EFFECTS OF LISTING OF LOAN DEFAULTERS BY CREDIT REFERENCE BUREAUS ON NON-PERFORMING LOANS OF COMMERCIAL BANKS IN KENYA

BY

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DECLARATION

I declare to the best of my knowledge that this research project is my original work, and has not been submitted for examination in any other university.

Sign…….. Date…….....

Kamau Paul Ndungu

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This project has been submitted for examination with my approval as the university Supervisor.

Sign…….. Date…….....

Dr. Mirie Mwangi

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DEDICATION

I dedicate this project to my family that includes my wife Scolastica Ndung'u, our children; Eugene Kamau, Ryan Mungai and Ashley Wambui for their support and understanding in the course of my academic period.

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ABBREVIATIONS AND ACRONYMS

CBK : Central Bank of Kenya

CRB : Credit Reference Bureau

GCC : Gulf Cooperation Council

GDP : Gross Domestic Produce

KBA : Kenya Bankers of Association

KCB : Kenya Commercial Bank

NPA : Non-Performing Asset

NPL : Non-Performing Loan

ABSTRACT

Banks face a major threat when incidences of Non-Performing Loans (NPLs) increase. NPLs represent bad loans that the borrowers engage in and fail to obey the repayment obligations. NPL affects the psychology of a banker in terms of their funds disposition towards credit delivery and expansion. As such non-performing loans generate a vicious effect on banking survival and growth which if not timely managed in a proper way may lead to banking failures. In Kenya, due to the high banking failures, credit information sharing mechanism was launched in July 2007. This gave birth to credit reference bureau. The use of CRB extends to sharing information merged from other sources such as criminal records, tax records. All these data of information is compiled together and used to assign credit scores of borrowers based on statistical risk analysis. It is expected that use of CRB would reduce giving loan to risky customers. This study sought to establish the effect of listing loan defaulters by credit reference bureaus on the level of non-performing loans in commercial banks in Kenya. The study used a descriptive survey design, targeting all commercial banks in Kenya. A census of all commercial banks in Kenya was done. Secondary data was used in this study. The research obtained quantitative data. Descriptive and inferential statistics was employed in data analysis with aid of the Statistical Package for Social Sciences (SPSS) package. The study revealed that that there existed a negative relationship between the level of non-performing loans in commercial banks and listing of loan defaulters. The study also established that an increase in interest rate weakens loan repayment capacity of the borrower therefore non-performing loans and bad loans are positively correlated with the interest rates. Further, it was established that a bank's size indicates a higher likelihood of a diversified loan portfolio, the capital of banks serves as a custom for protection of depositors' funds. Finally, the study established that a rise in inflation led to a decrease in the amount of non-performing loans. The study recommends that commercial banks in Kenya should assess their clients and charge interest rates accordingly, as ineffective interest rate policy can increase the level of interest rates and consequently NPA. Commercial banks should also apply rigorous policies on loan advances so as loans are awarded to those with ability to repay and mitigate moral hazards such as insider lending and information asymmetry. Banks should apply efficient and effective credit risk management that will ensure that loans are matched with ability to repay, no or minimal insider lending, loan defaults are projected accordingly and relevant measures taken to minimize the same. The banks should also enhance periodic/regular credit risk monitoring of their loan portfolios to reduce the level of NPA.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Economic progress of a nation is greatly impacted by banking development. The importance of bank's stability in a developing economy is noteworthy as any distress affects the development plans (Rajaraman and Vasishtha, 2002) thereby the economic progress. Even though banks are entitled to social service through lending, branch network creations and employment generation, maintaining asset quality and profitability is critical for banks survival and growth. Banks therefore face a major threat when incidences of Non-Performing Loans (NPLs) increase.

NPLs represent bad loans that the borrowers engage in and fail to obey the repayment obligations. According to Batra (2007), NPL affects the psychology of a banker in terms of their funds disposition towards credit delivery and expansion. As such non-performing loans generate a vicious effect on banking survival and growth which if not timely managed in a proper way may lead to banking failures. In recent years, financial sector debates across Africa have been dominated by policies to increase financial services but currently reducing NPLs top the agenda of such debates (Mwengei, 2013). The Central Bank of Kenya (CBK) sector report for 2013 shows bank loans amounting to Sh77.3 billion had gone for more than three months without being serviced as at December 2013, up from Sh57.3 billion an year earlier. CBK said the banks' interest income on loans fell by 3.57 per cent in 2013 to Sh211 billion. According to Mullei (2006), banks were placed under statutory management for failing to meet the minimum core capitalization threshold as well as poor management of loan portfolios.

Due to the high banking failures in Kenya, credit information sharing mechanism was launched in July 2007. This came after Credit Bureau Regulation issued the amendments to the Banking Act passed in 2006 that required that Deposit Protection Fund and institutions licensed under the Banking Act to share information on non-performing loans through credit reference bureaus licensed by the Central Bank of Kenya (CBK). This came after many years of negotiations and agreement between Kenya Bankers of Association (KBA), CBK, Ministry of Finance and the office of the Attorney General with the aim of finding solutions to challenges facing the lending environment in Kenya and especially the banks. (Bank supervision annual report CBK, 2007). According to Schreiner (2001), financial institutions face enormous risk of non-performing loans and larger loans has greater risk exposure thus increasing the cost per-dollar. As such lenders need to be extra conscious to avoid being loan defaulters. Loan portfolio grows naturally then becomes the largest asset and the largest source of income for banks. In view of the significant contribution of loans to the financial health of banks through interest income generated, these assets are considered the most important assets of banks (Kwambai, 2013).

1.1.1 Listing of Loan Defaulters

According to Carolina (2009), the type of information shared in both types of bureau is mainly black information i.e. negative information i.e. defaults or arrears and not white information i.e. positive information. In addition, the use of CRB extends to sharing information merged from other sources such as criminal records, tax records etc. Carolina adds that in some case, all these data of information is compiled together and used to assign credit scores of borrowers based on statistical risk analysis.

According to Petersen (2008), the data needed to screen credit applications and to monitor borrowers are not freely available to banks. When a bank does not have such information, it faces adverse selection or moral hazard problems in its lending activity. Adverse selection arises when some information about the borrowers' characteristics remain hidden to the lender (hidden information), and can lead to an inefficient allocation of credit, Moral hazard arises instead from the lender's inability to observe borrower's actions that affect the probability of repayment. This creates the danger of opportunistic behavior or moral hazard by the borrower and informational disadvantage by the bank leading to inefficient allocation of credit.

1.1.2 Non-Performing Loans

A Non-performing Loan/ Asset is a credit facility whose interest and/or principal amount has remained past due for a specific period of time. Alton and Hazen (2007) defined non-performing loans as those loans which are ninety days or more past due or no longer accruing interest. Hennie (2007) argues that non-performing loans are those loans which are not generating income, which supports the definition by Alton and Hazen (2007). Other writers such as Caprio and Klingebiel (2006), defined non-performing loans as those loans whose long period of time do not generate income that is, the principal and or interest on these loans have been left unpaid for at least ninety days.

Lending is the principle activity of commercial banks and the loan portfolio is the largest asset and the predominant source of revenue for the lending institutions (Morsman, 2008). NPLs are therefore a measure of the stability of the banking system, and thereby the financial stability of a country. NPLs therefore reflect credit risk for banks arising

either from external factors such as depressed economic conditions, or internal factors such as poor lending decisions or both (Alloyo, 2013). The ratio of NPLs to assets is an indicator of a bank's asset quality and financial soundness. In the case of financial crisis, a high ratio of NPLs to bank assets may indicate that banks are not unhealthy. Banks in Kenya have been lending funds to serial defaulters, this is as a result of banks having different credit information regarding the borrowers and these borrowers have exploited the information asymmetry to borrow several loans from the Kenyan banks and defaulting in the long run thus increasing the level of nonperforming assets (NPAs) in the banking sector in Kenya (Kwambai, 2013). Accordingly, Ng'etich (2011) found out that controlling NPAs is very important for both the performance of an individual bank and the economy's financial environment. High levels of non-performing loans in the banking industry have been a hindrance to economic stability.

