazard originated from Akerlof (1970) when he brought in the idea of quality ambiguity to financial literature. Moral hazard is a risk parameter which becomes important after the (financial) contract is signed between the two parties (Gehrig & Stenbacka, 2013). Ex-post one contract party is able to see and evaluate the outcome but not the action performed by the counterparty to achieve this outcome. In addition, one contract party cannot verify if the outcome is linked to the actions carried out by his contractual counterpart or if the outcome is merely the result of external impact factors which are beyond the contract partner's influence (Mirrlees, 1999). The moral hazard problem implies that a borrower has the incentive to default unless there are consequences for this future application for credit.

Banks faces moral hazard problems in their lending activity. Moral hazard results from the failure of the lender to detect the actions of the borrower, which subsequently affects the chances of repayment (Pagano & Jappelli, 2013). In this model borrowers repay their loans

because they know that defaulters will be blacklisted, reducing external finance in future (Hoffmann, 2011). Information sharing improves borrowers' incentives to repay the loans and help overcome moral hazard of borrowers. This therefore implies that by going with the theory, credit information sharing will have positive impact on credit market performance of commercial banks

2.2.3 Adverse Selection Theory

The theory of Adverse Selection originated from Akerlof (1970), when he brought in the idea of quality ambiguity to financial literature. Arising from theoretical model Adverse selection in lending results from information asymmetry. The party uses this as a competitive advantage over the other party thus drawing benefits from uneven information access. Akerlof (1970) shows that quality ambiguity is evident in financial markets and acts to influence the behavior of the players in the market. Adverse selection problems result from the inability of the buyer to observe the traits of the seller or the circumstances that the seller operates in (Berger & DeYoung, 1997). In regards to financial transactions, especially in the banking sector, adverse selection occurs because only borrowers that are termed as high risk are ready to take credit facilities and pay high interest rates for them.

Aboody & Lev (2000) highlights insider trading as one of the effects of information asymmetry. As Alary and Goller (2001) explain, borrowers like taking big risks are more likely to request for a credit facility, even at an exorbitant interest rate. However, lenders with partial information will be reluctant of issuing these loans despite being highly priced since they fear that those willing to borrow them are potential defaulters (Alary & Goller, 2001). This form of screening out good credit from bad credit risks to tackle the problem

of adverse selection and ultimately will reduce the quantity of loans that the lender would make, thus reducing performance in the loan portfolio.

2.2.4 Credit Market Theory

The theory was developed by Jaffee (1971) who described credit market as a perfect competition market where exist non-profit/loss point. This point is a tangent of credit supply and credit demand. A model of the neoclassical credit market postulates that the terms of credits clear the market. The theory postulates that if collateral and other pertinent restrictions remain given, then it is only the lending rate that determines the amount of credit that is dispensed by the banking sector. Subsequently, there exist a positive relationship between the default probability of a borrower and the interest rate charged on the advance. It is thus believed that the higher the failure risks of the borrower, the higher the interest premium (Ewert et al, 2000).

Although this theory does not explicitly discuss how collateral would affect on the risk premium, it creates the impression that collateral has no effect on lending rate, and if a risky borrower would wish to face the same lending rate as a borrower with a lower risk, then all that is required is to pledge more collateral to lower his risk profile and therefore enjoy a lower risk premium (Crowley, 2007). The borrower has a more accurate assessment of the risk profile of this investment. The adverse selection problem appears as lenders raise their interest rates to shield themselves from default and on the other hand attract only high-risk borrowers and eliminate low risk borrowers (Chodechai, 2004).

2.3 Determinants of Profitability

Determinants of banks' performance in financial perspective are divided into bank specific (internal) and the macro economic variables. Internal determinants are basically those factors that are affected by manager's decisions and the board of an institution while the macro factors are those that are outside the control of the institution and yet they influence profitability.

2.3.1 Credit Information Sharing

CIS is a mechanism by which Lenders share credit performance data on borrowers. Through CIS, Lenders are able to see the previous credit history of a borrower in respect to how they have borrowed and repaid their loans in the past (Cheng & Degryse, 2010). Previous credit history constitutes things like: total amount of outstanding credit; period of repayment for each facility and the amount and number of installments; the types of credit facilities granted etc. In the absence of CIS in a banking environment, borrowers tend to leave a trail of non-performing loans with various Lenders through over exposures and a poor credit mix. CIS reduces the incidences of information asymmetry and moral hazard when a Lender is assessing the creditworthiness of a borrower (Hoffmann, 2011).

2.3.2 Interest Rates

Commercial banks tend to increase the interest rate when dealing with riskier clients (Bentum, 2012). According to Bentum (2012. if a high rate of interest is charged to such borrowers who already have substandard payment record, then this is also an influencing factor of NPLs. The interest rate level is a combination of costs risk premium and of course a bank's profit margin. High interest rates also give rise to default risk. The risk premium

and search costs can be minimized by information sharing hence reducing the Non-performing loans. Maigua and Mouni. (2016) sought to investigate the determinants of NPLs in Malaysia. The study confirmed that interest rate has a significant positive relation with NPLs in Malaysia backing sector. Similarity Walsh (2009) noted that NPLs are as much a problem in Islamic banking as they are in conventional banking.

2.3.2 Capital Adequacy

Capital is the amount of own fund available to support the bank's business and act as a buffer in case of adverse situation (Athanasoglou, 2005). Banks capital creates liquidity for the bank due to the fact that deposits are most fragile and prone to bank runs. However, it is not without drawbacks that it induces weak demand for liability, the cheapest sources of fund Capital adequacy is the level of capital required by the banks to enable them withstand the risks such as credit, market and operational risks they are exposed to in order to absorb the potential loses and protect the bank's debtors. According to Dang (2011), the adequacy of capital is judged on the basis of capital adequacy ratio (CAR). Capital adequacy ratio is directly proportional to the resilience of the bank to crisis situations. It has also a direct effect on the profitability of banks by determining its expansion to risky but profitable ventures or areas.

2.3.3 Asset Quality

The bank asset includes among others current asset, credit portfolio, fixed asset, and other investments. Often a growing asset (size) related to the age of the bank (Athanasoglou, 2005). More often than not the loan of a bank is the major asset that generates the major share of the banks income. The quality of loan portfolio determines the profitability of

banks. The loan portfolio quality has a direct bearing on bank profitability. Thus, nonperforming loan ratios are the best proxies for asset quality. It is the major concern of all commercial banks to keep the amount of nonperforming loans to low level. This is so because high nonperforming loan affects the profitability of the bank. Thus, low nonperforming loans to total loans shows that the good health of the portfolio a bank. The lower the ratio the better the bank performing (Dang, 2011).

2.3.4 Liquidity

Liquidity refers to the ability of the bank to fulfill its obligations, mainly of depositors. According to Dang (2011) adequate level of liquidity is positively related with bank profitability. The most common financial ratios that reflect the liquidity position of a bank according to the above author are customer deposit to total asset and total loan to customer deposits. Ilhomovich (2009) used cash to deposit ratio to measure the liquidity level of banks in Malaysia. However, the study conducted in China and Malaysia found that liquidity level of banks has no relationship with the performances of banks (Said and Tumin, 2011). Customer to assets and total loan to customer deposits reflects the liquidity position of a bank (Dang, 2011).

2.3.5 Macroeconomic Factor

These are commonly the extraneous factors that influence the performance of commercial banks. Banks are weary of the fact that in the event of a recession, firms and individuals will have reduced liquidity which is likely to trigger delays and reduce their ability to meet their financial obligations in time (Diamond & Raghuram, 2000). In the Greece banking sector, Dang (2011) find out that NPLs in the banking sector are seen to have been

16

influenced mainly by macro-economic factors. For instance, high unemployment levels negatively affect the levels of cash flows at the disposal of households which means they will have reduced ability to repay their loans that burdening them. When faced with increased unemployment, firms may signal a decrease in production which results from a decrease in effective demand.

2.4 Empirical Review

Ahmad (2013) did a research to scrutinize corruption and CIS as determinants of profitability in State Bank of Pakistan and commercial banks. The research used time series data and employed OLS criteria. The outcome provided no significant association of corruption and information sharing with non-performing loans. It was deduced that State Bank of Pakistan and commercial banks can reduce the level of non-performing loans by reducing the chance of corrupt practices by following the rules and regulation of credit allocation, supervision and loan monitoring.

On the impact of credit risk sharing on profitability of Nordic Commercial Banks Hurka (2017) study in Sweden covered thirteen banks across a 16-year time frame from 2000-2015. It was established that loan loss provision had a negative effect on the performance of banks, while capital adequacy ratio presented mixed results. Relationship of capital adequacy ratio with return on equity was stronger. Capital adequacy ratio, on the other hand, differed in results depending on the chosen dependent variable. Also, macroeconomic environment played a bigger role in the decrease in profitability after the financial crisis than credit risk management does.

Awoke (2014) attempted to find out the impact of credit risk sharing on the performance of commercial banks in Ethiopia where empirical investigation used the accounting measure of Return on Assets (ROA), which was the dependent variable, to represent Banks' performance. Basic descriptive statistics was applied for trend analysis. A non-probability method in the form of judgmental sampling technique is employed in selecting the eight Banks into the sample and the data are sourced from the annual reports of the same banks which account for over eighty percent of the total loan and advance in the industry. The study found that the selected variables: the provision to total loans, loan to total asset, credit administration (cost to total loans) and Size (Economies of scale) had a significant effect on the performance of Banks.

Misker (2015) studied the impact of credit information sharing on financial performance of banks in Ethiopia. In the study correlation and multiple regression analysis was done with random effect model. The study concluded that the credit risk which is measured by nonperforming loan ratio had a significant inverse impact on banks financial performance and capital adequacy also same impact on profitability. In addition, loan to deposit ratio and bank size have a positive significant impact on banks financial performance. In general, Bank Specific factors had a significant impact on banks profitability while external factors like GDP, Inflation and interest rate spread had no significant impact on banks profitability.

