Effects of Non-Performing Loans on the Financial Performance of Commercial Banks in Kenya

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Abstract: The study sought to examine the effects of non-performing loans on financial performance of commercial banks in Kenya. The study’s specific objective was to examine the effect of interest rates on financial performance of commercial banks; to determine the effect of loan size on financial performance of commercial banks; to establish the effect of repayment instalments on financial performance and to examine the effect of collateral on financial performance of commercial banks. The study adopted a conceptual framework to show a diagrammatic relationship between independent variables and dependent variable. To strengthen the conceptual framework, the researcher used theories such as asymmetry theory, agency theory, transaction theory and stakeholders’ theory. The study used primary data which was collected through use of questionnaires with respondents were commercial banks officers. The sample size was fifty two. A modified Likert scale questionnaire was developed divided into five parts. A pilot study was carried out to refine the instrument. The quality and consistency of the study was further assessed using Cronbach’s alpha. Data analysis was performed on a computer using Statistical Package for Social Science (SPSS Version 23) for Windows. Analysis was done using frequency counts, percentages, means and standard deviation, regression, correlation and the information generated was presented in form of graphs, charts and tables. The study concluded all the independent variables studied have significant effect on logistics service delivery as indicated by the strong coefficient of correlation and a p-value which is less than 0.05. The overall effect of the analyzed factors was very high as indicated by the coefficient of determination. The overall P-value of 0.00 which is less than 0.05 (5%) is an indication of relevance of the studied variables, significant at the calculated 95% level of significance. The study recommended that commercial banks having high non-performing loans should encourage loan defaulter to restructure their repayments schedule that they can comfortable pay to reduce non-performing loans. That commercial banks should give out more secured loans to borrowers than unsecured loans since secured loans are guaranteed that in the event of defaulting then the commercial bank can auction the collateral and recover its principle and interest outstanding. That commercial banks evaluate borrowers on an individual basis using various parameters in order to reduce bad debts and non-performing loans. That commercial banks should diversify their revenue streams and not depend solely on interest income.

INTRODUCTION

1.1 Background of the Study
The stability of the financial sector has become the basis of most macroeconomic policy owing to the recent global financial crisis (Vogiazas and Nikolaidou, 2014). Commercial banks are the dominant financial institutions in most economies and well-functioning commercial banks accelerate the rate of economic growth while poorly functioning commercial banks are an impediment to economic progress (Richard, 2014). Loans are a part of the assets of a commercial institution since they are meant to earn interest in the course of time (Waweru and Kalani, 2016). This, however, is not always the case. Some loans do not perform as expected of them and are termed non-performing loans (NPLs). According to Waweru and Kalani, (2016), crises do not occur without warning; the best warning signs of financial crises are proxies for the vulnerability of the banking and corporate sector. The most obvious indicators in the view that can be used to predict banking crises are those that relate directly to the loan non-performance (Waweru and Kalani, 2016).

Interest rate is the price a borrower pays for the use of money they borrow from a lender/financial institutions or fee paid on borrowed assets (Crowley, 2014). It is "rent of money" fundamental to a ‘capitalist society’ and normally expressed as a percentage rate over the period of one. Interest rate as a price of money reflects market information regarding expected change in the purchasing power of money or future inflation (Ngugi, 2015). Fluctuations of market interest rates exert significant influence on the activities of commercial banks. Banks determine interest rates offered to consumers, the mortgage production line ends in the form of purchased by an investor. The
free market determines the market clearing prices investors will pay for mortgage-backed securities. These prices feedback through the mortgage industry to determine the interest rates offered to consumers. Later investigation by Hancock (2015) confirms the conjecture that a higher level of market interest rates improves banking profitability. In addition, the effect of interest rate spread changes on banks’ profitability is shown to be asymmetric with the effect originating from lending rates being greater than those of deposit rates. The stochastic behaviour of market rates is also argued to be a significant factor that determines the mode banks adopt in delivering their services. Desmukh, Greenbaum and Kanatas, (2014) show that banks can be either brokers or asset transformers subject to interest rate uncertainty. In a volatile interest rate environment, banks minimize their risk exposure by performing the role of brokers, merely matching the arrival of assets and liabilities.

The size of the loan portfolio is impacted by the volume of bank lending which is in turn affected by both the customer demand and bank supply. According to O’Brien and Browne (2012), a slowdown in loans reflects influences on both the demand and the supply side. On the demand side, a slowdown in economic activity and the subsequent loss of purchasing power by many private sector borrowers disqualifies them from being able to qualify for access to loans which results in a dramatic fall in loans demanded. On the supply side, banks become less willing to supply credit in association with deterioration in asset quality and stricter attitudes of regulators, especially through more stringent capital standards. This change in banks’ behaviour implies a reduced volume of bank credit which, potentially at least, could impede economic activity. The size of the loan portfolio is measured in terms of the financial value of the loans and advances made to customers (constituting the receivables in the bank’s balance sheet). Commercial banks measure loans and receivables at amortised cost using the effective interest method where the effective interest rate is the rate that exactly discounts estimated future cash payments or receipts through the expected life of the financial instrument to the net carrying amount of the financial asset or liability (International Accounting Standard 39).