According to Alton and Hazen (2001) non performing loans are those loans which are ninety days or more past due or no longer accruing interest. Hennie (2003) agrees arguing that non performing loans are those loans which are not generating income. This is further supported by Fofack (2005), who define non performing loans as those loans which for a relatively long period of time do not generate income that is, the principal and or interest on these loans have been left unpaid for at least ninety days. Non-performing loans are also commonly described as loans in arrears for at least ninety days (Guy, 2011). Therefore in this study, non performing loans are loans that are ninety or more days delinquent in payments of interest and/or principal (Bexley and Nenninger, 2012).

1.1.3 Listings of Loan Defaulters and Non-Performing Loans

By exchanging information about their customers banks can improve their knowledge of applicants' characteristics and past behaviour. In principle, this reduction of informational asymmetries can reduce adverse selection problems in lending, as well as change borrowers' incentives to repay, both directly and by changing the competitiveness of the credit market. The Indian viewpoint alluding to the concepts of 'credit culture' owing to Reddy (2004) and 'lazy banking' owing to Mohan (2003a) has an international perspective since several studies in the banking literature agree that banks' lending policy such as credit checks before issuing loans is a major driver of nonperforming loans (Bloem and Gorters, 2001).

The Kenyan Banking (Credit Reference Bureau) Regulations, 2008 states that the main role of Credit Reference Bureau is to provide credit histories to financial institutions as to be able to make lending decisions in order to prevent credit risks and hence manage nonperforming loans. As a result, Jappelli and Pagano (2009) noted that credit bureaus assist in making credit accessible to more people, and enable lenders and businesses reduce financial risks. They add that credit bureaus allow borrowers to take their credit histories from one financial institution to another, thereby making lending markets more competitive and in the end, mitigate credit risks and make credit more affordable. Jappelli and Pagano (2009) further, asserts that sharing of information between financial institutions in respect of customer borrowing behavior, has a positive economic impact.

The CRBs are used to collect, collate and process NPLs data from approved sources of information and generate credit reports to be used by lenders. The use of CRBs assists in detecting of potential loan defaulters. The commercial banks are in a position to know the

credit history of potential borrowers hence locking out serial defaulters. The banks are also able to gauge the credit exposure of their customer more accurately as the CRB reports as among other information, the reports indicates the recent enquiries and credit facilities with different commercial banks.

1.1.4 Commercial Banks in Kenya

Bad loans are loans whose repayments are not in accordance with agreed terms and are in arrears, according to Central Bank of Kenya (CBK) prudential's guidelines. Non-performing loans has been a persistent problem in Kenyan commercial banks. The liberalization of the Kenyan banking industry in early 1990's led to intense competition among financial institutions which saw many such institutions extending huge amounts of credit with the primary objective of increasing profitability. It is asserted that some of the loans were awarded with little or no credit assessment. Others were advanced to insiders. All these loans ended being nonperforming. The low quality loans led to high level of NPLs and subsequently eroded profits of financial institutions. It was argued that, the collapse of many financial institutions in late 1990's was portrayed by high level of NPLs. It was further noted that since the turmoil in the Kenya's financial institutions, different credit risk management policies have been adopted including credit reference bureaus and credit scoring systems (Central Bank of Kenya annual report, 2013).

The CBK sector report for 2013 indicated that bank loans amounting to Kshs 77.3 billion had gone for more than three months without being serviced as at December 2013, which was an increase from Kshs 57.5 billion the previous year. In the same light the CBK has set a new directive on the treatment of NPLs which has increased pressure on banks (Central Bank of Kenya annual report 2014). The directive requires lenders to classify as

non-performing loan accounts of a borrower who defaults on the repayment of any one of their multiple loans for more than three months. It is argued that the NPLs increased due to change of laws specifically relating to the recovery process, high interest rates in year 2012, and introduction of CBK prudential guidelines. The foregoing has inflated a bad look on the banks and has obliged them to set aside additional cash as provision for defaults; a situation which has served to adversely affect their financial performance by negating their profitability (Central Bank of Kenya annual report 2014).

1.2 Research Problem

Loan portfolio which constitutes a large portion of assets in most banks is relatively illiquid and exhibits the highest credit risk. The question of loan default is related with non recovery or repayment of loans. When a borrower cannot repay interest and/or installment on a loan after it has become due, then it is qualified as default loan or non-performing loan. By exchanging information about their customers banks can improve their knowledge of applicants' characteristics and past behaviour. In principle, this reduction of informational asymmetries can reduce adverse selection problems in lending, as well as change borrowers' incentives to repay.

Commercial banks in Kenya have had a high rate of loan default from the borrowers which have caused significant losses to the banks. This is attributed to existence of information asymmetry where commercial banks have varied credit information and credit history about their borrowers. The credit seekers have taken this shortfall to get loans from different commercial banks which increases their rate of default because they might fail to service back all the loans. Nonperforming loans is one of the major causes

of financial losses experienced by financial institutions. NPLs threatens the soundness of financial systems of any economy and specifically banks. They also constitute a potential source of systemic failure of the particular financial systems as well as of the global financial system. The non-performing loans and advances continue to be a threat to the banking sector during to the increasing gross non-performing loans and advances is on the increase in the Kenyan banking sector (Central Bank of Kenya, 2014). The gross non-performing loans and advances stood at 101.7 billion for the commercial banks for the 2014 financial year (Central Bank of Kenya, 2014). These provisions increased in the 2013 financial year to stand at 77.3 billion representing 31.6% growth in the provisions

Several research studies have been done in relation to commercial banks in Kenya: Aduda (2011) studied the relationship between credit risk management and profitability among the commercial banks in Kenya; Oludhe (2011) studied the effect of credit risk management on financial performance of commercial banks in Kenya; Gitonga (2012) studied the relationship between interest rate risk management and profitability of commercial banks in Kenya; Mbotu (2012) did a study on the effect of the central bank of Kenya rate (CBR) on commercial banks‘ benchmark lending interest rates. However, the researcher is not aware of any study on the performance of loan portfolio in commercial banks. This research therefore aims to answer the following question; what is effect of listing loan defaulters by credit reference bureaus on the level of non-performing loans in commercial banks in Kenya?

1.3 Research Objective

The study sought to establish the effect of listing loan defaulters by credit reference bureaus on the level of non-performing loans in commercial banks in Kenya.

1.4 Value of the Study

The finding may help the Government of Kenya and CBK with useful information for the formulation of policies that may act as deterrent measures to errant loan defaulters and also those that may better help regulate credit management in the sector. This is because it's the government's responsibility to come up with policies that address various challenges in any sector of the economy.

The study will be important to commercial banks, as they will be able to understand the importance of credit references bureau and implement its usage hence understand their role in attainment of desired economic growth for the country. The findings of this study will be of benefit to the management of commercial banks to develop credit risk management policies that will enable them achieve their long-term goals by enabling them to identify customers with ability to pay on time and thus can be granted credit.

The study will contribute to literature and form part of empirical review and may inspire prospective researchers to explore more dimensions in the effect of credit reference bureaus on credit access and would therefore form the basis for future research.

CHAPTER TWO : LITERATURE REVIEW

2.1 Introduction

The chapter provides an extensive literature and research related to effects of listing of loan defaulters by credit reference bureaus on non-performing loans of commercial banks. It gives an overview of the theoretical framework and empirical review on the.

2.2 Theoretical Framework

The study will be based on the following three theoretical foundations; information sharing theory which provide borrowers with higher incentives to perform because information becomes available to competitor banks, borrowers are happy to perform better because they no longer fear being held- up by the lender-monopolist, moral hazard theory which leads to significant accumulation of nonperforming loans in banks and Credit Market Theory which 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.

2.2.1 Information Sharing Theory

The theory of asymmetric information indicates that it may be complex to distinguish between good and bad borrowers (Richard, 2011), which may result into adverse selection and moral hazards problems. The theory expounds that in the market, the person that possesses more information on a particular item to be transacted (in this case the borrower) is in a position to negotiate optimal terms for the transaction than the other party (in this case, the lender). The party that knows less about the same specific item to

be transacted is therefore in a position of making either right or wrong decision concerning the transaction. Adverse selection and moral hazards have led to significant accumulation of nonperforming loans in banks (Bofondi and Gobbi, 2003).