Ugirase (2013) study on the effect of credit risk sharing on the financial performance of commercial banks in Rwanda and adopted a descriptive research design where a questionnaire was analysed. The overall finding and conclusion of the study was that all the measures of credit risk management used in this study are highly significant predictors of financial performance of commercial banks. The credit risk identification was found to

be significant in explaining profitability of commercial banks. The credit risk scoring and credit analysis and assessment also found to be significant on the financial performance.

Macharia (2016) studied determinants of profitability of commercial banks in Kenya where a descriptive design and secondary data was used. Ordinary Least Squares (OLS) and Pearson correlation was used. There was established a negative insignificant relation between bank size, operational efficiency and profitability and a significant negative relation between capital adequacy, credit risk and banks' profitability. The study concluded that capital plays a key role in determining commercial banks profitability and higher levels of capital adequacy increases profitability of commercial banks. The study also concluded that an increase in nonperforming loans increase credit risk which adversely affects profitability.

On the effect of credit reference bureaus on the profitability of commercial banks in Kenya Riungu (2015) adopted a causal comparative descriptive research design and used secondary data for analysis. The study concluded that credit reference bureau services assist in reducing the incidence of non-performing loans and hence in improving the bank profitability. This is made possible through the reduction of transaction costs, enhanced information sharing, reduced loan loss and delinquency, and enhanced credit evaluation practices due to credit reference bureau services are used.

Thuo (2015) analysed the effect of credit information sharing on the financial performance of commercial banks in Kenya and utilized a descriptive research design where all 43 commercial banks formed the target population. The study established an insignificant negative relation between credit information sharing assets quality and banks'

19

performance. Results also found a negative but significant relation between capital adequacy and financial performance and an insignificant positive relation between liquidity and banks' performance. The study concluded that failure to share credit information increases credit risk, which in turn reduces banks' performance in financial perspective.

On the effect of credit information sharing on profitability of commercial banks in Kenya used a descriptive survey design where all the 43 commercial banks formed the target population and multiple regression analysis was used. The independent variables studied were interest rates, volume of lending, non-performing loans portfolio and specific loans to total loans provision and explained 87.8% of the operating margin. This implied that these variables are very significant therefore need to be considered in any effort to boost profitability of Kenyan commercial banks.

Koros (2015) while attempting to establish the effect of credit information sharing on the credit market performance of commercial banks in Kenya used a census where the 43-commercial bank were used and descriptive statistics, regression analysis and correlation efficient method was used. The findings were that credit market performance as measured by total loans minus non-performing to total loans is positively related to credit information sharing (number of CRBs enquiries made by commercial banks), total loans advanced and total assets. Increase in credit market performance was enhanced after the establishment and operationalization of credit information mechanism compared as before.

2.5 Summary of Literature Review

Ahmad (2013) showed no significant association of corruption and information sharing with non-performing loans and deduced that State Bank of Pakistan and commercial banks

can reduce the level of non-performing loans by reducing the chance of corrupt practices by following the rules and regulation of credit allocation, supervision and loan monitoring. The above study didn't utilise financial statistical data to establish the role of information sharing on profitability; moreover, it was carried in a different country outside Kenya thus the results may not be applicable in Kenya. Hurka (2017) established that loan loss provision had a negative effect on the performance of banks, while capital adequacy ratio presented mixed result. The above study differed with studies by; Thuo (2015); Macharia (2016) where results found a negative but significant relation between capital adequacy and financial performance and an insignificant positive relation between liquidity and banks' performance. Ugirase (2013) study established that the measures of credit risk management were highly significant predictors of financial performance of commercial banks but didn't reveal the type of relationship, whether positive or negative. Hurka (2017) study also differed with Misker (2015) study that concluded that the credit risk which is measured by nonperforming loan ratio had a significant inverse impact on banks financial performance and capital adequacy also same impact on profitability. In addition, loan to deposit ratio and bank size have a positive significant impact on banks financial performance.

2.6 Conceptual Model

Conceptual framework is a scheme of concept (variables) which the researcher operationalizes in order to achieve the set objectives (Mugenda & Mugenda, 2008). The independent variable is credit information sharing, the dependent variable is profitability while the, control variables are non -performing loans portfolio, level of interest rates, volume of lending and specific loans provision to total loans provision.

Credit Information Sharing	Profitability
• Number of inquiries made by commercial banks	• ROA

Non -Performing Loans Portfolio

• Ratio of NPL to Gross Loans

Level of Interest rates

• Average lending ratio

Volume of lending

• Amount of loans advanced

Specific loans provision to total loans provision

• Specific loans provision to total loans provision ratio
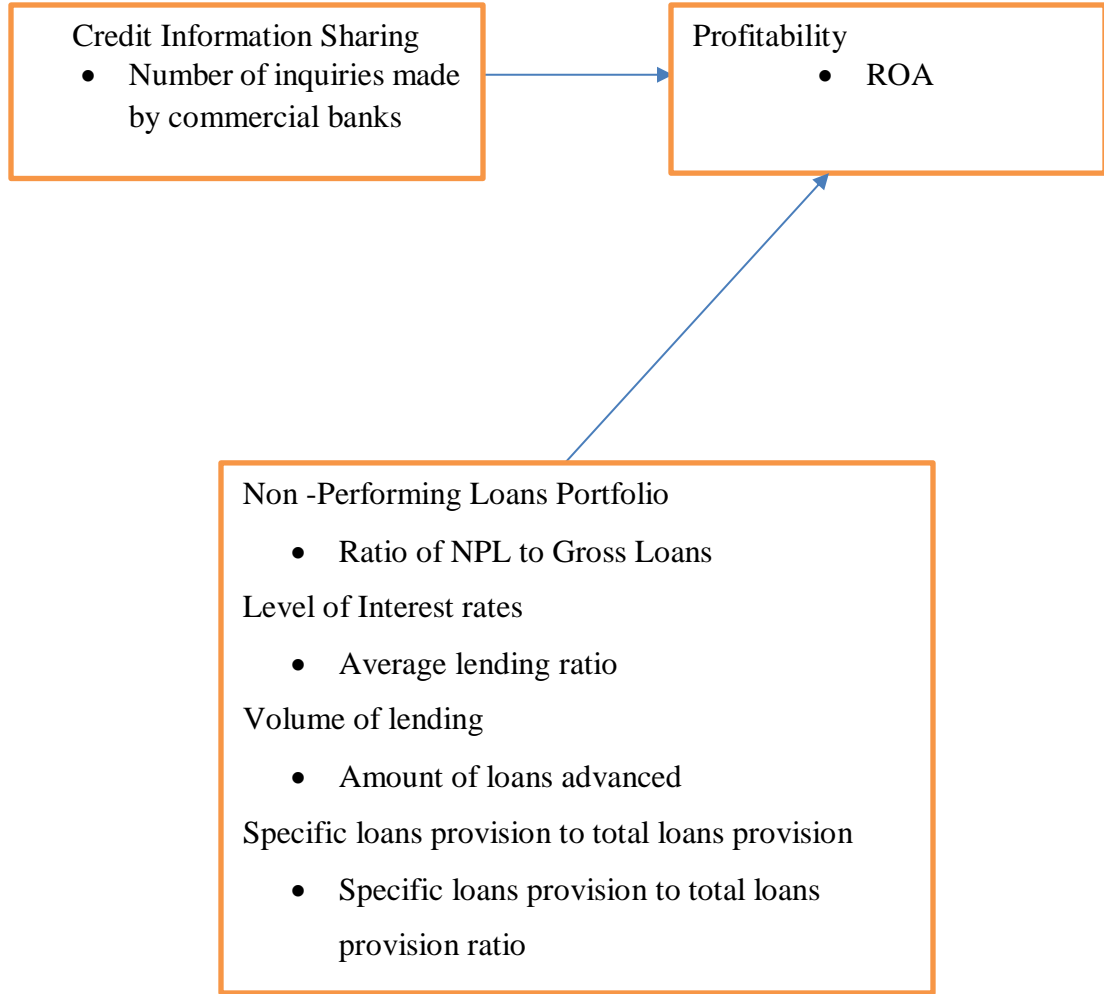
Independent Variable   Control Variables   Dependent Variables

Figure 2.1: Conceptual Framework

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the overall methodology that was used in the study. It encompasses the research design, target population, data collection methods and data analysis methods that the researcher used in conducting the effect of credit information sharing on profitability of commercial banks in Kenya.

3.2 Research Design

According to Kothari (2014) research design is a plan, a roadmap and blueprint strategy of investigation conceived so as to obtain answers to research questions. A descriptive study was used and was preferred in this study since it allow for analysis of micro economic variables and financial performance at the same time. This study used a descriptive research design to establish the effect of credit information sharing on profitability of commercial banks in Kenya.

3.3 Population and Sample of the Study

A population is a well-defined set of people, services, elements, events and group of things or households that are being investigated (Kothari, 2014). The population for this study was all the 41 commercial banks operating in Kenya. As at 31st December 2016, the banking sector comprised of the 41 banking institutions (40 commercial banks and 1 mortgage finance company). A census approach was used in this study to allow all commercial banks to be included in the study since the number is small and reachable.

3.4 Data Collection

This study obtained secondary data, where data on profitability was obtained from CBK banking supervision reports. Data on credit information sharing was obtained from CBK banking supervision department. Monthly total credit reports requested by commercial banks from the two licensed CRBs was extracted from the reports. The data covered a period of 5 years from the year 2012 to 2016.