Granting of advances is the primary function of a bank. A major portion of its funds is used for this purpose, and this is also the major source of bank’s income. But lending money is a risky business, so banks must take proper precautions in this process. While lending money, banks have to make sure that the borrower is in a position to repay the loan, along with interest, and according to the terms of the loan contract. The bank must also make sure that the borrower is able to repay the loan on demand, or within a short period of time. Banks have to employ their funds profitably so as to earn sufficient income. In order that banks may protect themselves, they have to follow the principle of diversification of risk. Banks must also have good loan policy. The loan policy of a bank must be definite and board-based so that credit officers may not face any problem in evaluating the credit worthiness of loan applicants. The lending policy should prescribe specific guidelines with respect to such items as: loan territory, types of loans to be made, acceptable securities, lending criteria, loan liquidation, loan commitment, and loan authority of credit officials. (Ritu, 2012). However, the level of non-performing loans to total loans in year 2007 was 6 per-cent, in year 2008 it was 6.5 per-cent, and in year 2009 it was 7 per-cent (Daily Nation, 2014). The possible causes of non-performing loans are both internal and external factors.

Collateral refers to assets pledged by a borrower to secure a loan Leitner, (2015), so that the lender can seize these assets if the borrower does not make the agreed-upon payments on the loan, so the lender has some protection if the borrower defaults. In his view therefore, the use of collateral can make it easier for firms to obtain loans to finance their investments. The lender has the right, if you default on the loan, to obtain the collateral from you in lieu of payment (Baker, 2014). The research further claims that there are a various things that can be used as collateral. These include equipment, accounts receivable, business inventory fixed assets like cars, houses (Wallace, 2013) and gold (Beck, 2014). Leitner, (2015) defines inside collateral as to the case where the borrowing firm pledges assets it owns, such as machines and inventories. The debt contract contains a bankruptcy clause that defines the project’s assets as the inside collateral of the contract (Leitner, 2015).

1.2 Statement of the Problem

The banking industry has improved tremendously in the last decade in the products and size. For instance, total loans have increased by 113.83% from KES 252 billion 1997 to KES 542 billion in 2007. The industry has seen a sea saw of increases and decreases in the level of non-performing loans from 60 billion in 1998 to a peak of 92 billion in year 2000 and has gradually reduced to a 5 level 42 billion in 2007 indicating a change of -29%. (Banking survey 2008) Incidentally, there has been
a marked increase in real GDP of Kenya from 0.2% in 1998 to 7.0% in 2007 (Kenya economic survey 2009). A stable financial sector is one that the participants are in a position to meet their financial obligation. The general increase in profitability can only be sustained if customers are able to service their loans. In a study on banking regulation and its adequacy in preventing bank failure Obiero, (2014) found that out of the 39 banks, which failed during the period 1984 and 2002, 37.8% collapsed mainly due to poor quality of lending. Though most banks pride is clear and sound lending policies, the reality is that they have been quite reckless in their lending activities. Coupled with this, is the immense pressure particularly on government controlled banks to lend to politically connected individuals and institutions regardless of their credit showed that the greatest precipitator of the banking crisis in the late 1980s and the 1990s were bad corporate governance and poor quality of loan assets Matu, (2014). Showed that the high levels of non-performing loans put pressure on the banks to retain high lending rates in an attempt to minimize losses associated with these loans.

Kiyai, (2014) showed that a combination different techniques of enticing defaulting customers yield better results, he stated debt restructuring by redefining interest rates was the top preferred method of addressing the problem of NPLs. he also found out that no relationship existed between debt restructuring and the levels of non-performing loans Mutie, (2014) found that 61% of Kenya commercial banks had moderate levels of nonperforming loans compared to 39% that had significant low levels of non-performing loans According to Kroszner, (2015), non-performing loans are closely associated with banking crises .sultana 2002 also links the Japanese financial crisis to non-performing loans according to sultana the Japanese economy suffer under the weight of thousands of billions of yens of bad loans resulting from collapse in asset prices a decade ago in the country’s financial system.

However, little is known about the impact of aggressive loan marketing seen in the last five years and impact of global financial crisis on the banking sector and how sensitive to changes in both economic conditions or non-performing loans can affect the banking sector performance With respect to the Kenyan banking sector The research to be conducted will aim at shedding some light on the main reasons for increases in the non-performing loans and their impact on the stability of the banking sector a survey to evaluate the risk that non-performing loans pose in Kenyan commercial banks.

1.3 Objective of the Study
The study will be guided by both general and specific objectives.

1.3.1 General Objective
To examine the effects of non-performing loans on the financial performance of commercial banks in Kenya

1.3.2 Specific Objectives
i. To examine the effects of interest rates on financial performance of commercial banks in Kenya.
ii. To examine the effects of loans size on financial performance of commercial banks in Kenya.
iii. To determine the effects of repayment instalments on financial performance of commercial banks in Kenya.
iv. To examine the effects of collateral on financial performance of commercial banks in Kenya.

1.4 Research Questions
i. How does interest rate affect financial performance of commercial banks in Kenya?
ii. How does loans size affect financial performance of commercial banks in Kenya?
iii. How does a repayment instalment affect financial performance of commercial banks in Kenya?
iv. How does collateral affect financial performance of commercial banks in Kenya?