Information sharing resolves adverse selection problems when banks have ex-ante informational advantage, as in Padilla and Pagano (2000). By sharing information, banks may learn about those good and bad borrowers of the competitor banks who (exogenously) switched from the previous banks. Lewis (2007), however, identifies a dark side of information sharing. Rather than starting with ex-ante informational advantage, their adverse selection model considers a two-period competition with symmetric knowledge in period one. In their location model, when banks have less incentives to acquire information for too many customers in period one, when they know they will have to compete away rents on them by sharing information in period two. They show that if information about borrowers' true becomes known to other banks, second-period competition will be higher and first-period interest rates will have to go up. As a result, information sharing can lead to welfare losses.

2.2.2 Moral Hazard Theory

Moral hazard refers to the risk that a party to a transaction has not entered into the contract in good faith, has provided misleading information about its assets, liabilities or credit capacity, or has an incentive to take unusual risks in a desperate attempt to earn a profit before the contract settles. Problems of moral hazard in banks and other financial institutions were evident at many stages of the recent financial crisis (Myerson, 2011). The moral hazard problem implies that a borrower has the incentive to default unless there are consequences for his future applications for credit. This result from the

difficulty lenders have in assessing the level of wealth borrowers will have accumulated by the date on which the debt must be repaid, and not at the moment of application. If lenders cannot assess the borrowers' wealth, the latter will be tempted to default on the borrowing. Forestalling this, lenders will increase rates, leading eventually to the breakdown of the market (Alary & Goller, 2001).

As Freixas and Rochet (2007) have noted, modern microeconomic models of banking depend on advances in information economics which was not available when the traditional Keynesian and monetarist theories were first developed. As economists confront the need for deeper insights into the forces that can drive macroeconomic instability, it should be considered that new models that can apply the microeconomic theory of banking to the macroeconomic theory of business cycles. In modern macroeconomic theory economic growth rate depends, crucially, on the efficiency of financial institutions. The financial systems themselves depend on accurate information about borrowers and the project the funds are used (Margaret, 2003).

Hogen (2003), suggest that reduction of management of nonperforming loans is the core business in the banking business. According to him there is need to have appropriate management of nonperforming loans management strategy in order to reduce risk of loan default because a financial institutions' viability is weakened by the loss of principal and interest. Margaret (2003), adds that if reductions of management of nonperforming loans are not addressed, the institution will incur financial losses, incur costs taken to recover the capital at risk and fail in its social role of providing loans to members of society to improve their living standards.

2.2.3 Credit Market Theory

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. Therefore with an increasing demand for credit and a fixed supply of the same, interest rates will have to rise. Any additional risk to a project being funded by the bank should be reflected through a risk premium that is added to lending rate to match the increasing risk of default. 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, 2003).

Although this theory does not explicitly discuss how collateral would effect 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. This brings about the ‘moral hazard’ and ‘adverse selection’ phenomena, firstly because of information asymmetry existing between the lender and borrowers. The borrower has a more accurate assessment of the risk profile of this investment that is not known by the lender and thus may perform secret actions to increase the risk of his investment without the realization of the lender. 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 (Adedoyin & Sobodun, 2004).

2.3 Determinants of Non Performing Loans in Commercial Banks

The following are the determinants of nonperforming loans in commercial banks.

2.3.1 Interest Rate

Interest rate is like a service charge paid by the borrower of an asset to its owner against the usufruct of assets can also be defined as the return paid against the borrowed money. The risk free rate of return usually remains in access of monetary regulators to manipulate in pursuance of monetary objectives. Discount rate is set by the central bank as per the requirement to offset inflationary pressures. Lending rates/ interest rates are one of the primary economic determinant of non-performing loans/bad loans. An increase in interest rate weakens loan payment capacity of the borrower therefore non-performing loans and bad loans are positively correlated with the interest rates (Nkusu, 2011). As far as interest rate policy is concerned it plays very important role in NPLs growth rate in a Country/economy.

The interest rate affects the difficulty in servicing debt, in the case of floating rate loans. This implies that the effect of the interest rate should be positive, and as a result the increasing debt burden caused from rising interest rate payments should lead to a higher number of NPLs.

2.3.2 Inflation

Inflation affects loan payment capacity of borrowers positively or negatively, higher inflation can enhance the loan payment capacity of borrower by reducing the real value of outstanding debt; moreover increased inflation can also weaken the loan payment capacity of the borrowers by reducing the real income when salaries/wages are sticky,

moreover by highlighting the role of inflation in the presence of variable interest rate Nkusu further explains that in this scenario inflation reduces the debt servicing capacity of the loan holders as lenders adjust the lending interest rates to adjust their real return. So according to literature relationship between inflation and non-performing loans can be positive or negative depending on the economy of operations.

2.3.3 Unemployment

As far as theoretical explanation of the positive relationship between unemployment in the economy and non-performing loans is concerned an increase in the unemployment in the country negatively affects the incomes of the individuals which increases their debt burden, it is obvious when a person losses his source of income how he can return his loan, similarly an increased unemployment in the economy also negatively affects the demand of the products of firms which ultimately affects the production/sales of the firms, this ultimately leads to decline in revenues of the firms and a fragile debt conditions (Louzis, Vouldis and Metaxas, 2010).

2.3.4 Bank's Size

The bank's size is defined as the logarithm of total assets. The bank's size can be either positively or negatively be correlated with NPLs. The reason of size has positive correlation with NPLs is because a bank's larger size gives the bank further ability to pursue higher risk loans and utilize higher levels of leverage. Stiroh (2004) did not find a diversification benefit determined by bank size. However, Stern and Feldman (2004) found that large banks are able to take excessive risk by using leverage to extend loans. Meanwhile, the bank's size can be negatively be correlated to NPLs. A bank's size

indicates a higher likelihood of a diversified loan portfolio, thereby lowering risk and a higher probability of achieving target returns. Salas and Saurina (2002) find a negative correlation between bank size and NPLs.

Size variable is expected to have a positive influence on the survival time for the banks. That is, as the size of the banks increase it is less likely that they will fail and the longer the survival time. Larger banks have the advantage of better access to additional financing, dealing with liquidity problems and diversifying risk. This is probably due to the fact that larger banks benefit from a "too large to fail" policy and are believed to be more likely to survive than smaller banks. Wheelock and Wilson (2000), and Langrin (2001) argue that size is a significant determinant of the time to bank failure.

2.3.5 Listing of Loan Defaulters

According to Carolina, (2009), the type of information shared in both types of bureau is mainly black information i.e. negative information i.e. defaults or arrears and not white information i.e. positive information. In addition, the use of CRB extends to sharing information merged from other sources such as criminal records, tax records etc. Carolina adds that in some case, all these data of information is compiled together and used to assign credit scores of borrowers based on statistical risk analysis.

According to Petersen, (2008), the data needed to screen credit applications and to monitor borrowers are not freely available to banks. When a bank does not have such information, it faces adverse selection or moral hazard problems in its lending activity. Adverse selection arises when some information about the borrowers' characteristics remain hidden to the lender (hidden information) and can lead to an inefficient allocation of credit, Moral hazard arises instead from the lender's inability to observe borrower's

actions that affect the probability of repayment. This creates the danger of opportunistic behavior or moral hazard by the borrower and informational disadvantage by the bank leading to inefficient allocation of credit.

2.4 Empirical Literature

Adebola *et al.* (2011), explore the factors that explain the NPL of Islamic banks in Malaysia for the period from 2007 to 2009. They employ the ARDL (Auto-Regressive Distributed Lag) to examine the effects of certain macroeconomic variables including the industrial production index, the interest rate and the index of producer prices. The results indicate long-term relationships between variables and note that the interest rate has a significant positive long-term impact on bad loans. Espinosa and Prasad (2010) did a study using a sample of 80 banks in the Gulf Cooperation Council(GCC) countries in 1995 to 2008, they found that the NPL ratio arise when economic growth becomes lower, the interest rate and risk aversion increase.

Khemraj and Pasha (2010), studied the determinants of non-performing loans in Guyanese Banking sector. The empirical results show that GDP growth is inversely related to non-performing loans, suggesting that an improvement in the real economy translates into lower non-performing loans. Additionally, banks which charge relatively higher interest rates and lend excessively are likely to incur higher levels of non-performing loans. However, contrary to previous studies, their evidence does not support the view that large banks are more effective in screening loan customers when compared to their smaller counterparts.