3.5 Data Analysis

The study aimed to find out the causal effect of credit information sharing on profitability among commercial banks in Kenya. A bivariate regression analysis was used to establish link between the variables. Data was captured and analyzed using Statistical Package for the Social Sciences (SPSS). Trend analysis was carried out to identify the movement of profitability and request of credit reports among commercial banks. The regression function was as written below;

$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \varepsilon$

Where:

Y= Profitability; measured by Return on assets

β_0 - Y intercept

$\beta_1 - \beta_5$ = Measure of the sensitivity of variable X to changes in Return on assets

X_1 = Credit Information Sharing; measured by log of inquiries made

X_2 = Non -Performing Loans Portfolio; measured by Ratio of NPL to Gross Loans

X_3 = Level of Interest rates; measured by the average lending ratio

X_4 = Volume of lending; measured by log of loans advanced

X_5 = Specific loans provision to total loans provision; measured specific loans provision to total loans provision ratio

ε - Error term

3.5.1 Test of Significance

Analysis of variance (ANOVA) will be used to test the significance of the model at 95% confidence interval. It is essentially a procedure for testing the difference among various groups of data for homogeneity. It solves the difficulty that arises with t-test when examining the significance of the difference amongst more than two samples at the same time. The test will to confirm whether any linear statistical relationship exists between a dependable variable and the predictor variable.

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the data findings to determine the effects of credit information sharing on profitability of commercial banks in Kenya. This data was collected from the Central bank of Kenya banks' supervision. Information was collected from the 41 commercial banks in Kenya.

4.2 Descriptive Statistics

In section 4.2 the study presents the research finding on the descriptive statistic in the data collected.

	N	Minimum	Maximum	Mean	Std. Deviation
Return on Assets	205	-13.60	10.40	2.21	3.03
Number Credit Information Sharing Reports	205	1,176.00	847,558.00	74,392.30	127,025.62
Non-Performing loans (Millions)	205	34.00	28,333.00	2,890.52	3,871.70
Level of Interest	205	15.24	24.20	17.80	1.22
Volume of lending (Millions	205	518.00	373,031.00	44,284.25	61,340.32
Specific loans provision (Millions	205	68.00	7125.00	877.10	1,153.97

From the findings, the study found that there was mean of 2.21 for total assets, 74,392.30 for number of credit information sharing reports, 2,890.52 million for non-performing loans. It was also deduced there was a mean of 17.80 for level of interest, 44,284.25 million for volume of lending and 877.10 for specific loans provision.

4.3 Trend Analysis

In section 4.3 the study presents the research finding on the trend analysis among the variables of the study.

4.3.1 Number of Credit Reports Shared
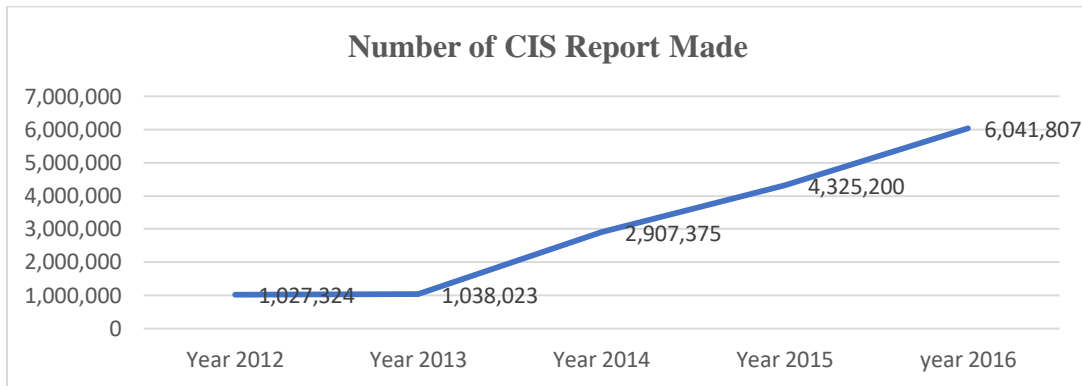
Figure 4.2: Number of Credit Reports Shared

According to the results, the number of credit reports shared increased from 1,027,324 in year 2012 to 1,038,023 in year 2013. The reports increased further to 2,907,375 in year 2014, 4,325,200 in year 2015 and 6,041,807 in year 2016.

4.3.2 Return on Assets
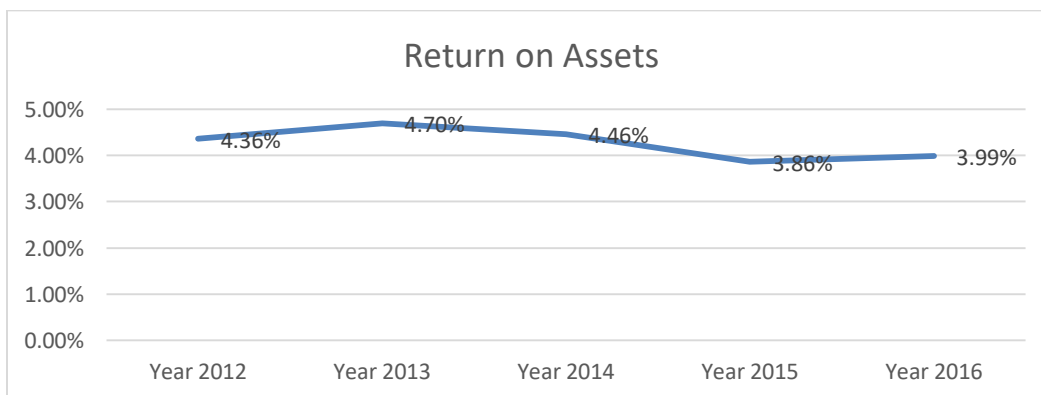
Figure 4.3: Return on Assets

It was deduced that the return on assets as a measure of performance increased from 4.36%

in year 2012 to 4.70 in year 2013. Return on assets decreased from 4.646 in year 2014 to

4.3.86 in year 2015 and increased to 3.99% in year 2016.

4.3.3 Non- Performing Loans to Gross Loans Ratio
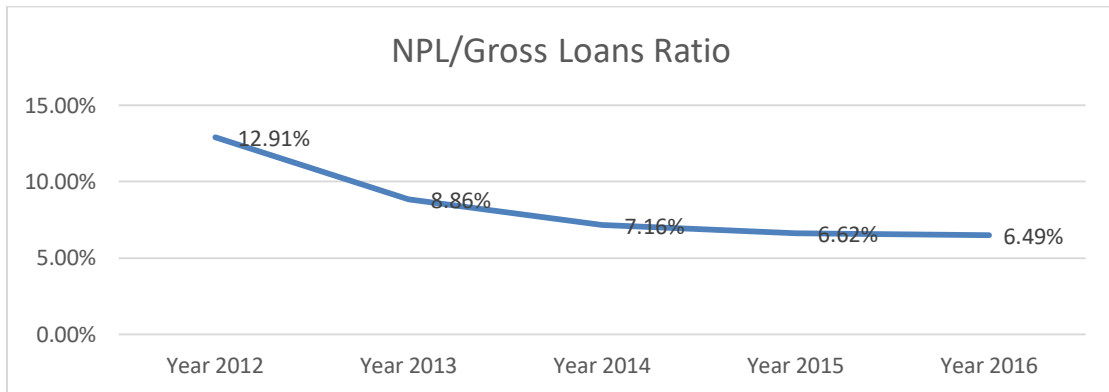
Figure 4.4: Non- Performing Loans to Gross Loans Ratio

It was noted that non- performing loans to gross loans ratio decreased from 12.91% in year

2012 to 8.86% in year 2013, it decreased further to 57.16% in year 2014, 6.61% in year

2015 and increased to 6.848% in year 2016.

4.3.4 Interest Rate
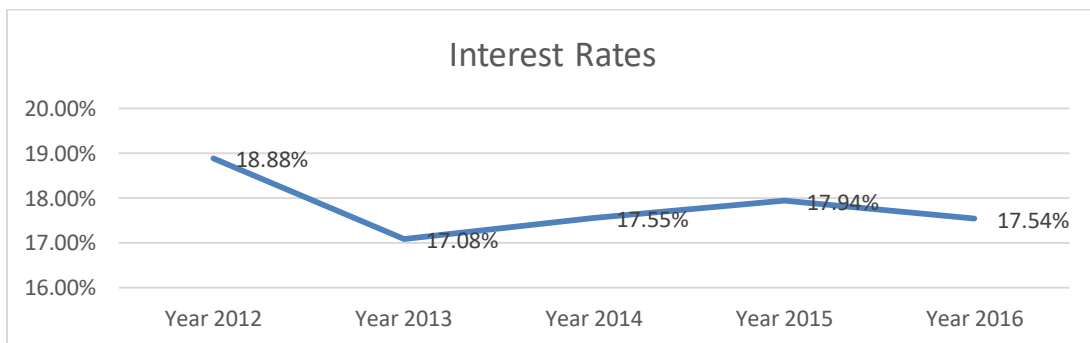
Figure 4.5: Interest Rate

It was noted that the level of interest rates decreased from 18.88% in year 2012 to 17.08%

in year 2013, it increased to 17.55% in year 2014, 17.94% in year 2015 and decreased to

17.54% in year 2016.