1.5 Justification of the Study
Bank failures come with massive effects and costs not only to Banks but also to the economy of a country at large. Since Banks depend on credit or rather moneys lent out to borrowers as their major profits generator, default on the same brings about problems to the 4 performance of the banks which in turn affect the economy at large. This study seeks to come up with ways to help banks improve on their credit management in order to avoid default in turn this helped in curbing of financial distress and loss experienced by depositors. It has been argued that bank failures may result in loss of deposits that represent depositors’ life savings and therefore bank failures arguably impose significantly more costs than the insolvency of a normal firm (Mayes, 2004). This study seeks to provide remedies to the disruption of the payment system that is normally caused by failure of commercial banks.
1.6 Scope of the Study
Financial performance varies from one organization to another. This implies that nature of the firm and the nature of the business determine the size and types of financial processes and techniques to adopt. The study is limited to the effects of non-performing loans financial performance of commercial banks in Kenya. The study is conducted within a specified time-period of one semester.

1.7 Limitation of the Study
The respondents took a lot of time in filling in the questionnaires therefore the researcher had to collect the already filled questionnaires to do the analysis because of the time constraints. This made the response rate not to be 100% as expected. The respondents were also not free to give personal information as they considered it of private nature but the researcher assured them the information would be treated confidentially and purely used for academic purposes.

LITERATURE REVIEW

2.1 Introduction
This chapter covers on what various scholars on the topic under study have already established. The relevance and importance of the topic is illustrated in this area as portrayed by available literature and other materials in relation to the area under study.

2.2 Theoretical Framework
Theories are formulated to explain, predict, and understand phenomena and, in many cases to challenge and extend existing knowledge within the limits of the critical bounding assumptions. The theoretical framework introduces and describes the theory which explains why the research problem under study exists. A theoretical framework consists of concepts, together with their definitions, and existing theory/theories that are used for the particular study (Sekaran, 2015). The theories used in this study are financial accelerator theory, agency theory, transaction cost theory and stakeholder theory.

2.2.1 Financial Accelerator Theory
The financial accelerator theory developed by Bernanke, Gertler and Gilchrist, (2015) seeks to explain how small economic shocks have relatively large effects on the lending and borrowing activities. It relies on the interplay between economic agents’ net worth and the external finance premium that arises due to asymmetric information between lenders and borrowers. Where economic agents’ net worth is defined as the sum of liquid assets less outstanding obligations and the external finance premium is defined as the difference between the cost of funds raised externally and opportunity costs internal to the firm (Bernanke, et al., 2015).

The theory argues that the less the amount of his own wealth the borrower contributes to the project, the more his interests will diverge from the interests of the supplier of the external funds. Borrowers was more eager to undertake riskier projects. That is, projects that have a high probability of large return, but also those offering low returns. From the borrower’s perspective these projects are preferred since the firms’ losses in the cases when the project’s return is low are limited to zero by legal regulation. From the lenders’ point of view, these projects are unfavourable since they bear all, or most of, the costs in the case of low project returns. The theory further indicates that due to economic shocks, the borrowers may not have the ability to borrow and are likely to avoid repayment of their loans (Bernanke, et al., 2015).

2.2.2 Agency Theory
Agency theory has its origins in the 1960s and 1970s by Stephen Ross and Barry Mitnick, who were responsible for economic and institutional theory of agency respectively (Ross, 1973; Mitnick, 2014). Agency theory raises a fundamental problem in organizations—self-interested behaviour. A corporation's managers may have personal goals that compete with the owner's goal of maximization of shareholder wealth. Since the shareholders authorize managers to administer the firm's assets, a potential conflict of interest exists between the two groups. According to the Agency theory, the principal agency problem can be reduced by better monitoring such as establishing more appropriate incentives for managers. In the field of corporate risk management agency issue have been shown to influence managerial attitudes towards risk taking and hedging Smith and Stulz, (2014). Agency theory also explains a possible mismatch of interest between shareholder management and debt holders due to asymmetries in earning distribution, which can result in the firm taking too much risk or not engaging in positive net value project Smith and Stulz, (2014). Consequently, agency theory implies that defined hedging policies can have important influence on firm value (Fite & Pfalderer, 2015).

2.2.3 Transaction Cost Theory
Transaction costs are costs (e.g. in terms of money or time) incurred when making an economic exchange. In firms, transaction costs may include the costs of organizing business activity over time, planning the future and limiting as well as...
allocating risks which may arise in the future. It therefore includes the elements of uncertainty and opportunism, which are both indispensable for debates in corporate governance. Coase argued in his 1937 article that transaction costs explain both the existence of firms and their optimal size. In —The Nature of the Firm— he identified certain transactions which are prohibitively costly if the parties involved could only deal with instant market transactions. In order to carry out a market transaction it is necessary to identify the party one wishes to deal with, establishing terms and conditions, conducting negotiations and concluding a contract. In transaction cost theory, does not contradict the assumption of complete markets. It is based on convexities in transaction technologies. Here, the financial intermediaries act as coalitions of individual lenders or scale or scope in the transaction technology. Transaction cost theory has proven an essential framework for decision on the vertical boundaries of the firm. Transaction costs are the cost associated to the division of work. Williamson (2014), indicated that transaction occurs when a good or service is transferred across a technology separable interfaces. Variables that describe a transaction are among others, the specificity, the uncertainty, and the frequency of the transaction, whether an asset or a service is only or much more valuable in the context of a specific transaction.