Chernykh and Theodossiou (2011) investigated the determinants of long-term lending by banks to firms in an emerging market using bank-level information from 881 banks in Russia. The variables of concern include bank size, capitalization, liability structure, risk taking, ownership type, managerial expertise and location of individual banks. The findings reveal that the size of the bank (measured by assets) and the bank capitalization are the only determinants of not only loans expended to businesses but also long-term loans. This is attributed to the fact that bigger and well capitalized banks can withstand the risks emanating from long-term lending. The study thus demonstrates that there are supply-side constraints to credit expansion, although it did not consider the role of collateral on bank lending levels.

Ewert (2000) studied the determinants of bank lending performance in Germany using credit file information of 260 medium-sized firm borrowers for the period 1992-1998. The study aimed at testing the several theories relating collateral to interest rate premiums and therefore lending performance, using a random effects model on panel data analysis to eliminate the borrower and time-specific effects. Two models were estimated with interest rate premiums and probability of distress as the two predicted variables. Interest rate premium was set to be predicted in a random effects model by among other variables: collateral; bank relationships; bank firm rating; firm characteristic and firm size. The highlight of this study's finding was that interest rate premium increased with rise in the collateral pledged. This was contrary to the signaling and firm characteristics theories above, where we would expect higher interest rate premium for firms pledging little or no collateral. However, estimation of distress probabilities of the same firms revealed that more collateral and covenant in credit contracts lead to lower

distress probabilities. Combining the above results, the study gives controversial finding that riskier credit contracts are assigned lower interest rate premiums by banks.

Locally, various aspects of CRB have been reviewed by various scholars. Sigei (2010) researched on evaluating the effectiveness of credit reference bureau in Kenya; the case of KCB. His study revealed that CRBs play an important role in preventing serial loan defaulters from accessing credits from other financial institutions thus cushioning financial institutions against unforeseen credit risks. Similar sentiments are also shared by others researchers (Gaitho, 2010). Nganga (2011) carried out a study on stakeholder perception of credit reference bureau service in Kenya credit market. The study reveals that many of the borrowers do not want to be listed in CRBs and would try as much as possible to service their credit facilities so as to protect their reputation. Alloyo (2013) also did a study on the effect of credit reference bureaus on the financial performance of commercial banks in Kenya using a sample of 44 banks. The research findings showed that before commissioning of credit reference bureaus the semi-annual financial performance of banks was fairly constant. However the financial performance increased slightly with commencement of credit reference bureaus.

2.5 Summary of Literature Review

The study reviewed three theoretical foundations; information sharing theory which provide borrowers with higher incentives to perform because information becomes available to competitor banks, borrowers are happy to perform better because they no longer fear being held- up by the lender-monopolist, moral hazard theory which leads to significant accumulation of nonperforming loans in banks and Credit Market Theory

which 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.

Modern microeconomic models of banking depend on advances in information economics which was not available when the traditional Keynesian and monetarist theories were first developed. As economists confront the need for deeper insights into the forces that can drive macroeconomic instability, it should be considered that new models that can apply the microeconomic theory of banking to the macroeconomic theory of business cycles. There are categories of borrowers who depend on bank lending in that any change in banks' willingness to lend immediately affects their investment and spending decisions. Lending is undoubtedly the heart of banking business. Therefore, its administration requires considerable skill and dexterity on the part of the bank management. While a bank is irrevocably committed to pay interest on deposits it mobilized from different sources, the ability to articulate loanable avenues where deposit funds could be placed to generate reasonable income; maintain liquidity and ensure safety requires a high degree of pragmatic policy formulation and application.

The presence of CRBs from the studies carried out depicts that there is a reduction the information monopoly of a lender on its borrowers, thus reducing the extra rents that lenders can charge their clients. The studies that have been carried out have discussed about many aspects of information sharing in other parts of the world outside Africa and little focus has been laid to African and more so Kenya. This study therefore will be done to fill this knowledge gap by establishing the effects of listing of loan defaulters by credit reference bureaus on non-performing loans of commercial banks.

CHAPTER THREE : RESEARCH METHODOLOGY

3.1 Introduction

This section discusses the research design, target population, data collection and data analysis procedures that were used in the study.

3.2 Research Design

The study design was a descriptive survey. According to Schindler and Coopers (2004) descriptive studies are more formalized and typically structured with clearly stated hypothesis or investigative questions. It serves a variety of research objectives such as descriptions of phenomenon or characteristics associated with a subject population, estimates of proportions of a population that have these characteristics and discovery of associations among different variables.

3.3 Population of Study

This study targeted all commercial banks in Kenya. There are a total of forty three commercial banks in Kenya as shown in appendix I (CBK, 2014). Census was used because data was collected to represent all banks in the Kenyan banking sector. Central Bank of Kenya Systematic has database of all banks.

3.4 Sample Design

The sampling plan describes the sampling unit, sampling frame, sampling procedures and the sample size for the study (Cooper & Schindler, 2003). Since the population size was small, the study was conducted through census targeting all the 43 commercial banks in

Kenya. According to (Dennis, 2009) when the sample is small it is important to take the whole population to determine the needs of an organization.

3.5 Data Collection

Secondary data was used in this study. The data was obtained from CBK database as all banks are expected to file their annual financial results with CBK. The data that was collected included: number of loan defaulters before enactment of listing of loan defaulters and the level non-performance loans from banks before enactment of listing of loan defaulters and the number of loan defaulters after enactment of listing of loan defaulters and the level non-performance loans from banks after enactment of listing of loan defaulters.

3.6 Validity and Reliability

According to Bridget and Lewin (2005), validity is the degree to which the sample of test items represents the content the test is designed to measure. Lacity and Jansen (1994) defined validity as making common sense, and being persuasive and seeming right to the reader, while Cronbach (1971) indicated that validity refers to results that have the appearance of truth or reality. Reliability on the other hand gives the internal consistency of data collected, and this ensures that the data has certain internal consistent pattern. However, since the study was collecting secondary data, there was no need to test for validity and reliability since the study did not have a research instrument.

3.7 Data Analysis

The research obtained quantitative data. Descriptive and inferential statistics was employed in data analysis with aid of the Statistical Package for Social Sciences (SPSS) package. Descriptive statistics includes percentages and measures of central tendency (mean and standard deviation). The study used inferential statistics to establish effect of listing loan defaulters by credit reference bureaus on the level of non-performing loans in commercial banks in Kenya. Specifically, the study used Karl Pearson's coefficient of correlation to establish this relationship. The correlation coefficient was expected to be two-tailed as the relationship outcome is expected to be either positive or negative and at 95% confidence level.

The regression equation is:

$$\mathbf{Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon}$$

Where;

Y = Level of non-performing loans in commercial banks measured by amount of nonperforming loans in Ksh (2011-2014)

X_1 = Total number of listed defaulters by each bank (2011-2014)

X_2, X_3 and X_4 = Control variables

X_2 = Interest rate measured by changes in interest rates (absolute value of annual changes in interest rates)

X_3 = Bank Size, defined as the natural log (Ln) of total assets

X_4 = Inflation rate measured by the Consumer Price Index (CPI)

While β_1 to β_4 are the coefficients of determination and ε is the error term.

A regression analysis is done in order to predict the value of the dependent variable for individuals for whom some information concerning the explanatory variables is available, or in order to estimate the effect of some explanatory variable on the dependent variable (Armstrong, 2012).

CHAPTER FOUR : DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter presents analysis and findings of the research. The objective of this study was to establish the effect of listing loan defaulters by credit reference bureaus on the level of non-performing loans in commercial banks in Kenya. The time period that the study covered was 4 years, (2011-2014)

4.2 Response Rate

The study aimed at collecting data from all the commercial banks in Kenya over a period of 4 years, (2011-2014). The study was success in this bid and therefore collected information from all the commercial banks over the stipulated period. Therefore, the response rate for the study was 100%.

4.3 Data Validity

The study involved collection of secondary data and there was no need to test for validity and reliability since the study did not have a research instrument. The data was obtained from official reports from the respective sources.

4.4 Descriptive Statistics

4.4.1 Total Number of Listed Defaulters By Each Bank (2011-2014)

Table 4.1: Descriptive statistics on total number of listed defaulters

Year	Gross Loans and Advances Ksh Million	Gross Non performing loans Ksh Million	Net non performing loans
2011	1,083,100	58,300	13,893
2012	1,289,000	57,500	22,937
2013	1,406,100	77,300	35,476
2014	1,800,000	101,700	48,544

From the results, the lowest net value for non performing loans was 13,893 in 2011 while the highest was 48,544 in 2014. The findings revealed that there have been a significant increase in non-performing loans during the four-year period.