4.3.5 Volume of Lending
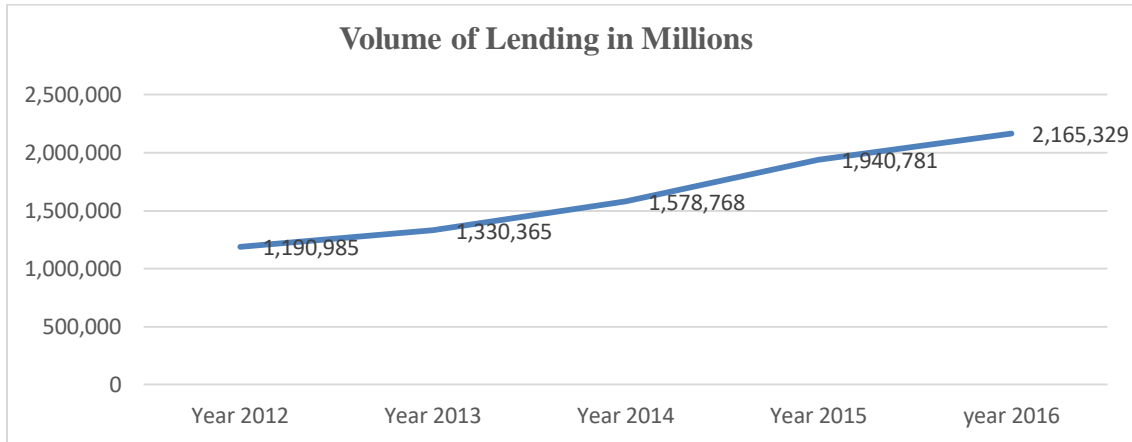
Figure 4.6: Volume of Lending

It was found that the volume of lending increased from 1,190,985 million in year 2012 to 1,330,365 million in year 2013, it increased further to 1,578,768 in year 2014, 1,940,781 in year 2015 and 2,165,329 in year 2016.

4.3.6 Specific Loans Provision to Total Loans Ratio
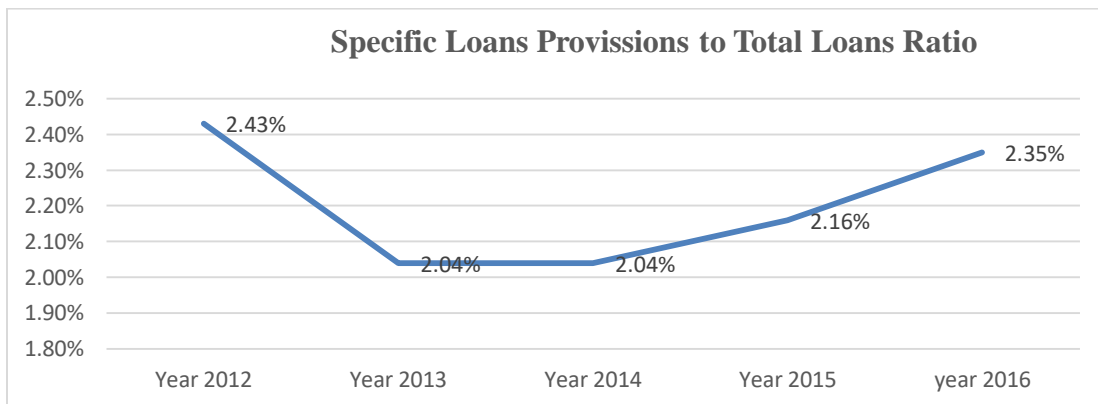
Figure 4.7: Specific Loans Provision to Total Loans Ratio

It was deduced that specific loans provision to total loans ratio decreased from 2.43% in year 2012 to 2.04% in year 2013 and remained at 2.04% in year 2014, it increased to 2.16% in year 2015 and 2.35% in year 2016.

4.3 Correlations Analysis

In this section, the study presents the research finding on the Pearson correlation. Pearson correlation was conducted to determine the strength of relationship between the study variables.

Table 4.1: Correlations Analysis

		ROA	CIS	NPL to Gross Loans	Interest Rate	Volume of lending	Specific loans provision to total loans
ROA	Pearson Correlation	1	.833**	-0.659*	.816**	.747**	.786**
	Sig. (2-tailed)		0.189	0.346	0.013	0.108	0.146
	N	205	205	205	205	205	205
CIS	Pearson Correlation	.833**	1	.738*	-0.205	0.864**	.213
	Sig. (2-tailed)	0.189		0.023	0.292	0.005	0.413
	N	205	205	205	205	205	205
NPL to Gross Loans Ratio	Pearson Correlation	-0.659*	.738*	1	-0.235	.658*	0.364
	Sig. (2-tailed)	0.346	0.023		0.44	0.013	0.261
	N	205	205	205	205	205	205
Interest Rate	Pearson Correlation	.816**	-0.205	-0.235	1	-0.624	0.614
	Sig. (2-tailed)	0.013	0.292	0.44		0.261	0.115
	N	205	205	205	205	205	205
Volume of lending	Pearson Correlation	.747**	.9864**	.658*	-0.624	1	.138
	Sig. (2-tailed)	0.108	0.005	0.013	0.261		0.483
	N	205	205	205	205	205	205
Specific loans provision to total loans	Pearson Correlation	.786**	0.213	0.364	0.614	0.138	1
	Sig. (2-tailed)	0.146	0.413	0.261	0.115	0.483	
	N	205	205	205	205	205	205

On the correlation of the study variables, the researcher conducted a Pearson correlation analysis. From the findings on the correlation analysis between profitability as measured by return on assets and credit information sharing, the study found that there was a strong positive correlation coefficient as shown by correlation factor of 0.833. The study established a negative correlation between non- performing loans to gross loans ratio and profitability as shown by a correlation coefficient of -0.659. Association between interest rate and profitability was positive as shown by correlation coefficient of 0.816. There was a strong positive correlation between volume of lending and profitability as shown by a correlation coefficient of 0.747 and association between specific loans provision to total loans and performance was strong and positive as shown by a correlation coefficient of 0.786.

4.4 Regression Analysis

In this study, a multiple regression analysis was conducted to test the influence among predictor variables. The researcher used statistical package for social sciences (SPSS V 22) to code, enter and compute the measurements of the multiple regressions.

Table 4.2: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.786[a]	0.618	0.584	1.472

a. Predictors: (Constant), CIS, NPL to Gross Loans, Interest Rate, Volume of lending, Specific loans provision to total loans

From the table above, R is the correlation coefficient which shows the relationship between the study variables, from the findings shown in the table above there was a strong

31

relationship between the study variables as shown by R 0.786 at 5% significance level. The Adjusted R squared is coefficient of determination which tells us the variation in the dependent variable (profitability) due to changes in the independent variable (CIS, NPL to gross loans, interest rate, volume of lending, specific loans provision to total loans), from the findings in the table above the value of adjusted R squared was 0.584 an indication that there was variation of 58% on profitability due to changes in CIS, NPL to gross loans, interest rate, volume of lending, specific loans provision to total loans at 95% confidence interval.

Table 4.3: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	.064	5	.013	23.322	.012[b]
1	Residual	.109	199	.001		
	Total	.173	204			

a. Dependent Variable: ROA

b. Predictors: (Constant), CIS, NPL to Gross Loans, Interest Rate, Volume of lending, Specific loans provision to total loans

From the ANOVA statistics table above, the processed data, which is the population parameters, had a significance level of 0.12% which shows that the data is ideal for making a conclusion on the population's parameter as the value of significance (p-value) is less than 5%. The F critical at 5% level of significance, 5 d.f, 199 d.f was 2.26, while F computed was 23.322, since F calculated is greater than the F critical (value = 2.26), this shows that the overall model was significant hence credit information sharing reports, non-performing loans to gross loans, interest rate, volume of lending, specific loans provision to total loans affect profitability of commercial banks.

Table 4.4: Regression Model Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.143	.233	1.346	4.906	.007
	CIS	.774	.186	.732	4.161	.024
	NPL to Gross Loans Ratio	-4.143	0.758	-4.638	-5.466	.013
	Interest rates	.694	.152	.669	4.566	.021
	Volume of lending	.588	.119	.562	4.941	.015
	Specific loans provision to total loans	6.125	1.247	5.916	4.912	.017

a. Dependent Variable: ROA

The established regression equation was

$$Y = 1.143 + 0.774X_1 - 4.143X_2 + 0.694X_3 + 0.588X_4 + 6.125X_5$$

From the above regression equation, it was revealed that holding credit information sharing, NPL to gross loans, interest rate, volume of lending, specific loans provision to total loans to a constant zero profitability would stand at would stand at 1.143. A unit increase in credit information sharing would lead to increase in profitability by a factor of 0.774 and a unit increase in non-performing to gross loans ratio would lead to decrease in profitability by a factor of -4.143. A unit increase in interest rates would lead to increase in profitability by a factor of 0.694, a unit increase in volume of lending would lead to increase in profitability by a factor of 0.588 while a unit increase in specific loans provision to total loans would lead to an increase in profitability by a factor of 6.125.

At 5% level of significance and 95% level of confidence, credit information sharing had a 0.024 level of significance; NPL to gross loans ratio showed a 0.013 level of significance, interest rates had a 0.021 level of significance, volume of lending had a 0.015 level of

significance while specific loans provision to total loans showed 0.017 level of significance; hence the most significant factor was credit information sharing. All the variables were significant ($p<0.05$).

4.5 Discussion of Findings

From the findings on the correlation analysis between profitability as measured by return on assets and credit information sharing, the study found that there was a strong positive correlation coefficient as shown by correlation factor of 0.833. From the regression equation, it was revealed that a unit increase in credit information sharing would lead to increase in profitability by a factor of 0.774 and there was significance relationship as the p values were 2.4% at 5% level of significance. The study supported Koros (2015) who establish that the price of credit continually goes down with increase in the levels of information sharing among credit lenders and in turn increase profitability of companies. The study also supported Kitao (2016) who established a significant positive relationship between credit information sharing and profitability of Kenyan commercial banks. The study differed with findings by Thuo (2015) who established an insignificant negative relation between credit information sharing and banks' performance.

The study established a negative correlation between non- performing loans to gross loans ratio and profitability as shown by a correlation coefficient of -0.659. From the regression equation, it was revealed a unit increase in non-performing to gross loans ratio would lead to decrease in profitability by a factor of -4.143 and there was significance relationship as the p values were 1.3% at 5% level of significance. The findings were concurrent with Muthoni (2014) findings that the existence of CIS greatly reduced default rates while increasing credit availability that enhance profitability. The findings differed Riungu

34

(2014) findings that there an insignificant positive relationship between loan loss and delinquency as measured by the nonperforming loans to gross loan ratio and bank profitability. Further it differed with Kitao (2016) who deduced that the relationship between non-performing loans portfolio and banks profitability as strong, positive and statistically significant.