2.2.4 Stakeholder Theory
The stakeholder theory developed by Freeman (2014) is based on the argument that apart from the shareholders, there are several agents who are affected by the actions and decisions taken by SACCOs. Stakeholders are parties that have an interest in an enterprise or project and include investors (shareholders), employees, customers, suppliers, government and communities at large. Stakeholder theory asserts that commercial banks have a social responsibility that requires them to consider the interest of all parties affected by their actions. A stakeholder-based performance measure challenges managers to examine more broadly the value their firms are creating from the perspective of the stakeholders who are involved in creating it. It therefore gives managers the information they need to engage stakeholders where they are and enhance managerial ability to use such insights to create more value. At its core, this perspective is about creating a higher level of well-being for the stakeholders involved in a system of value creation led by the firm. Stakeholder theory has been a subject of investigation by a number of people. Jensen (2014) provides a comprehensive review of corporate governance, with a particular focus on stakeholder theory. The authors note the presence of many parties interested in the well-being of the firm and that these parties often have competing interests. On one hand are the shareholders who may welcome investments in high yielding but risky projects. This may not go well with the credit providers especially when the company is in the verge of bankruptcy.

Stakeholder management is important for firms to survive and be successful in the long-term as each stakeholder group supplies the firm with critical resources or makes a contribution to the firm Deegan, (2015). In exchange, each group expects its interests to be satisfied by inducements. As Hill and Jones (2014) described, investors provide the firm with financial capital. In exchange, they expect the firm to maximize the risk-adjusted return on their investment. Creditors provide the firm with finance and, in exchange, expect their loans to be repaid on schedule. Management and employees provide firms with time, skills and human capital commitments. In exchange, they expect fair income and adequate working conditions. Customers supply the firm with revenues and expect value for money in exchange. Suppliers provide the firm with inputs and seek fair prices and dependable buyers in exchange. Local communities provide the firm with locations, local infrastructures and perhaps favourable tax treatment. In exchange, they expect corporate citizens who enhance and/or do not damage their quality of life. As the ultimate goal of corporate decisions is market place success, good stakeholder-firm relationship management is instrumental to assure revenues, profits and, ultimately returns to shareholders (Berman, et al. , 2015).

2.3 Conceptual Framework
Mugenda and Mugenda, (2009) defines conceptual framework as a concise description of phenomenon under study accompanied by a graphical or visual depiction of the major variables of the study. According to (Young, 2009), conceptual framework is a diagrammatical representation that shows the relationship between dependent variable and independent variables. A conceptual framework shows the relationship between independent and dependent variable. In this study, the dependent variable is financial performance while the independent variables are interest rates, loans size, repayments instalments and collateral as shown in figure. 2.1.
Independent Variables  

**INTEREST RATES**  
- High Borrowing Cost  
- Price for Borrowing  
- High/Low Loans uptake  

**LOANS SIZE**  
- False Information  
- Faulty Loan Appraisal  
- Depends on Deposits  

**REPAYMENT INSTALLMENTS**  
- Purpose of Loan  
- Cash flows  
- Defaults causes NPL  

**COLLATERAL**  
- Value of Collateral  
- Form of Security  
- Risk of Loans  

Dependent Variable  

**FINANCIAL PERFORMANCE**  
- Return on Assets  
- Return on Equity  
- Net Interest Margin  

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2.3.1 Interest Rates  
Risky projects. This leads to high borrowing cost for borrowers which increase NPL levels. Lending money is perhaps the most important of all banking activities, for the interest charged on loans is how the banks earn cash flows. Interest rate is the price a borrower pays for the use of money they borrow from a lender/financial institutions or fee paid on borrowed assets Collins and Wanjau, (2014). It measures the price at which borrowers of funds are willing to pay to the owners of capital while at the same time measures the price at which lenders are willing to lend their money to enterprise in exchange for consumption. Cost of loan includes the principal repayments and interest rates are agreed at the time of the loan application Caporale and Gil-Alana, (2014). According to Boudriga, Boulila and Jellouli, (2015), when there is no ceilings on lending rates, it is easier for banks to charge a higher risk premium and therefore give loans to more.

Bank lends a certain percentage of the customer deposits at a higher interest rate than it pays on such deposit; interest rate spread. The difference between the gross costs of borrowing and the net return on lending defines the intermediary costs (information costs, transaction costs (administration and default costs and operational costs) Collins and Wanjau, (2014). Risk-averse banks operate with a smaller spread than risk-neutral banks since risk aversion raises the bank’s optimal interest rate and reduces the amount of credit supplied Crowley, (2014). The interest rate spread in Kenya is relatively high for a long period limiting thus the access to loans and leading to NPLs. The factors that determine interest rate spreads include low level of savings, low supply of loans, insufficient competition in the domestic banking system, the inefficiency and low profitability of banks, uncertainty in the economic environment, the inherited low quality of loan portfolios, institutional limitations, etc. (Hou, 2014). Hawtrey and Liang. (2015) opine that interest rate spread is highly correlated with non-
performing loans and narrowing of interest rate spreads is related to superior bank efficiency.

2.3.2 Loans Size
Loan sizes and loan policies are believed to influence default of loans to a great extent. Well formulated loan policies are believed to have inversely proportional relationship with loan default. Whereas poor loan policies are believed also to have directly proportional relationship with loan default. Preliminary loan appraisals determine whether a loan will be defaulted or not. The default mostly arises involves when customers use false information or means to acquire loans from the lending institutions. These might also include accepting or giving securities whose values have been impaired and overstated. Some borrowers who might have falsified their past business performance records in order to obtain loans would not be able to repay easily later. It can be ascertained from the above mentioned that initial loan appraisal includes the core five ingredients of loan appraisal. This comprise of tests on accuracy, collaterals, honesty, capacity and cash flow to determine loanee credit worthiness and the probability of loans default (Nsobilla, 2015).