4.4.2 Descriptive Statistics for Interest Rates

Table 4.2: Interest rates

Year	Interest Rate
2011	20.04
2012	18.15
2013	16.99
2014	15.99

From the results, the lowest interest rate value was 15.99 in 2014 while the highest was 20.04 in 2011. The unpredictability in interest rates is an evidence of instability in financial markets as these rates are determined by the central bank.

4.4.3 Bank Size

Table 4.3: Descriptive statistics on banks in total assets

Year	Median	Minimum	Maximum	Mean	Std deviation
2011	.441	.302	.449	.445	1.18
2012	.520	.612	.626	.623	1.16
2013	.840	.631	.889	.851	1.11
2014	.986	.825	.979	.972	1.14

From the findings, it can be noted that the year 2011 recorded the lowest value in total Assets at as shown by a mean value of 0.445 while the year 2014 recorded the highest value in Total Assets as shown by 0.972 In addition, values for stardard deviation depicts variability in investment in size of the bank during the five year period with the highest deviation of 1.18 in the year 2011 and the lowest at 1.11 in the year 2013. The findings revealed that there have been a significant increase in size of the bank which was measured in Total Assets for the during the four-year period.

4.4.4 Inflation rate

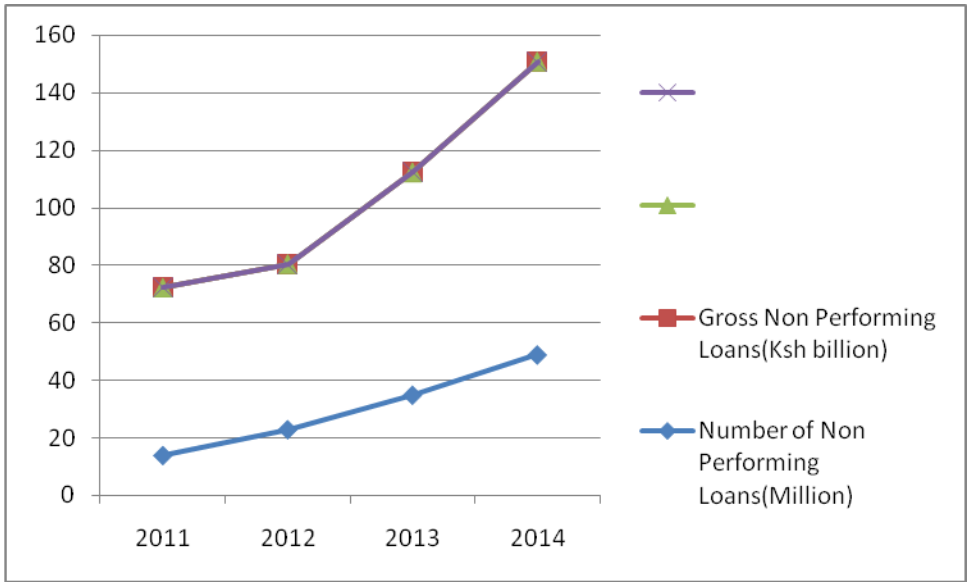
Table 4.4: Descriptive statistics inflation rate

	Median	Minimum	Maximum	Mean	Std deviation
2011	13.45	4.26	17.63	14.0	3.24
2012	9.23	2.85	10.21	9.4	3.12
2013	5.43	2.01	7.13	5.7	1.22
2014	6.98	4.87	7.38	7.30	1.32

From the findings, it can be noted that the year 2013 recorded the lowest value for inflation rate at 5.7 while the year 2011 recorded the highest value for inflation rate at

14.0. In addition, values for stardard deviation depicts variability in inflation rates during the five –year period with the highest deviation of 3.24 in the year 2011 and the lowest at 1.22 in the year 2013.

Figure 4.1: Non-performing loans analysis



From the above graph, it can be noted that there is a direct relationship between number of non performing loans and Gross amount of non performing loans value-wise. As the number of individual non performing loans increases, the gross amount (value) also increases.

4.5 Correlations analysis

Table 4.5: Correlations

		Level of non-performing loans	Listing of Loan Defaulters	Interest rate	size of the bank	Inflation rate
Level of non-performing loans	Correlation Coefficient	1.000	.553	.711	.322	.544
	Sig. (2-tailed)	.	.476	.439	.335	.958
	N	42	42	42	42	42
Listing of Loan Defaulters	Correlation Coefficient	-.553	1.000	.142	.037	001
	Sig. (2-tailed)	.001	.	.000	.003	.002
	N	42	42	42	42	42
Interest rate	Correlation Coefficient	.711	.142	1.000	.046	.008
	Sig. (2-tailed)	.003	.001	.	.000	.000
	N	42	42	42	42	42
size of the bank	Correlation Coefficient	-.322	.037	.046	1.000	.124
	Sig. (2-tailed)	.002	.000	.001	.	.002
	N	42	42	42	42	42
Inflation rate	Correlation Coefficient	.544	001	.008	.124	1.000
	Sig. (2-tailed)	.000	.001	.003	.000	.
	N	42	42	42	42	42

On the correlation of the study variable, the researcher conducted a Pearson moment correlation. from the finding in the table above, the study found that there was strong positive correlation coefficient between level of non-performing loans in commercial banks and Listing of Loan Defaulters, as shown by correlation factor of -0.553, this strong negative relationship was found to be statistically significant as the significant value was 0.001 which is less than 0.05, The study found strong positive correlation between level of non-performing loans in commercial banks and Interest rate as shown by correlation coefficient of 0.711, this too was also found to be significant at 0.003 level of confidence. The study found weak negative correlation between level of non-

performing loans in commercial banks and size of the bank as shown by correlation coefficient of - 0.322 at 0.002 levels of confidence and finally the study found strong positive correlation between level of non-performing loans in commercial banks and Inflation rate as shown by correlation coefficient of 0.544 at 0.000 levels of confidence.

4.6 Regression Analysis and hypotheses testing

In this study, a multiple regression analysis was conducted to test the influence among predictor variables. The research used statistical package for social sciences (SPSS V 21.0) to code, enter and compute the measurements of the multiple regressions.

4.6.1 Model Summary

The study used coefficient of determination to evaluate the model fit. The model summary is presented in the table below.

Table 4.6: Model Summary.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.887[a]	.787	.671	.37290

Source: Research data, 2015

The adjusted $R^{2,}$ also called the coefficient of multiple determinations, is the percent of the variance in the dependent explained uniquely or jointly by the independent variables. The model had an average coefficient of determination (adjusted R^2) of 0. 671 and which implied that 67.1% of the variations in the level of non-performing loans in commercial banks are caused by the independent variables understudy (Listing of Loan Defaulters, Interest rate, Bank size, and Inflation rate).

4.6.2 Analysis of Variance

Table 4.7: Analysis of variance

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	3.028	4	0.757	4.588	.003[b]
1	Residual	6.27	38	0.165		
	Total	9.298	42			

Critical value =2.44

From the ANOVA statics, the study established the regression model had a significance level of 0.3% which is an indication that the data was ideal for making a conclusion on the population parameters as the value of significance (p-value) was less than 5%. The calculated value was greater than the critical value (4.588 > 2.44) an indication that Listing of Loan Defaulters, Interest rate, Bank size, and Inflation rate, all have a significant affects on the level of non-performing loans in commercial banks. The significance value was less than 0.05 indicating that the model was significant

4.6.3 Coefficients

The following tables gives the coefficients which helps in establishing the regression line.