Association between interest rate and profitability was positive as represented by correlation coefficient of 0.816. From the regression equation, it was revealed that a unit increase in interest rates would lead to increase in profitability by a factor of 0.694 and there was significance relationship as the p values were 2.1% at 5% level of significance. The findings supported Kitao (2016) findings that the relationship between level of interest rates and banks profitability was strong, positive and statistically significant. The study differed with Farhan (2012) who confirmed that interest rate had a significant positive relation with NPLs in Malaysia backing sector and hence profitability this is because the high interest rates give rise to default risk and the risk premium and search costs can be minimized by information sharing hence reducing the Non-performing loans.

There was a strong positive correlation between volume of lending and profitability as represented by a correlation coefficient of 0.747. From the regression equation, a unit increase in volume of lending would lead to increase in profitability by a factor of 0.588 and there was significance relationship as the p values was 1.5% at 5% level of significance. The findings supported Kitao (2016) findings that the relationship between volume of lending and banks operating margin was significant and strong. The findings also supported Koros (2015) who deduced that there was a strong positive correlation between volume of lending and profitability of commercial banks since the loan collection

are the major assets of banks, thrifts and other lending institutions and are the predominate source of revenue.

Association between specific loans provision to total loans and performance was strong and positive as shown by a correlation coefficient of 0.786. From the regression equation, a unit increase in specific loans provision to total loans would lead to an increase in profitability by a factor of 6.125 and there was significance relationship as the p values was 1.7% at 5% level of significance. The findings supported Kitao (2016) findings that specific loan provisions to total loans provisions and banks profitability was strong and significant.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

From the analysis and data collected, the following discussions, conclusion and recommendations were made. The responses were based on the objectives of the study. The researcher had intended to determine the effect of credit information sharing on profitability of commercial banks in Kenya.

5.2 Summary of Findings

On the trend analysis the number of credit reports shared increased from 1,027,324 in year 2012 to 1,038,023 in year 2013. The reports increased further to 2,907,375 in year 2014, 4,325,200 in year 2015 and 6,041,807 in year 2016. The return on assets as a measure of performance increased from 4.36% in year 2012 to 4.70 in year 2013. Return on assets decreased from 4.646 in year 2014 to 4.3.86 in year 2015 and increased to 3.99% in year 2016. It was noted that non- performing loans to gross loans ratio decreased from 12.91% in year 2012 to 8.86% in year 2013, it decreased further to 57.16% in year 2014, 6.61% in year 2015 and increased to 6.848% in year 2016.

Further the level of interest rates decreased from 18.88% in year 2012 to 17.08% in year 2013, it increased to 17.55% in year 2014, 17.94% in year 2015 and decreased to 17.54% in year 2016. It was found that the volume of lending increased from 1,190,985 million in year 2012 to 1,330,365 million in year 2013, it increased further to 1,578,768 in year 2014, 1,940,781 in year 2015 and 2,165,329 in year 2016. Finally, it was deduced that specific loans provision to total loans ratio decreased from 2.43% in year 2012 to 2.04% in year

2013 and remained at 2.04% in year 2014, it increased to 2.16% in year 2015 and 2.35% in year 2016.

The study found that there was a strong positive correlation coefficient between return on assets and credit information sharing as represented by correlation factor of 0.833. The study established a negative correlation between non- performing loans to gross loans ratio and profitability as represented by a correlation coefficient of -0.659. Association between interest rate and profitability was positive as represented by correlation coefficient of 0.816. There was a strong positive correlation between volume of lending and profitability as represented by a correlation coefficient of 0.747 and association between specific loans provision to total loans and performance was strong and positive as represented by a correlation coefficient of 0.786.

From the model summary there was a strong relationship between the study variables as represented by R 0.786 at 5% significance level. The Adjusted R squared was 0.584 an indication that there was variation of 58% on profitability due to changes in CIS, NPL to gross loans, interest rate, volume of lending, specific loans provision to total loans at 95% confidence interval. From the ANOVA statistics, the processed data had a significance level of 1.2% which shows that the model was significance (p-value) was less than 5%. The F critical at 5% level of significance, 5 d.f, 199 d.f was 2.26, while F computed was 23.322, since F calculated is greater than the F critical (value = 2.26), this shows that the overall model was significant.

It was revealed that holding CIS, NPL to gross loans, interest rate, volume of lending, specific loans provision to total loans to a constant zero profitability would stand at would

stand at 1.143. A unit increase in credit information sharing would lead to increase in profitability by a factor of 0.774 and a unit increase in NPL to gross loans ratio would lead to decrease in profitability by a factor of -4.143. A unit increase in interest rates would lead to increase in profitability by a factor of 0.694, a unit increase in volume of lending would lead to increase in profitability by a factor of 0.588 while a unit increase in specific loans provision to total loans would lead to an increase in profitability by a factor of 6.125. At 5% level of significance and 95% level of confidence, all the variables were significant ($p < 0.05$).

5.3 Conclusions

From the findings, the study concludes that there was a strong positive relationship between profitability as measured by return on assets and credit information sharing. This is because the price of credit continually goes down with increase in the levels of information sharing among credit lenders and in turn increase profitability of companies. The study established a negative relationship between non- performing loans to gross loans ratio and profitability. This is because increase in credit information sharing reduces the level of non- performing loans as only the lenders with positive credits are able to be advanced loans to which reduces the level of default and hence profitability.

Association between interest rate and bank profitability was strong, positive and statistically significant. This was because increase in banks interest rate although would reduce the level of borrowing would be able to cover for the level of loan default from the commercial banks as the high risky borrowers would be charged high interest rates. There was a strong positive relationship between volume of lending and profitability of commercial banks since the loan collection is the major assets of banks and the

predominate source of revenue. Finally, specific loan provisions to total loans provisions and banks profitability was strong positive and significant. This was because although banks with less specific loan provision are perceived to have more safety, specific loan provision increases with the volume of lending which is a major source of revenue and profitability for commercial banks.

5.4 Policy Recommendations

The study sought to determine the effect of credit information sharing on profitability of Commercial Banks in Kenya. Based on the findings the study recommends that banks should continue to utilize credit information sharing as they reduce transaction costs involved in identifying suitable clients that the bank can advance loans to.

The study recommends that banks should utilize credit information sharing service as they reduce loan default. It was deduced that there is a negative correlation between non-performing loans to gross loans ratio and profitability hence use of credit information sharing enhance profitability through loan default.

The study recommends that the Central Bank of Kenya should regulate the interest rates charged across the commercial banks to different borrowers as high interest rates may increase the chances of loan default and this in turn reduce the profitability of the commercial bank.

The study recommends that commercial banks should ensure that as they increase their volume of lending they should carefully screen their customers to default borrowers who are prone to loan default and also reduce specific loan provisions as this in turn increase the profitability of the banks.

5.5 Limitations of the Study

This study was not without limitations. In attaining its objective the study was limited to 5 years period starting from year 2012 to year 2016.

The study was limited to secondary data collected from the Banks Financial reports and Central banks of Kenya. While the data was verifiable since it came from the CBK and banks publications, it nonetheless could still be prone to shortcomings such as earnings management.

The study was limited to the effect of credit information sharing on profitability of commercial banks in Kenya. The study was based on a five-year study period from the year 2012 to 2016. A longer duration of the study will have captured periods of various economic significances. This may have probably given a longer time focus hence given a broader dimension to the problem.

5.6 Suggestions for Further Study

This study sought to determine the effect of credit information sharing on profitability of commercial banks in Kenya. A study can be done on the effect of credit information sharing on profitability of other institutions such as microfinance institutions and hence compare the results.

A study can also be done on the effect of credit information sharing on the cost of credit of commercial banks in Kenya which may in turn affect the profitability of the commercial banks and other institutions.

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APPENDICES

Appendix I: List of Commercial Banks
1. KCB Bank Kenya Limited
2. Co-operative Bank of Kenya Limited
3. Equity Bank (Kenya) Limited
4. Barclays Bank of Kenya Limited
5. Standard Chartered Bank Kenya Limited
6. Diamond Trust Bank Kenya Limited
7. Stanbic Bank (Kenya) Limited
8. NIC Bank Limited
9. I & M Bank Limited
10. Commercial Bank of Africa Limited
11. Citibank N.A Kenya
12. Bank of Baroda (K) Limited
13. Family Bank Limited
14. National Bank of Kenya Limited
15. Prime Bank Limited
16. Bank of India
17. HFC Limited
18. Ecobank Kenya Limited
19. Bank of Africa Kenya Limited
20. Guaranty Trust Bank (K) Limited
21. Victoria Commercial Bank Limited
22. Gulf African Bank Limited
23. Sidian Bank Limited
24. Giro Commercial Bank Limited
25. Habib Bank A.G Zurich
26. M-Oriental Bank Limited
27. Jamii Bora Bank Limited
28. Credit Bank Limited
29. African Banking Corporation Limited
30. Guardian Bank Limited
31. Habib Bank Limited
32. UBA Kenya Bank Limited
33. Transnational Bank Limited
34. Development Bank of Kenya Limited
35. Paramount Bank Limited
36. First Community Bank Limited
37. Middle East Bank (K) Limited
38. Consolidated Bank of Kenya Limited