At the same time the nature of credit policies including loaning conditions and terms as well as loaning procedures had the long term effect on loan default. The basic requirements a member will be required to meet to qualify for a loan in the institution determined whether or not that member would honors the loan repayment in future. Liberal, stringent and lenient credit policies had long-term consequences on the loan default. For instance, it is highly likely that lenient and liberal policies would almost automatically create a huge portfolio of loan default (Nsobilla, 2015).

Loan default can be defined as the failure of a borrower to pay his/her loan as at when due (Balogun and Alimi, 2014). Developing countries (i.e. Ghana, Nigeria and the like) should be much concern about high loan default rates in SMEs lending, this is due to the fact that it impact negatively on the financing of SMEs. (Adams and Von-Pischke, 2013) reported that there are numerous negative repercussions associated with loan default among which are: the incapability of the organization to salvage credit to borrowers; reluctance of financial mediators to attend to the requests of lesser loan seekers; and the formation of suspicion. According to Baku and Smith (1998), both borrowers and lenders feel the costs of delinquencies associated with loans. The costs incurred by lenders in delinquency situations, include legal fees, cost of alternative forgone of principal, lost interest and associated costs. In the situation of a borrower, the decision to evade is the opportunity cost between the consequences in lost character from the default against the trade-off of forgoing investments due to working out the current loan.

2.3.3 Repayment Installments
The repayment period of loans is determined on the basis of the liquidity position of each borrower and the economic life of the investment. Repayment schedules must be made flexible so that it should be adjusted to borrower’s cash flow pattern. In addition to this credit policy instruments, some relevant lending principles are used by banks as their guiding principles (Zena 2013). These include; borrowers perceived need, competence or repayment capacity and personal character. According to William (2014), there are certain criteria that most lenders require the business owner to meet in order to successfully acquire the funds needed for the business. These hurdles or requirements are generally categorized as: Good Credit, Equity, Experience, Business Plan, and Collateral.

2.3.4 Collateral
Collateral according to William (2007) is any asset of value that can be pledged by the borrower(s) as security that the loan will be re-paid in full and with interest. Collateral requirements in the process of borrowing for a business can range up to and above 100 percent of the loan principal. This percentage depends again on the amount of risk that the lender calculates that his institution is exposed from this particular loan and the accumulation of all loans currently in process. Collateral assets can be in the form of real property owned, inventory of the business, cash savings or deposits, stocks /bonds equity in home equipment and like assets both tangible and non-tangible. The value to be placed on a collateral asset in the securing of a business loan is usually estimated or appraised by the lending institute.

There are strong linkages between commercial property cycles and credit cycles. In the finance literature, this interaction has been extensively explored in the “financial accelerator” framework proposed by Bernanke, et al., (2015) and Kiyotaki and Moore, (2015). In their models, there exist credit market imperfections because borrowers have informational advantages over lenders regarding the true value of the underlying projects. To avoid the potential adverse selection problem (before the loan is extended) and moral hazard (after lending takes place), the lender will request the borrowers to provide collateral3 assets. The price of bank loans (the risk premium) then largely
depends on the value and quality (in terms of liquidity, price volatility etc.) of collateral. This argument applies both to normal industrial and commercial loans and to loans to develop property per se.

The “financial accelerator” framework, together with the fact that commercial property has been widely used as collateral, explains why commercial property cycles tend to have a significant impact on the bank lending behaviour and bank performance. Whenever commercial property prices move up, property-related loans are considered to be less likely to default. Therefore loan loss provisions decline and loan quality improves. Meanwhile, banks are willing to extend additional credit to borrowers (particularly in the commercial property sector), and the risk premium tends to be lower. Favourable financing conditions may in some circumstances drive up property prices even further, as investment demand for properties increases while supply is slow to respond, generating a self-reinforcing mechanism between the commercial property cycle and the credit cycle (Davis and Zhu (2014). A further channel may arise via effects of commercial property prices on banks’ fixed assets, which may boost capitalization.

2.3.5 Financial Performance

Report has been made that the effect of NPLs has not been felt by on the lending institutions but economy as a whole. According Klein (2014), the financial crisis that occurred 2008 had a significant impact on the individual financial institutions financial performances. Most countries in the whole world were also affected by this economic down turn. Management of non-performing loans becomes extremely hard by commercial banks when it is allowed to increase to certain levels. When this happens more resources are needed to be invested to cater for the unpaid loans and supplementary costs will be suffered in funding retrieval struggles. Costs and provisions consume a large share of the profit that is made by the rural banks which result to performance retardation.

The size of non-performing loans in commercial banks also defines how viable they are. Nonperforming loan serves as is one of the major financial performance determiners of rural banks. The aforementioned justifies how significant non-performing loans are when it comes to determining financial performance levels of the commercial banks. According to Mwangi, (2014) there is an opposite relationship between banks financial performance and non-performing loans. The study further reported that the higher the non-performing loans the lower financial performance as measured by return on asset and vice versa. The financial performance of a bank is dependent on the management practices pertaining to non-performing loan. This signifies that the best practices in non-performing loan management has the prospect of improving upon the financial performance of that institution.