Table 4.8: Table of ccoefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.541	.429		3.592	.000
	Listing of Loan Defaulters	-.382	.104	.343	-3.673	.000
	Interest rate	.201	.115	.192	1.747	.001
	Bank size	-.372	.103	.313	-3.61	.002
	Inflation rate	.183	.124	.153	1.475	.000

The established regression equation was;

$$\mathbf{Y = 1.541 + (-0.382)\ X_1 + 0.201\ X_2 + (-0.372)\ X_3 + 0.183\ X_4}$$

From the regression model below, it is can be deduced that, holding Listing of Loan Defaulters, Interest rate, Bank size, and Inflation rate, the level of non-performing loans in commercial banks would be 1.541, it's was also established that a unit increase in Listing of Loan Defaulters while holding other factors at constant. would cause decrease in the level of non-performing loans in commercial banks by a factor of - 0.382, a unit increase in Interest rate, while holding other factors at constant would cause an increase in the level of non-performing loans in commercial banks by a factor of 0.201, a unit increase in size of the bank would cause decrease in the level of non-performing loans in commercial banks by a factor of - 0.372 and that a unit increase in Inflation rate would cause increase in the level of non-performing loans in commercial banks by a factor of 0.183.

The analysis was undertaken at 5% significance level. The criteria for comparing whether the predictor variables were significant in the model was through comparing the obtained probability value and α=0.05. If the probability value was less than α, then the predictor variable was significant otherwise it wasn't. All the predictor variables were significant in the model as their probability values were less than α=0.05.

4.7 Discussion of Research Findings

4.7.1 Listing of loan defaulters

The study established that there existed a positive relationship between the level of non-performing loans in commercial banks and listing of loan defaulters. Further the study revealed that listing of loan defaulters improve banks' knowledge about applicants' characteristics and permit more accurate prediction of repayment, probability, this allows lenders to target and price their loans better, easing adverse selection problems. The findings concurs with the findings by Padilla and Pagano (1997) that Suggest that where credit is more abundant lenders have a stronger incentive to set up a credit bureau. Bad loans can fuel banking crisis and result in the collapse of some of these institutions with their attendant repercussions on the economy as a whole.

The study revealed that Listing of loan defaulters reduce the informational rents that banks could otherwise extract from their customers. They tend to level the informational playing field within the credit market and force lenders to price loans more competitively. Lower interest rates increase borrowers' net return and augment their incentive to perform. The findings concurs with the adverse selection model developed by Pagano

and Jappelli (1993), information sharing improves the pool of borrowers, decreases defaults and reduces interest rates. It can also lead to an expansion of lending.

Further the study notes that Listing of loan defaulter's work as a borrower discipline device: every borrower knows that if he defaults his reputation with all other potential lenders is ruined, cutting him off from credit or making it much more expensive according to Padilla and Pagano, (1996) This mechanism heightens borrowers' incentive to repay, reducing moral hazard.

4.7.2 Interest Rate

The study established that an increase in interest rate weakens loan payment capacity of the borrower therefore non-performing loans and bad loans are positively correlated with the interest rates. The study also revealed that commercial banks incorporate charges on intermediation services offered under uncertainty, and set the interest rate levels for deposits and loans, there is a pervasive view amongst some stakeholders that high interest rate spreads are caused by the internal characteristics of the banks themselves, such as their tendency to maximize profits in an oligopolistic market, while many others argue that the spreads are imposed by the macroeconomic, regulatory and institutional environment in which banks operate. Rates the findings concurs with Nkusu, 2011) interest rate policy plays very important role in NPLs growth rate in a Country/economy.

Further the research established that potential savers are discouraged due to low returns on deposits and thus limits financing for potential borrowers, The above findings support the findings by (Waweru and Kalani, 2009) that when the level of nonperforming assets (NPAs) is very high, the provisions are not adequate protection, Interest rate spread affect

the non-performing assets in banks as it increases the cost of loans charged on the borrowers. Model or type of interest rate charged (whether fixed or float) for they all have different dynamics that might affect the borrower's ability to repay credit loaned. Goldstein and Turner (1996) concluded that accumulation of non-performing assets is attributable to high cost of loans.

4.7.3 Bank Size

On bank size the study established a weak positive correlation between level of non-performing loans in commercial banks and size of the bank (Pearson correlation coefficient of 0.322, P- value of 0.002) that bank's larger size gives the bank further ability to pursue higher risk loans and utilize higher levels of leverage, a bank's size indicates a higher likelihood of a diversified loan portfolio, the capital of banks serves as a custom for protection of depositors' funds. Further the study revealed that Size allows for more diversification opportunities as larger banks can compose less concentrated portfolios that include borrowers from different industries, geographical locations, capital size and other customer segments.

The size of capital in relation to deposits influences the amount of risk that a bank can afford; relatively large capital structure can make loans of longer maturities and greater credit risk. The finding concurs with Demsetz and Strahan (1997) that large bank holding companies have a diversification advantage, as evidenced by lower idiosyncratic risk.

Capital adequacy ratio is positively significant justifying that highly capitalized banks are not under regulatory pressures to reduce their credit risk and take more risks, ROA has negative and statistically significant effect on NPLs. This result supports as greater

performance measured in terms of ROA reduces nonperforming loans since reduced risk taking in banks exhibiting high levels of performance.

4.7.4 Inflation Rate

From the findings it was noted that a rise in inflation led to a decrease in the amount of non-performing loans, the findings are in line with the findings by Papi and Lim (1997) who found a direct relationship between NPLs and inflation, The study established that deviations in the real money equilibrium in Kenya have resulted in speeding of inflation. Further the study revealed that real effective exchange rate has a strong direct relationship with the levels of non-performing loans, stated by commercial banks signifying that a decline in the global effectiveness of the national economy transforms into higher NPLs. The research also found, that banks which charge comparatively higher real interest rates and have a fondness for taking on risk tends to face greater loan delinquencies (or non-performing loans) the NPLs are inversely affected by Real GDP Growth Rate (RGDP) further the study revealed that when inflation crosses rational parameters, it gives adverse effects. It decreases the monetary value, through which exchanges take place. This leads to ambiguity of the value of profits and losses of debtors and creditors as well as consumers and sellers. The rising ambiguity dampens investments and savings. Savings decrease as inflation lessens the real rate of return on assets. This again decreases economic progress and investments. These findings are in line with the research findings by Fofack (2005) that inflationary forces influence the high level of compromised loans in African countries with variable exchange rate systems

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 listing loan defaulters by credit reference bureaus on the level of non-performing loans in commercial banks in Kenya. The chapter presents the discussions drawn from the data findings analyzed and presented in chapter four. The study was conducted by use of secondary sources such as published reports.

5.2 Summary of Findings

5.2.1 Listing of Loan Defaulters

The study revealed that that there existed a negative relationship between the level of non-performing loans in commercial banks and listing of loan defaulters. Further the study revealed that listing of loan defaulters improve banks' knowledge about applicants' characteristics and permit more accurate prediction of repayment, probability, this allows lenders to target and price their loans better, easing adverse selection problems. The findings concurs with the findings by Padilla and Pagano (1997) that Suggest that where credit is more abundant lenders have a stronger incentive to set up a credit bureau Bad loans can fuel banking crisis and result in the collapse of some of these institutions with their attendant repercussions on the economy as a whole.

The study revealed that Listing of loan defaulters reduce the informational rents that banks could otherwise extract from their customers. They tend to level the informational

playing field within the credit market and force lenders to price loans more competitively. Lower interest rates increase borrowers' net return and augment their incentive to perform. The findings concurs with the adverse selection model developed by Pagano and Jappelli (1993), information sharing improves the pool of borrowers, decreases defaults and reduces interest rates. It can also lead to an expansion of lending.

Further the study notes that Listing of loan defaulter's work as a borrower discipline device: every borrower knows that if he defaults his reputation with all other potential lenders is ruined, cutting him off from credit or making it much more expensive according to Padilla and Pagano, (1996) This mechanism heightens borrowers' incentive to repay, reducing moral hazard.

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Further the research established that potential savers are discouraged due to low returns on deposits and thus limits financing for potential borrowers, The above findings support the findings by (Waweru and Kalani, 2009) that When the level of nonperforming assets (NPAs) is very high, the provisions are not adequate protection, Interest rate spread affect the non-performing assets in banks as it increases the cost of loans charged on the borrowers. Model or type of interest rate charged (whether fixed or float) for they all have different dynamics that might affect the borrower's ability to repay credit loaned. Goldstein and Turner (1996) concluded that accumulation of non-performing assets is attributable to high cost of loans.

5.2.3 Bank Size

On bank size the study established that a bank's size indicates a higher likelihood of a diversified loan portfolio, the capital of banks serves as a custom for protection of depositors' funds. The size of capital in relation to deposits influences the amount of risk that a bank can afford; relatively large capital structure can make loans of longer maturities and greater credit risk. The finding concurs with Demsetz and Strahan (1997) that large bank holding companies have a diversification advantage, as evidenced by lower idiosyncratic risk. Further the study revealed that Size allows larger banks can compose less concentrated portfolios that include borrowers from different industries, geographical Locations, capital size and other customer segments.