39. Chase Bank (K) Limited
40. Fidelity Commercial Bank Limited
41. Charterhouse Bank Limited

Appendix II: Return on Assets

	ROA	2016	2015	2014	2013	2012
	Bank	**%**	**%**	**%**	**%**	**%**
1.	KCB Bank Kenya Limited	5.64	5.01	1.49	2.9	2.9
2.	Co-operative Bank of Kenya Limited	6.00	6.56	0.33	2	1.3
3.	Equity Bank (Kenya) Limited	5.15	4.14	2.57	3.6	4
4.	Barclays Bank of Kenya Limited	5.10	5.01	5.93	5.5	5.2
5.	Standard Chartered Bank Kenya Limited	4.02	3.83	7.26	7.7	7.4
6.	Diamond Trust Bank Kenya Limited	3.64	5.66	5.63	6.2	6.5
7.	Stanbic Bank (Kenya) Limited	5.27	3.56	5.29	4.3	4.2
8.	NIC Bank Limited	3.60	3.69	0.21	0.5	-1.2
9.	I & M Bank Limited	3.37	3.99	5.44	5.8	7
10.	Commercial Bank of Africa Limited	5.84	3.14	4.43	4.7	4.8
11.	Citibank N.A Kenya	3.66	6.33	6.42	6	5.9
12.	Bank of Baroda (K) Limited	4.67	3.55	3.74	4.1	2.4
13.	Family Bank Limited	3.57	3.99	3.08	2.9	2.7
14.	National Bank of Kenya Limited	4.57	3.65	-1.02	1	1.3
15.	Prime Bank Limited	2.12	3.49	1.8	2.5	0.9
16.	Bank of India	3.55	4.42	4.35	4.8	3.6
17.	HFC Limited	2.78	3.38	4.31	4.1	3.5
18.	Ecobank Kenya Limited	2.23%	1.86	4.44	4.6	4.2
19.	Bank of Africa Kenya Limited	0.91	2.72	5.22	7	10.4
20.	Guaranty Trust Bank (K) Limited	3.65	3.53	1.24	1.38	-2.13
21.	Victoria Commercial Bank Limited	3.70	4.74	-1.82	-0.8	1
22.	Gulf African Bank Limited	3.94	3.03	4.47	4.9	4.9
23.	Sidian Bank Limited	2.05	1.61	1.88	1.8	0.8
24.	Giro Commercial Bank Limited	0.99	2.25	-1.09	-3.3	-4.8
25.	Habib Bank A.G Zurich	0.14	2.39	4.24	4	2.7
26.	M-Oriental Bank Limited	1.53	1.05	2.08	1.6	2

27.	Jamii Bora Bank Limited	1.30	1.60	0.67	1.8	2.9
28.	Credit Bank Limited	1.11	0.18	3.13	2.8	1.7
29.	African Banking Corporation Limited	0.58	0.35	2.59	3	1.9
30.	Guardian Bank Limited	0.30	0.75	3.11	2.7	2.8
31.	Habib Bank Limited	0.89	0.49	4.75	5.8	5.5
32.	UBA Kenya Bank Limited	0.36	0.2	0.73	1.3	1.5
33.	Transnational Bank Limited	-0.03	0.07	4.61	4.2	3.2
34.	Development Bank of Kenya Limited	-0.28	-1.74	1.28	1.4	0.79
35.	Paramount Bank Limited	-1.99	-3.91	1.07	2.5	1.8
36.	First Community Bank Limited	-3.12	-4.53	1.32	1.2	1.2
37.	Middle East Bank (K) Limited	-7.01	-2.07	4.18	3.8	2.7
38.	Consolidated Bank of Kenya Limited	-6.13	-1.34	1.86	2.3	3.7
39.	Chase Bank (K) Limited	1.25	-3.18	-6.97	-7.5	-13.6
40.	Fidelity Commercial Bank Limited	-2.14	2.64	-2.78	1	-4.6
41.	Charterhouse Bank Limited	-1.67	2.67	-2.78	1.67	2.45
	TOTAL	**3.99%**	**3.86%**	**4.46**	**4.7**	**4.36**

Appendix III: Credit Information Sharing

	Credit Information Sharing	2016	2015	2014	2013	2012
	Bank					
1	KCB Bank Kenya Limited	847,558	645,643	385,595	153,857	142,238
2	Co-operative Bank of Kenya Limited	719,758	456,719	289,082	110,997	99,693
3	Equity Bank (Kenya) Limited	544,937	423,503	271,700	108,594	99,318
4	Barclays Bank of Kenya Limited	422,795	296,349	192,055	83,396	95,655
5	Standard Chartered Bank Kenya Limited	416,445	255,375	142,701	77,234	73,012
6	Diamond Trust Bank Kenya Limited	335,340	244,701	192,900	63,165	57,516
7	Stanbic Bank (Kenya) Limited	325,172	221,568	146,784	46,469	57,169
8	NIC Bank Limited	315,351	214,395	138,819	39,687	42,440
9	I & M Bank Limited	266,401	207,663	136,566	46,628	40,617
10	Commercial Bank of Africa Limited	255,184	206,136	134,520	35,468	40,053
11	Citibank N.A Kenya	189,865	145,027	102,006	27,471	32,793
12	Bank of Baroda (K) Limited	138,393	115,427	59,444	27,524	32,489
13	Family Bank Limited	142,923	108,755	69,300	19,265	19,034
14	National Bank of Kenya Limited	103,864	82,859	52,521	17,814	15,704
15	Prime Bank Limited	106,475	81,779	58,777	14,823	15,596
16	Bank of India	88,731	64,235	43,446	17,644	14,769
17	HFC Limited	94,755	61,525	36,127	12,447	13,469
18	Ecobank Kenya Limited	75,230	55,116	36,764	12,741	12,885
19	Bank of Africa Kenya Limited	75,537	35,784	18,633	14,046	12,318
20	Guaranty Trust Bank (K) Limited	55,191	31,585	21,075	11,954	12,044
21	Victoria Commercial Bank Limited	49,336	30,936	20,243	10,944	6,817
22	Gulf African Bank Limited	42,194	26,514	16,799	6,753	6,044
23	Sidian Bank Limited	37,753	26,130	16,447	5,966	5,720
24	Giro Commercial Bank Limited	30,434	25,536	19,251	5,247	5,554
25	Habib Bank A.G Zurich	29,326	22,960	14,965	4,656	5,271
26	M-Oriental Bank Limited	27,576	21,437	9,683	4,699	5,004
27	Jamii Bora Bank Limited	27,586	20,706	17,310	4,709	4,920
28	Credit Bank Limited	24,411	20,218	16,128	4,613	4,791
29	African Banking Corporation Limited	29,366	19,983	15,680	4,173	4,633
30	Guardian Bank Limited	21,908	19,762	15,422	4,123	4,474
31	Habib Bank Limited	24,272	18,693	11,664	3,756	4,437
32	UBA Kenya Bank Limited	21,196	18,106	13,980	3,638	4,116
33	Transnational Bank Limited	20,504	14,709	8,819	3,449	4,103
34	Development Bank of Kenya Limited	19,970	14,612	9,901	3,525	4,011
35	Paramount Bank Limited	18,743	12,912	8,073	3,733	3,954
36	First Community Bank Limited	16,201	11,114	7,607	3,158	3,846

37	Middle East Bank (K) Limited	19,475	10,610	5,158	3,067	3,778
38	Consolidated Bank of Kenya Limited	11,731	8,503	7,051	2,866	3,734
39	Chase Bank (K) Limited	9,901	7,982	5,571	2,929	3,643
40	Fidelity Commercial Bank Limited	9,733	5,555	1,176	2,662	3,404
41	Charterhouse Bank Limited	12,858	4,956	83,646	2,605	3,015
	TOTAL	**6,041,807**	**4,325,200**	**2,907,375**	**1,038,023**	**1,027,324**

Appendix IV: Volume of Lending

	Volume of Lending	2016	2015	2014	2013	2012
	Bank	Millions	Millions	Millions	Millions	Millions
1	KCB Bank Kenya Limited	373,031	324,284	257,399	200,923	169,988
2	Co-operative Bank of Kenya Limited	241,395	229,394	192,973	150,633	127,440
3	Equity Bank (Kenya) Limited	221,039	212,711	181,370	141,575	119,778
4	Barclays Bank of Kenya Limited	176,349	148,846	128,204	100,075	84,667
5	Standard Chartered Bank Kenya Limited	132,497	128,266	95,258	74,357	62,909
6	Diamond Trust Bank Kenya Limited	118,312	122,905	128,768	100,515	85,039
7	Stanbic Bank (Kenya) Limited	107,127	111,286	97,984	76,485	64,709
8	NIC Bank Limited	103,658	107,683	92,667	72,335	61,198
9	I & M Bank Limited	100,404	104,302	91,163	71,161	60,204
10	Commercial Bank of Africa Limited	105,082	103,535	89,797	70,095	59,302
11	Citibank N.A Kenya	70,120	72,842	68,093	53,153	44,969
12	Bank of Baroda (K) Limited	55,808	57,975	39,681	30,975	26,206
13	Family Bank Limited	52,582	54,624	46,260	36,110	30,550
14	National Bank of Kenya Limited	68,616	41,617	35,060	27,367	23,154
15	Prime Bank Limited	39,540	41,075	39,236	30,627	25,912
16	Bank of India	31,057	32,263	29,002	22,639	19,153
17	HFC Limited	29,747	30,902	24,116	18,825	15,926
18	Ecobank Kenya Limited	26,648	27,683	24,541	19,156	16,207
19	Bank of Africa Kenya Limited	17,301	17,973	12,438	9,709	8,214
20	Guaranty Trust Bank (K) Limited	15,271	15,864	14,068	10,981	9,291
21	Victoria Commercial Bank Limited	14,957	15,538	13,513	10,548	8,924
22	Gulf African Bank Limited	12,819	13,317	11,214	8,754	7,406
23	Sidian Bank Limited	12,633	13,124	10,979	8,570	7,251
24	Giro Commercial Bank Limited	12,347	12,826	12,851	10,031	8,487
25	Habib Bank A.G Zurich	11,101	11,532	9,990	7,798	6,597
26	M-Oriental Bank Limited	10,365	10,767	6,464	5,046	4,269
27	Jamii Bora Bank Limited	10,011	10,400	11,555	9,020	7,631
28	Credit Bank Limited	9,775	10,155	10,766	8,404	7,110
29	African Banking Corporation Limited	9,662	10,037	10,467	8,170	6,912
30	Guardian Bank Limited	9,555	9,926	10,295	8,036	6,799
31	Habib Bank Limited	9,038	9,389	7,786	6,078	5,142
32	UBA Kenya Bank Limited	8,754	9,094	9,332	7,284	6,163
33	Transnational Bank Limited	7,112	7,388	5,887	4,595	3,888
34	Development Bank of Kenya Limited	7,065	7,339	6,609	5,159	4,365
35	Paramount Bank Limited	6,243	6,485	5,389	4,207	3,559
36	First Community Bank Limited	5,373	5,582	5,078	3,964	3,354