2.4 Empirical Review

Bernstein, (2014) conducted a study on the effect of nonperforming loans on financial performance. The study involved a regression analysis of nonperforming loans as independent variable and operational costs as the dependent variable. The study reveals that the level of nonperforming loans is a significant determinant of the bank costs as well as the estimates of scale economies in banking. His study further reveals that the cost curves of banks with high levels of NPLs have the standard U-shape with the optimal point while on the other hand banks with low levels of NPLs do not exhibit the same characteristics. Their cost curves show that scale economies increase continuously with the bank size (Mombo, 2014).

Kwack, (2014) looked at the relationship between the Asian financial crisis and the weakness of financial institutions, as well the levels of international interest rates, short term debt, excessive lending and current account deficits. He conducted empirical analyses between 1995 and 1997 in seven Asian countries of Indonesia, Taiwan, Philippines, Korea, Malaysia, Singapore and Thailand. His study revealed that the 3 - month LIBOR interest rate, the nonperforming loan rates and corporate leverage ratio were very significant in explaining the Asian financial crisis.

Quingley, (2014) suggests that real estate markets played a very important role in explaining the Asian financial crisis. He points out the increasing supply of office space, the high ratio of asset prices to market rents, the high growth rate of bank credit, the relative size of real estate sector and the relative weight of real estate among nonperforming assets as indicators of an upcoming crisis. His study indicates that the percentage of real estate bank loans in Taiwan stood at the range of 35 to 45% with an average Moody’s rating of D. The study further shows that the bank intermediation ratio stood at 1.46 and the average exposure to real estate as a percentage of GNP stood at 58%. His findings also show that when real estate is the only form of collateral, there is strong incentive for investors to buy into an appreciating market in order to borrow funds to expand. A study carried out by Arko, (2014) to establish the causes and impact of NPLs on the operations of Microfinance institutions in Ghana revealed that NPLs adversely
affect the financial performance of firms in terms of profitability, liquidity and market appeal. His study further revealed that among the factors that accounted for the incidence of NPLs was in effective monitoring of loans.

Fawad and Taqadus, (2014) also conducted a study to investigate the explanatory power of bank specific variables as determinants of nonperforming loans in Pakistan banking sector. Their study involved usage of 6 years panel data (2006-2011) of 30 banks in Pakistan. The study concluded that NPLs affects the bank’s financial performance. They further suggested that the bank supervisors must include level of loan losses, quality of borrowers and credit risk with cost efficiency to measure the bank performance. Their study attributed rise in levels of nonperforming loans to bank’s internal inefficiency.

Kabiru, (2013) carried out a study to establish the relationship between credit risk assessment practice and the level of nonperforming loans in Kenya. His study revealed that government owned banks had asset quality ratio of 30% above the industry average of 28%. This was attributed to the high levels of NPLs. By contrast three major foreign owned banks had an asset quality of less than 10%. Ultimately he concluded that banks that use qualitative credit assessment methods had higher incidences of NPLs as compared to those that used quantitative methods.

Kalani, (2014) in his study conducted to establish the causes of nonperforming loans in commercial banks in Kenya argued that some bank factors that related to risk management structures put in place by banks were to blame for NPLs. These bank factors include lax procedures used in credit assessment, negligence in monitoring NPLs, insider loans, lack of trained personnel and aggressive credit collection methods.

Kanyiri, (2015) revealed that some banks faced the challenge of declining profitability as a result of provisioning of bad debts. Consequently they responded by strict monitoring of new lending to identify weaknesses early for corrective measures and thorough review of financial information submitted by borrowers before lending.

Mathara, (2014) in a study to establish the response by National bank of Kenya to the challenge of NPLs found both external and internal factors causing NPLs in the Kenyan banks. The external factors she found were economic downturn that prevailed in the 1990s, government interference on lending and debt collection, inflationary tendencies, limited supervision by the Central bank of Kenya, poor and inadequate government monetary policies and unsupportive judicial system. The internal factors included poor management, poor credit risk management practices, use of qualitative method of loan appraisal, poor monitoring and evaluation systems, lack of adequate credit policy guidelines and lack of a defined loan portfolio.

Wanjira, (2015) conducted a study on the relationship between nonperforming loans management practices and financial performance of commercial banks in Kenya. Her study focused on establishing how the financial performance of commercial banks is affected by the nonperforming loans management practices adopted by these commercial banks. The study used both primary and secondary data. Secondary data was obtained from the audited financial statements of the 46 commercial banks in Kenya. The study revealed that the type of nonperforming loans management practices adopted by commercial banks determine their financial performance.

Mwangi, (2014) carried out a study on the effect of nonperforming loans on the financial performance of commercial banks in Kenya. The study aimed at establishing how nonperforming loans portfolio impacted on the financial profitability of commercial banks in Kenya. The study focused on all the 46 commercial banks in Kenya for the period 2005 – 2011. Secondary data was obtained from the banks relating to two variables; Return on assets (ROA) which were the dependent variable and NPL which was the independent variable. The study adopted simple linear regression model of the form Y = a+bx to establish the effect of nonperforming loans on commercial banks financial performance. The results obtained from the study confirm that during the earlier years of the study, there was a high amount of NPLs resulting to a very low ROA. Later years however showed a different trend where ROA was higher and NPLs were low.