Capital adequacy ratio is positively significant justifying that highly capitalized banks are not under regulatory pressures to reduce their credit risk and take more risks; ROA has negative and statistically significant effect on NPLs. This result supports as greater

performance measured in terms of ROA reduces nonperforming loans since reduced risk taking in banks exhibiting high levels of performance

5.2.4 Inflation Rate

From the findings it was noted that a rise in inflation led to a decrease in the amount of non-performing loans, the findings are in line with the findings by Papi and Lim (1997) who found a direct relationship between NPLs and inflation, The study established that deviations in the real money equilibrium in Kenya have resulted in speeding of inflation. Further the study revealed that real effective exchange rate has a strong direct relationship with the levels of non-performing loans, stated by commercial banks signifying that a decline in the global effectiveness of the national economy transforms into higher NPLs., The research also found, that banks which charge comparatively higher real interest rates and have a fondness for taking on risk tends to face greater loan delinquencies (or non-performing loans) the NPLs are inversely affected by Real GDP Growth Rate (RGDP) further the study revealed that when inflation crosses rational parameters, it gives adverse effects. It decreases the monetary value, through which exchanges take place. This leads to ambiguity of the value of profits and losses of debtors and creditors as well as consumers and sellers. The rising ambiguity dampens investments and savings. Savings decrease as inflation lessens the real rate of return on assets. This again decreases economic progress and investments. These findings are in line with the research findings by Fofack (2005) that inflationary forces influence the high level of compromised loans in African countries with variable exchange rate systems.

5.3 Conclusions

The study established that listing of loan defaulters improve banks' knowledge about applicants' characteristics and permit more accurate prediction of repayment, probability, this allows lenders to target and price their loans better, easing adverse selection problems. Thus the study concludes that listing of loan defaulters by CRB help to reduce the level of non-performing loans.

The research notes that Interest rate spread affect the non-performing assets in banks as it increases the cost of loans charged on the borrowers; therefore the study concludes that an increase in interest rate weakens loan payment capacity of the borrower therefore non-performing loans and bad loans are positively correlated with the interest rates.

The study established that ROA has negative and statistically significant effect on NPLs. This result supports as greater performance measured in terms of ROA reduces nonperforming loans since reduced risk taking in banks exhibiting high levels of performance, thus he the study concludes that high investments encouraged high levels of NPLs and vice versa

The study revealed that from the findings it was noted that a rise in inflation led to a decrease in the amount of non-performing loans, thus the study concludes that inflation rate has positive effect on NPLs.

5.4 Recommendations

Based on the findings, the study recommends that commercial banks in Kenya should assess their clients and charge interest rates accordingly, as ineffective interest rate policy

can increase the level of interest rates and consequently NPA. Given that the type of interest rates charged on loans (fixed and floats) dictates on the ability and flexibility of borrowers to repay loans, the study recommends that commercial banks should have a mixed interest rate policy as each type has its advantage and disadvantage The central banks should apply stringent regulations on interest rates charged by banks so as to regulate their interest rate spread. Commercial banks should also apply rigorous policies on loan advances so as loans are awarded to those with ability to repay and mitigate moral hazards such as insider lending and information asymmetry. Banks should apply efficient and effective credit risk management that will ensure that loans are matched with ability to repay, no or minimal insider lending, loan defaults are projected accordingly and relevant measures taken to minimize the same. The banks should also enhance periodic/regular credit risk monitoring of their loan portfolios to reduce the level of NPA.

5.5 Limitations of the Study

This study has several limitations. First, it is possible that the nature of data from the financial statements is impacting the results in an unanticipated manner or limits the power of the tests to detect associations. This may be created by variation of statistical figures illustrating the key variables measurements.

Data collection was limited to secondary sources. The study would gain better insight on the effect listing loan defaulters by credit reference bureaus on the level of non-performing loans by collecting primary data from personnel involved in share performance.

The study was limited to the 43 commercial banks. A more comprehensive examination on the effect of listing loan defaulters by credit reference bureaus on the level of non-performing loans in commercial banks in Kenya would be achieved if Micro finance institutions were involved in the study. This would offer insight into the way listing loan defaulters by credit reference bureaus on the level of non-performing loans.

5.6 Suggestions for Further Research

This study examined the effect of listing loan defaulters by credit reference bureaus on the level of non-performing loans in commercial banks in Kenya over a period of 4 years. There is a need for further studies to carry out similar tests for a longer time period. Study variables (Listing of Loan Defaulters, Interest rate, Bank size, and Inflation rate) only a accounted for 67.1% of the variations in the level of non-performing loans in commercial banks are caused by the independent variables understudy therefore other variables accounting for the remaining 32.9% need to be established and their effect asses as well.

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APPENDICES

Appendix I: List of Commercial Banks in Kenya

Classification	Description	Commercial Banks
Tier I	Comprises of banks with a balance sheet of more than Kenya Shillings 40 billion	1. Citibank 2. Equity Bank 3. Standard Chartered Bank 4. Barclays Bank of Kenya 5. NIC Bank 6. Kenya Commercial Bank 7. National Bank of Kenya 8. Diamond Trust Bank 9. Co-operative Bank of Kenya 10. CFC Stanbic Bank
Tier II	Comprises of banks with a balance sheet of less than Kenya Shillings 40 billion	11. I&M Bank 12. Bank of India

	but more than Kenya Shillings 10 billion	13. Bank of Baroda 14. Family Bank 15. Prime Bank 16. Commercial Bank of Africa 17. Bank of Africa 18. Consolidated Bank 19. Chase Bank 20. Fina Bank 21. EcoBank 22. HFCK
Tier III	Comprises of banks with a balance sheet of less than Kenya Shillings 10 billion	23. Habib A.G. Zurich 24. Victoria Commercial Bank 25. Credit Bank 26. Habib Bank (K) Ltd 27. Oriental Commercial Bank 28. K-Rep Bank

29. ABC Bank

30. Development Bank of Kenya

31. Middle East Bank

32. Equatorial Commercial Bank

33. Trans-National Bank

34. Dubai Bank

35. Fidelity Commercial Bank

36. City Finance Bank

37. Paramount Universal Bank

38. Giro Commercial Bank

39. Imperial Bank

40. Guardian Bank

41. Southern Credit Bank

42. Gulf African Bank

43. First Community Bank

Appendix II: List of Gross Non-Performing Loans per bank

NO.	BANK	GROSS NON PERFORMING LOANS			
		2011	2012	2013	2014
		Ksh Million	Ksh Million	Ksh Million	Ksh Million
1	ABC Bank	436	425	798	1,521
2	Bank of Africa	512	518	845	1,645
3	Bank of Baroda	208	198	396	1,046
4	Bank of India	259	219	357	1,014
5	Barclays Bank of Kenya	5,270	4,298	5,098	5,998
6	CFC Stanbic Bank	1,495	1,480	1,684	2,151
7	Chase Bank	893	854	1,047	1,555
8	Citibank	471	503	964	1,416
9	City Finance Bank	395	380	884	1,386
10	Commercial Bank of Africa	1,580	1,564	2,264	2,836
11	Consolidated Bank	764	761	835	1,318
12	Co-operative Bank of Kenya	3,347	3,341	3,667	4,294
13	Credit Bank	569	576	976	1,494
14	Development Bank of Kenya	938	928	1,264	1,760
15	Diamond Trust Bank	752	743	1,520	2,103
16	Dubai Bank	580	542	942	1,446
17	EcoBank	879	943	1,408	1,916
18	Equatorial Commercial Bank	2,439	2,501	2,946	3,443