37	Middle East Bank (K) Limited	5,130	5,329	3,443	2,688	2,274
38	Consolidated Bank of Kenya Limited	4,111	4,271	4,707	3,674	3,109
39	Chase Bank (K) Limited	3,859	4,009	3,719	2,903	2,456
40	Fidelity Commercial Bank Limited	2,686	2,790	785	613	518
41	Charterhouse Bank Limited	2,595	2,696	55,837	43,586	36,875
	TOTAL	**2,165,329**	**1,940,781**	**1,578,768**	**1,330,365**	**1,190,985**

Appendix V: Non Performing Loans

	Non-Performing Loans	2016	2015	2014	2013	2012
	Bank	Millions	Millions	Millions	Millions	Millions
1	KCB Bank Kenya Limited	28,333	19,289	13,368	10,435	6,123
2	Co-operative Bank of Kenya Limited	11,273	8,189	7,469	5,830	4,933
3	Equity Bank (Kenya) Limited	15,457	6,832	7,982	6,231	5,271
4	Barclays Bank of Kenya Limited	11,472	5,336	4,554	3,555	3,007
5	Standard Chartered Bank Kenya Limited	14,698	15,038	6,199	4,839	2,568
6	Diamond Trust Bank Kenya Limited	12,487	14,536	6,752	5,271	3,734
7	Stanbic Bank (Kenya) Limited	12,250	8,070	5,969	4,659	3,942
8	NIC Bank Limited	10,047	5,097	3,770	2,943	2,490
9	I & M Bank Limited	10,115	2,586	1,913	1,493	1,263
10	Commercial Bank of Africa Limited	9,530	4,556	3,370	2,631	2,226
11	Citibank N.A Kenya	4,962	3,765	7,237	5,649	1,264
12	Bank of Baroda (K) Limited	3,123	900	666	520	440
13	Family Bank Limited	5,432	5,628	4,163	3,250	2,749
14	National Bank of Kenya Limited	6,020	3,849	2847	1,129	1,880
15	Prime Bank Limited	3,311	3,261	2,412	890	1,593
16	Bank of India	1,337	1,440	1,065	831	703
17	HFC Limited	3,691	3,327	2,461	1,921	1,625
18	Ecobank Kenya Limited	2,666	1,191	881	688	582
19	Bank of Africa Kenya Limited	3,220	96	71	55	47
20	Guaranty Trust Bank (K) Limited	1,404	1,397	1,033	806	682
21	Victoria Commercial Bank Limited	1,336	1,196	885	691	584
22	Gulf African Bank Limited	1,553	1,049	610	476	403
23	Sidian Bank Limited	1,119	918	168	131	111
24	Giro Commercial Bank Limited	813	638	472	368	312
25	Habib Bank A.G Zurich	626	2,052	1,518	1,185	1,002
26	M-Oriental Bank Limited	491	814	602	470	398
27	Jamii Bora Bank Limited	2,187	1,981	3,028	1,213	1,197
28	Credit Bank Limited	1,438	3,800	1,811	1,194	865
29	African Banking Corporation Limited	3,276	1,284	811	633	536
30	Guardian Bank Limited	769	1,064	787	614	520
31	Habib Bank Limited	854	338	250	195	165
32	UBA Kenya Bank Limited	378	1,787	1,322	1,032	873
33	Transnational Bank Limited	680	792	586	457	387
34	Development Bank of Kenya Limited	6,050	715	529	413	349
35	Paramount Bank Limited	794	1,437	1,063	830	702

36	First Community Bank Limited	1,128	746	552	431	365
37	Middle East Bank (K) Limited	2,619	114	84	66	55
38	Consolidated Bank of Kenya Limited	256	462	342	267	226
39	Chase Bank (K) Limited	9,236	1,509	1,116	871	737
40	Fidelity Commercial Bank Limited	3,285	70	52	41	34
41	Charterhouse Bank Limited	652	4,321	3,196	2,495	2,111
	TOTAL	**211231**	**147,331**	**108,300**	**81,857**	61,917

Appendix VI: Specific Loans Provision

		2016	2015	2014	2013	2012
		Millions	Millions	Millions	Millions	Millions
1	KCB Bank Kenya Limited	7,125	4,245	4,156	4,029	4,008
2	Co-operative Bank of Kenya Limited	4,450	4,417	3,609	2,907	2,809
3	Equity Bank (Kenya) Limited	4,581	3,296	2,693	2,844	2,798
4	Barclays Bank of Kenya Limited	3,554	2,234	1,825	2,184	2,695
5	Standard Chartered Bank Kenya Limited	3,501	1,987	1,623	2,023	2,057
6	Diamond Trust Bank Kenya Limited	2,819	2,136	1,745	1,654	1,621
7	Stanbic Bank (Kenya) Limited	2,733	2,443	1,996	1,217	1,611
8	NIC Bank Limited	2,651	2,474	2,021	1,039	1,196
9	I & M Bank Limited	2,239	2,409	1,968	1,221	1,144
10	Commercial Bank of Africa Limited	2,145	2,494	2,038	929	1,128
11	Citibank N.A Kenya	1,596	1,235	1,009	719	924
12	Bank of Baroda (K) Limited	1,163	1,316	1,075	721	915
13	Family Bank Limited	1,201	1,252	1,023	505	536
14	National Bank of Kenya Limited	873	701	573	467	442
15	Prime Bank Limited	895	791	646	388	439
16	Bank of India	746	521	426	462	416
17	HFC Limited	797	495	404	326	379
18	Ecobank Kenya Limited	632	633	517	334	363
19	Bank of Africa Kenya Limited	635	446	364	368	347
20	Guaranty Trust Bank (K) Limited	464	405	331	313	339
21	Victoria Commercial Bank Limited	415	399	326	287	192
22	Gulf African Bank Limited	355	356	291	177	170
23	Sidian Bank Limited	317	453	370	156	161
24	Giro Commercial Bank Limited	256	267	218	137	156
25	Habib Bank A.G Zurich	247	322	263	122	149
26	M-Oriental Bank Limited	232	307	251	123	141
27	Jamii Bora Bank Limited	232	236	193	123	139
28	Credit Bank Limited	205	296	242	121	135
29	African Banking Corporation Limited	247	248	203	109	131
30	Guardian Bank Limited	184	136	111	108	126
31	Habib Bank Limited	204	169	138	98	125
32	UBA Kenya Bank Limited	178	188	154	95	116
33	Transnational Bank Limited	172	152	124	90	116
34	Development Bank of Kenya Limited	168	148	121	92	113
35	Paramount Bank Limited	158	210	172	98	111
36	First Community Bank Limited	136	227	185	83	108

37	Middle East Bank (K) Limited	164	133	109	80	106
38	Consolidated Bank of Kenya Limited	99	182	149	75	105
39	Chase Bank (K) Limited	83	167	136	77	103
40	Fidelity Commercial Bank Limited	82	154	126	70	96
41	Charterhouse Bank Limited	108	148	121	68	85
	TOTAL	**49,189**	**41,189**	**34,339**	**27,184**	**28,942**

Appendix VII: Interest Rates

	Interest Rates	2016	2015	2014	2013	2012
	Bank	%	%	%	%	%
1	KCB Bank Kenya Limited	17.16	17.33	16.78	17.14	19.17
2	Co-operative Bank of Kenya Limited	17.03	17.20	16.66	15.98	17.87
3	Equity Bank (Kenya) Limited	18.21	18.39	17.81	17.09	19.10
4	Barclays Bank of Kenya Limited	18.09	18.27	17.69	16.98	16.85
5	Standard Chartered Bank Kenya Limited	18.17	18.35	17.77	17.05	19.06
6	Diamond Trust Bank Kenya Limited	17.87	18.05	19.36	18.57	20.77
7	Stanbic Bank (Kenya) Limited	17.62	17.80	17.23	16.53	18.49
8	NIC Bank Limited	17.26	17.43	16.88	17.43	19.49
9	I & M Bank Limited	17.74	17.91	17.35	16.64	18.61
10	Commercial Bank of Africa Limited	17.58	17.76	17.19	16.50	18.44
11	Citibank N.A Kenya	16.90	17.07	16.53	15.86	17.73
12	Bank of Baroda (K) Limited	16.77	20.43	21.32	19.36	21.64
13	Family Bank Limited	16.24	16.41	15.89	15.24	17.04
14	National Bank of Kenya Limited	18.21	18.39	17.81	17.09	19.10
15	Prime Bank Limited	17.82	17.99	17.43	16.72	18.69
16	Bank of India	18.08	18.26	17.68	16.96	18.97
17	HFC Limited	17.58	17.76	17.19	16.50	16.46
18	Ecobank Kenya Limited	17.42	17.60	17.04	16.35	18.28
19	Bank of Africa Kenya Limited	17.29	17.46	16.91	16.23	18.14
20	Guaranty Trust Bank (K) Limited	16.90	17.07	16.53	19.85	22.19
21	Victoria Commercial Bank Limited	18.08	18.26	20.46	21.65	24.20
22	Gulf African Bank Limited	17.82	19.02	18.42	17.67	19.76
23	Sidian Bank Limited	17.95	18.13	17.55	16.84	16.65
24	Giro Commercial Bank Limited	17.82	17.99	17.43	16.72	18.69
25	Habib Bank A.G Zurich	17.69	17.86	17.30	18.41	20.58
26	M-Oriental Bank Limited	17.55	17.73	17.17	16.47	18.42
27	Jamii Bora Bank Limited	17.69	19.42	18.81	18.04	20.17
28	Credit Bank Limited	17.55	17.73	17.17	16.47	18.42
29	African Banking Corporation Limited	17.62	17.80	17.23	16.53	18.49
30	Guardian Bank Limited	17.66	17.84	17.27	16.57	18.53
31	Habib Bank Limited	17.42	17.60	17.04	17.22	19.25
32	UBA Kenya Bank Limited	17.49	17.66	17.11	16.41	18.35
33	Transnational Bank Limited	17.55	17.73	17.17	16.47	17.45
34	Development Bank of Kenya Limited	17.55	17.73	18.43	17.68	19.77
35	Paramount Bank Limited	17.42	17.60	17.04	16.35	16.89
36	First Community Bank Limited	17.42	17.60	17.04	16.35	18.28