2.5 Critique of Literature

Bourke, (2014) reports on the effect of credit risk on profitability appear clearly negative in Europe, North America and Australia. This result may be explained by taking into account the fact that the more financial institutions are exposed to high risk loans, the higher is the accumulation of unpaid loans, implying that these loan losses have produced lower returns to many commercial Banks in U.S.A (Miller and Noulas, 2014). The findings of Felix and Claudine (2008) also shows that return on equity ROE and return on asset ROA all indicating profitability were negatively related to the ratio of non-performing loan to total loan.
(NPL/TL) of financial institutions therefore decreases profitability.

Kargi, (2014) evaluated the impact of credit risk on the profitability of Nigerian Banks. Financial ratios as measures of Bank performance and credit risk were collected from the annual reports and accounts of sampled Banks from 2004-2008 and analysed using descriptive, correlation and regression techniques. The findings revealed that credit risk management has a significant impact on the profitability of Nigerian Banks. The study concluded that Banks’ profitability is inversely influenced by the levels of Loans and Advances, Non-Performing Loans and deposits thereby exposing them to great risk of illiquidity and distress.

Kithinji, (2015) assessed the effect of credit risk management on the profitability of commercial Banks in Kenya. Data on the amount of credit, level of non-performing loans and profits were collected for the period 2004 to 2008. The findings revealed that the bulk of the profits of commercial Banks are not influenced by the amount of credit and non-performing loans, therefore suggesting that other variables other than credit and non-performing loans impact on profits.

Bourke, (2014) reports the effect of credit risk on profitability appears clearly negative. This result may be explained by taking into account the fact that the more financial institutions are exposed to high risk loans, the higher is the accumulation of unpaid loans, implying that these loan losses have produced lower returns to many commercial Banks Miller and Noulas, (2014). Ahmed, Takeda and Shawn (2014) in their study found that loan loss provision has a significant positive influence on non-performing loans. Therefore, an increase in loan loss provision indicates an increase in credit risk and deterioration in the quality of loans consequently affecting Bank performance adversely.

2.6 Research Gap
A lot of research has been carried out locally and internationally reviewing effects of non-performing loans on financial performance of commercial banks. Most of the research undertaken concentrate on microeconomic and macroeconomics reasons for non-performing loans. There is scarcity of literature touching on banking specific reasons on effects of non-performing loans on financial performance of commercial banks. Therefore the proposed study will build on the body of local literature on the effects of non-performing loans on financial performance of commercial banks in Kenya. The scarce availability of reliable data continues to be one of the key obstacles in understanding the effects of non-performing loans on commercial banks in Kenya. This study is therefore aimed at examining the effects of non-performing loans on financial performance of commercial banks in Kenya.

2.7 Summary
The literature reviewed the effect of non-performing loans on the financial performance of commercial banks in Kenya is concerned. These include; interest rates, loan size, repayment instalments and collateral. Review of literature generally agrees that these variables affect sustainable performance.

RESEARCH METHODOLOGY

3.1 Introduction
This chapter outlines the research design and methodology that was used to carry out the study. The chapter also deals with the target population, type of data collected, sampling frame, sample and sampling technique, the sample size, data collection procedures, pilot test, validity and reliability of the instrument as well as the data analysis techniques and how eventually data will be presented.

3.2 Research Design
This study adopted a cross-sectional survey research design aimed at collecting large number of qualitative and quantitative data at a point in time so as to establish patterns financial performance of specialized commercial banks is concerned. A cross-sectional survey research design will enables collection of data about a given phenomenon within a limited time horizon which can help describe incidences of events or provide an explanation of factors related to an organization (Saunders, Lewis, and Thornhill, 2009). A cross-sectional survey research design is useful in overcoming time and budget constraints (Cooper and Schindler, 2013). Survey design will have the advantages of being cost effective per respondent as compared to other methods; it will employ easier method of data collection; it will enable the researcher to have a much larger sample size that could even range into thousands hence enhancing the accuracy of the conclusions arrived at. Finally, due to anonymity, respondents will become more candid hence improving the accuracy of the data that will be obtained.

3.3 Target Population
Population refers to the entire group of people or things of interest that the researcher wishes to investigate, Sekaran, (2015). There are 42 commercial banks in Kenya (CBK Report, 2015).
The target population of this study was 168 being senior management officers being finance managers, operations managers, risk manager and credit managers as shown on Table 3.1.

<table>
<thead>
<tr>
<th>Category</th>
<th>Target Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finance Managers</td>
<td>42</td>
</tr>
<tr>
<td>Operations Managers</td>
<td>42</td>
</tr>
<tr>
<td>Risk Managers</td>
<td>42</td>
</tr>
<tr>
<td>Credit Managers</td>
<td>42</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>168</strong></td>
</tr>
</tbody>
</table>

**3.4 Sampling and Sampling Techniques**

Sampling is the process of selecting a number of individuals or objects from a population such that the selected group contains elements representative of the characteristics found in the entire population. Sample is a small group of objects or individuals selected or drawn from a population in such a manner that its characteristics represent population characteristics (Orodho & Kombo, 2013).

Stratified random sampling method is used to select relevant respondents from various departments of commercial banks. (Bryman & Bell, 2015) argue that stratified random sampling is where a given number of cases are randomly selected from each population sub-group. It thus ensures inclusion in the sample of subgroup which otherwise could be omitted entirely by other sampling methods. In this case stratification will be based on department from which employees come from.