NO.	BANK	2011	2012	2013	2014
		Ksh Million	Ksh Million	Ksh Million	Ksh Million
19	Equity Bank	5,474	5,301	5,346	5,861
20	Family Bank	2,158	2,209	2,926	3,417
21	Fidelity Commercial Bank	370	351	950	1,454
22	Fina Bank	268	265	836	1,319
23	First Community Bank	435	547	957	1,529
24	Giro Commercial Bank	581	563	1,249	1,747
25	Guardian Bank	545	502	1,006	1,603
26	Gulf African Bank	457	480	1,249	1,755
27	Habib A.G. Zurich	356	429	829	1,418
28	Habib Bank (K) Ltd	786	803	1,357	1,861
29	HFCK	687	672	1,294	1,874
30	I&M Bank	805	754	1,450	1,968
31	Imperial Bank	785	764	1,066	1,550
32	Kenya Commercial Bank	5,678	5,752	5,954	6,437
33	K-Rep Bank	350	341	910	1,411
34	Middle East Bank	405	354	847	1,356
35	National Bank of Kenya	3,807	3,764	4,028	4,556
36	NIC Bank	1,587	1,509	2,046	2,572
37	Oriental Commercial Bank	850	892	1,354	1,948
38	Paramount Universal Bank	205	258	834	1,334
39	Prime Bank	681	704	1,369	2,041

NO.	BANK	2011	2012	2013	2014
		Ksh Million	**Ksh Million**	**Ksh Million**	**Ksh Million**
40	Southern Credit Bank	1,980	2,049	2,841	3,547
41	Standard Chartered Bank	4,520	4,535	4,824	5,713
42	Trans-National Bank	1,670	1,643	2,231	2,839
43	Victoria Commercial Bank	1,073	1,285	1,652	2,248
	TOTAL	**58,300**	**57,500**	**77,300**	**101,700**

Appendix III: List of Gross loans and Advances per bank

NO.	BANK	GROSS LOANS AND ADVANCES			
		2011	2012	2013	2014
		Ksh Million	Ksh Million	Ksh Million	Ksh Million
1	ABC Bank	8,074	9,594	14,509	23,045
2	Bank of Africa	10,240	11,881	15,648	24,370
3	Bank of Baroda	3,714	4,552	7,214	13,157
4	Bank of India	4,981	4,803	6,375	11,723
5	Barclays Bank of Kenya	87,833	101,491	90,712	122,107
6	CFC Stanbic Bank	27,431	36,098	29,034	38,071
7	Chase Bank	15,667	19,632	18,696	31,134
8	Citibank	8,887	11,808	18,902	24,000
9	City Finance Bank	7,248	7,819	12,812	18,118
10	Commercial Bank of Africa	26,991	31,532	39,034	62,647
11	Consolidated Bank	13,643	16,652	14,911	29,970
12	Co-operative Bank of Kenya	69,768	81,136	62,153	96,202
13	Credit Bank	11,157	12,857	19,520	25,538
14	Development Bank of Kenya	13,055	20,668	22,734	31,074
15	Diamond Trust Bank	12,966	16,886	27,890	31,624
16	Dubai Bank	10,943	12,753	17,205	21,109
17	EcoBank	17,235	21,481	24,920	29,705
18	Equatorial Commercial Bank	46,019	58,709	56,114	60,949

NO.	BANK	2011	2012	2013	2014
		Ksh Million	Ksh Million	Ksh Million	Ksh Million
19	Equity Bank	105,269	124,729	127,286	149,548
20	Family Bank	39,308	50,319	55,208	69,426
21	Fidelity Commercial Bank	6,852	7,995	13,971	19,007
22	Fina Bank	5,105	5,982	11,147	16,488
23	First Community Bank	7,768	11,996	14,723	18,877
24	Giro Commercial Bank	10,017	13,216	16,993	20,197
25	Guardian Bank	10,093	11,461	12,897	20,831
26	Gulf African Bank	8,279	9,697	14,193	18,474
27	Habib A.G. Zurich	6,521	8,864	12,191	16,393
28	Habib Bank (K) Ltd	14,858	16,190	18,093	22,155
29	HFCK	12,246	15,273	20,871	29,497
30	I&M Bank	14,825	18,125	22,656	34,594
31	Imperial Bank	14,457	16,754	19,382	27,434
32	Kenya Commercial Bank	99,614	125,433	130,274	138,430
33	K-Rep Bank	6,481	7,732	13,188	18,444
34	Middle East Bank	11,504	7,763	11,145	16,950
35	National Bank of Kenya	70,500	83,756	89,511	98,120
36	NIC Bank	34,389	35,929	37,065	60,188
37	Oriental Commercial Bank	15,741	18,979	20,831	25,973
38	Paramount Universal Bank	3,942	4,300	7,943	13,824
39	Prime Bank	13,353	11,733	14,411	21,150

NO.	BANK	2011	2012	2013	2014
		Ksh Million	**Ksh Million**	**Ksh Million**	**Ksh Million**
40	Southern Credit Bank	37,030	40,176	44,047	50,366
41	Standard Chartered Bank	86,493	106,455	117,857	121,553
42	Trans-National Bank	31,810	30,092	32,333	38,847
43	Victoria Commercial Bank	20,795	25,700	29,500	38,692
	TOTAL	**1,083,100**	**1,289,000**	**1,406,100**	**1,800,000**

Appendix IV: Banks size

NO.	BANK	BANK SIZE			
		2011	2012	2013	2014
		Ksh Million	Ksh Million	Ksh Million	Ksh Million
1	ABC Bank	14,217	16,326	21,095	39,734
2	Bank of Africa	15,110	20,233	25,094	30,617
3	Bank of Baroda	6,551	7,752	12,952	18,929
4	Bank of India	8,508	8,179	11,445	13,538
5	Barclays Bank of Kenya	186,478	192,509	219,907	254,821
6	CFC Stanbic Bank	50,268	66,474	71,708	74,649
7	Chase Bank	27,495	33,434	33,566	41,891
8	Citibank	15,147	20,108	33,935	32,000
9	City Finance Bank	12,561	15,316	18,001	27,451
10	Commercial Bank of Africa	47,754	53,699	70,080	95,063
11	Consolidated Bank	23,657	28,358	29,179	44,073
12	Co-operative Bank of Kenya	112,593	138,174	146,586	170,337
13	Credit Bank	18,981	21,896	30,045	42,564
14	Development Bank of Kenya	22,795	35,198	40,815	48,553
15	Diamond Trust Bank	22,061	28,757	33,450	45,832
16	Dubai Bank	18,309	23,718	28,890	31,043
17	EcoBank	30,554	41,581	44,740	49,509
18	Equatorial Commercial Bank	55,726	79,981	85,744	85,581

NO.	BANK	2011	2012	2013	2014
		Ksh Million	Ksh Million	Ksh Million	Ksh Million
19	Equity Bank	192,273	224,456	232,698	259,246
20	Family Bank	91,769	105,693	109,116	125,710
21	Fidelity Commercial Bank	11,647	13,616	25,082	31,678
22	Fina Bank	8,801	10,187	12,012	18,525
23	First Community Bank	13,166	20,428	26,433	31,461
24	Giro Commercial Bank	16,640	22,507	28,508	33,661
25	Guardian Bank	16,581	19,518	23,155	30,190
26	Gulf African Bank	14,225	16,514	20,481	27,167
27	Habib A.G. Zurich	11,246	15,095	21,887	24,107
28	Habib Bank (K) Ltd	25,631	27,571	32,484	36,925
29	HFCK	21,978	25,009	32,470	44,692
30	I&M Bank	26,482	30,867	37,675	60,575
31	Imperial Bank	25,691	28,533	34,797	45,723
32	Kenya Commercial Bank	168,488	195,613	225,778	240,717
33	K-Rep Bank	12,070	13,168	23,678	34,269
34	Middle East Bank	19,406	13,221	20,009	24,565
35	National Bank of Kenya	83,902	102,473	120,536	128,533
36	NIC Bank	85,081	88,186	90,466	120,313
37	Oriental Commercial Bank	26,825	32,321	37,398	43,289
38	Paramount Universal Bank	6,709	7,323	9,260	17,723

NO.	BANK	2011	2012	2013	2014
		Ksh Million	**Ksh Million**	**Ksh Million**	**Ksh Million**
39	Prime Bank	22,556	23,282	25,872	45,250
40	Southern Credit Bank	55,385	68,420	79,078	83,943
41	Standard Chartered Bank	143,857	161,293	187,970	212,589
42	Trans-National Bank	50,062	54,246	58,049	74,746
43	Victoria Commercial Bank	35,565	43,767	52,124	58,218
	TOTAL	**1,874,800**	**2,195,000**	**2,524,250**	**3,000,000**