37	Middle East Bank (K) Limited	17.42	17.60	17.04	16.35	18.28
38	Consolidated Bank of Kenya Limited	17.29	20.48	19.83	19.03	21.27
39	Chase Bank (K) Limited	17.40	17.57	17.02	16.33	18.25
40	Fidelity Commercial Bank Limited	17.87	18.05	17.48	16.77	18.75
41	Charterhouse Bank Limited	16.86	17.03	16.49	15.82	17.69
		17.54	**17.94**	**17.55**	**17.08**	**18.88**

Appendix VIII: NPL/Gross Loans Ratio

	NPL/Gross Loans Ratio	2016	2015	2014	2013	2012
	Bank	%	%	%	%	%
1	KCB Bank Kenya Limited	7.60	5.95	5.19	5.19	3.60
2	Co-operative Bank of Kenya Limited	4.67	3.57	3.87	3.87	3.87
3	Equity Bank (Kenya) Limited	6.99	3.21	4.40	4.40	4.40
4	Barclays Bank of Kenya Limited	6.51	3.58	3.55	3.55	3.55
5	Standard Chartered Bank Kenya Limited	11.09	11.72	6.51	6.51	4.08
6	Diamond Trust Bank Kenya Limited	10.55	11.83	5.24	5.24	4.39
7	Stanbic Bank (Kenya) Limited	11.44	7.25	6.09	6.09	6.09
8	NIC Bank Limited	9.69	4.73	4.07	4.07	4.07
9	I & M Bank Limited	10.07	2.48	2.10	2.10	2.10
10	Commercial Bank of Africa Limited	9.07	4.40	3.75	3.75	3.75
11	Citibank N.A Kenya	7.08	5.17	10.63	10.63	2.81
12	Bank of Baroda (K) Limited	5.60	1.55	1.68	1.68	1.68
13	Family Bank Limited	10.33	10.30	9.00	9.00	9.00
14	National Bank of Kenya Limited	8.77	9.25	8.12	4.13	8.12
15	Prime Bank Limited	8.37	7.94	6.15	2.91	6.15
16	Bank of India	4.30	4.46	3.67	3.67	3.67
17	HFC Limited	12.41	10.77	10.20	10.20	10.20
18	Ecobank Kenya Limited	10.00	4.30	3.59	3.59	3.59
19	Bank of Africa Kenya Limited	18.61	0.53	0.57	0.57	0.57
20	Guaranty Trust Bank (K) Limited	9.19	8.81	7.34	7.34	7.34
21	Victoria Commercial Bank Limited	8.93	7.70	6.55	6.55	6.54
22	Gulf African Bank Limited	12.11	7.88	5.44	5.44	5.44
23	Sidian Bank Limited	8.86	6.99	1.53	1.53	1.53
24	Giro Commercial Bank Limited	6.58	4.97	3.67	3.67	3.68
25	Habib Bank A.G Zurich	5.64	17.79	15.20	15.20	15.19
26	M-Oriental Bank Limited	4.74	7.56	9.31	9.31	9.32
27	Jamii Bora Bank Limited	21.85	19.05	26.21	13.45	15.69
28	Credit Bank Limited	14.71	37.42	16.82	14.21	12.17
29	African Banking Corporation Limited	33.91	12.79	7.75	7.75	7.75
30	Guardian Bank Limited	8.05	10.72	7.64	7.64	7.65
31	Habib Bank Limited	9.45	3.60	3.21	3.21	3.21
32	UBA Kenya Bank Limited	4.32	19.65	14.17	14.17	14.17
33	Transnational Bank Limited	9.56	10.72	9.95	9.95	9.95
34	Development Bank of Kenya Limited	85.63	9.74	8.00	8.01	8.00
35	Paramount Bank Limited	12.72	22.16	19.73	19.73	19.72
36	First Community Bank Limited	20.99	13.36	10.87	10.87	10.88

37	Middle East Bank (K) Limited	51.05	2.14	2.44	2.46	2.42
38	Consolidated Bank of Kenya Limited	6.23	10.82	7.27	7.27	7.27
39	Chase Bank (K) Limited	9.34	7.64	0.01	0.00	0.01
40	Fidelity Commercial Bank Limited	2.30	2.51	6.62	6.69	6.56
41	Charterhouse Bank Limited	5.13	6.27	5.72	5.72	5.72
		12.92	**8.86**	**7.17**	**6.62**	**6.49**

Appendix IX: Specific/Gross Loans Ratio

	Specific/Gross Loans Ratio	2016	2015	2014	2013	2012
	Bank	**%**	**%**	**%**	**%**	**%**
1	KCB Bank Kenya Limited	1.910%	1.309%	1.615%	2.005%	2.358%
2	Co-operative Bank of Kenya Limited	1.843%	1.926%	1.870%	1.930%	2.204%
3	Equity Bank (Kenya) Limited	2.072%	1.550%	1.485%	2.009%	2.336%
4	Barclays Bank of Kenya Limited	2.015%	1.501%	1.424%	2.182%	3.183%
5	Standard Chartered Bank Kenya Limited	2.642%	1.549%	1.704%	2.721%	3.270%
6	Diamond Trust Bank Kenya Limited	2.383%	1.738%	1.355%	1.646%	1.906%
7	Stanbic Bank (Kenya) Limited	2.551%	2.195%	2.037%	1.591%	2.490%
8	NIC Bank Limited	2.557%	2.297%	2.181%	1.436%	1.954%
9	I & M Bank Limited	2.230%	2.310%	2.159%	1.716%	1.900%
10	Commercial Bank of Africa Limited	2.041%	2.409%	2.269%	1.325%	1.902%
11	Citibank N.A Kenya	2.276%	1.695%	1.482%	1.353%	2.055%
12	Bank of Baroda (K) Limited	2.084%	2.270%	2.710%	2.328%	3.492%
13	Family Bank Limited	2.284%	2.292%	2.211%	1.399%	1.755%
14	National Bank of Kenya Limited	1.272%	1.684%	1.634%	1.706%	1.909%
15	Prime Bank Limited	2.264%	1.926%	1.647%	1.267%	1.694%
16	Bank of India	2.402%	1.615%	1.468%	2.041%	2.172%
17	HFC Limited	2.679%	1.602%	1.677%	1.732%	2.380%
18	Ecobank Kenya Limited	2.372%	2.287%	2.107%	1.744%	2.240%
19	Bank of Africa Kenya Limited	3.670%	2.482%	2.930%	3.790%	4.224%
20	Guaranty Trust Bank (K) Limited	3.038%	2.553%	2.352%	2.850%	3.649%
21	Victoria Commercial Bank Limited	2.775%	2.568%	2.412%	2.721%	2.152%
22	Gulf African Bank Limited	2.769%	2.673%	2.594%	2.022%	2.295%
23	Sidian Bank Limited	2.509%	3.452%	3.371%	1.820%	2.220%
24	Giro Commercial Bank Limited	2.073%	2.082%	1.697%	1.366%	1.838%
25	Habib Bank A.G Zurich	2.225%	2.792%	2.633%	1.565%	2.259%
26	M-Oriental Bank Limited	2.238%	2.851%	3.880%	2.438%	3.303%
27	Jamii Bora Bank Limited	2.317%	2.269%	1.669%	1.364%	1.822%
28	Credit Bank Limited	2.097%	2.915%	2.246%	1.440%	1.899%
29	African Banking Corporation Limited	2.556%	2.471%	1.936%	1.334%	1.895%
30	Guardian Bank Limited	1.926%	1.370%	1.079%	1.344%	1.853%
31	Habib Bank Limited	2.257%	1.800%	1.773%	1.612%	2.431%
32	UBA Kenya Bank Limited	2.033%	2.067%	1.646%	1.304%	1.882%
33	Transnational Bank Limited	2.418%	2.057%	2.109%	1.959%	2.984%
34	Development Bank of Kenya Limited	2.378%	2.017%	1.830%	1.783%	2.589%
35	Paramount Bank Limited	2.531%	3.238%	3.184%	2.329%	3.119%
36	First Community Bank Limited	2.531%	4.067%	3.652%	2.094%	3.220%

37	Middle East Bank (K) Limited	3.197%	2.496%	3.156%	2.976%	4.661%
38	Consolidated Bank of Kenya Limited	2.408%	4.261%	3.159%	2.041%	3.377%
39	Chase Bank (K) Limited	2.151%	4.166%	3.669%	2.652%	4.194%
40	Fidelity Commercial Bank Limited	3.053%	5.520%	16.028%	11.419%	18.533%
41	Charterhouse Bank Limited	4.162%	5.490%	0.217%	0.156%	0.231%
		2.43	**2.04**	**2.04**	**2.16**	**2.35**