**Stratified sampling enables the population to be divided into four segments (relevant departments within the commercial banks) called strata namely finance, operations, risk and credit departments. Simple random sample is then drawn from each stratum, and then those sub-samples joined to form complete stratified samples. In addition proportional allocation is done, where each stratum contributed to the sample a number that is proportional to its size in the population.**

**3.5 Sample Size**

Kothari and Gang, (2014) asserts that sampling is that part of the statistical practice concerned with the selection of individual or observations intended to yield some knowledge about a population of concern, especially for the purpose of statistical inferences. They advise that a researcher would have to use 30% of the total target population as a sample for it to be accepted as a good representative sample. The sample size was 52.

<table>
<thead>
<tr>
<th>Category</th>
<th>Target Population</th>
<th>30%</th>
<th>Sample Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finance Managers</td>
<td>42</td>
<td>30%</td>
<td>13</td>
</tr>
<tr>
<td>Operations Managers</td>
<td>42</td>
<td>30%</td>
<td>13</td>
</tr>
<tr>
<td>Risk Managers</td>
<td>42</td>
<td>30%</td>
<td>13</td>
</tr>
<tr>
<td>Credit Managers</td>
<td>42</td>
<td>30%</td>
<td>13</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>168</strong></td>
<td></td>
<td><strong>52</strong></td>
</tr>
</tbody>
</table>

**3.6 Data Collection Instruments**

The researcher will use structured questionnaires to collect data from senior management staff in commercial banks respondents. A questionnaire with high reliability would receive similar answers if it is done again and again or by other researchers (Bryman & Bell, 2015). In addition the questionnaires are convenient for the task in that they can be easily and conveniently administered with the study sample. The use of questionnaire is cost effective, less time consuming as compared to the use of interview. Data collected through the use of well-structured questionnaire is easy to analyze.
The questionnaire will use Likert scale because it requires respondents to respond to a series of statements by indicating whether he or she agrees to a great extent or no extent. Likert scale is used because it is easy to understand and responses are easily quantifiable and subjective to computation of mathematical analysis (Allen et al., 2011).

3.7 Data Collection Procedure
The researcher will use primary and secondary data. Structured questionnaires are used to collect primary data from respondents. The questionnaire will be self-administered to the respondents and will be collected after three days. Secondary data will be obtained from related materials in the internet, procurement journals, white papers, periodicals and books relevant to the study.

3.8 Pilot Testing
Cooper and Schindler (2013) indicated that a pilot test is conducted to detect weakness in design and instrumentation and to provide proxy data for selection of a probability sample. Pilot testing provides an opportunity to detect and remedy a wide range of potential problems with an instrument. By conducting a Pilot testing it ensures that appropriate questions are asked, the right data is collected, and the data collection methods works. A pilot study will be undertaken on 20 respondents to test the reliability and validity of the questionnaire. The rule of the thumb is that 1% of the sample should constitute the pilot test (Cooper & Schindler, 2013, Creswell, 2013). The proposed pilot test is within the recommendation.

3.8.1 Reliability Analysis
Testing of the reliability of the scale is very important as it shows the extent to which a scale produces consistent results if measurements are made repeatedly. This will be done by determining the association in between scores obtained from different administrations of the scale. If the association is high, the scale yields consistent results, thus it is reliable. Cronbach’s alpha will be used to determine the internal reliability of the questionnaire that will be used in this study. Values range between 0 and 1.0; while 1.0 indicates perfect reliability, the value 0.70 is deemed to be the lower level of acceptability (Hair, Black, Barry, Anderson, & Tatham, 2006).

3.8.2 Validity Analysis
Validity is the degree to which results obtained for the analysis of the data actually represent the phenomena under study. It indicates how accurate the data obtained in the study represent the variables of the study (Bryman and Bell, 2015). The researcher will use the most common internal consistency measure known as KMO-Bartlett’s test. It may be mentioned that its value varies from 0 to 1 but, satisfactorily value is required to be more than 0.6 for the scale to be reliable (Bryman & Bell, 2015). The recommended value of 0.7 is the cut off of reliability.

3.9 Data Analysis, Results and Presentation
Qualitative as well as quantitative methods of data analysis will be used to analyze the research variables. A Likert scale will be adopted to provide a measure for qualitative data. The scale will help to minimize the subjectivity and make it possible to use quantitative analysis. The numbers in the scale will be ordered such that they indicated the presence or absence of the characteristic to be measured Kothari and Gang, (2014). This mix of tools is necessary because whereas some aspects of the study will be qualitative others will be of quantitative nature.

3.9.1 Qualitative Analysis
In qualitative studies, the researcher will be interested in analyzing information in a systematic way in order to come to useful conclusions and recommendations. In qualitative studies, researcher will obtain detailed information about the phenomena being studied, and then try to establish patterns, trends and relationships from the information gathered. Qualitative analysis aims at providing basic information without proof of it. Before processing the responses, data preparation will be done on the completed questionnaire by editing, coding, entering and cleaning the data. Data collected will be analyzed using descriptive statistics. The descriptive statistical tools will help in describing the data and determining the respondents' degree of agreement with the various statements under each factor. Data analysis will be done with the help of SPSS version 23.0.

3.9.2 Quantitative Analysis
Whereas qualitative analysis will aim at providing basic information, quantitative analysis goes further to test the theories in the theoretical framework behind the study and prove or disapprove it. For this kind of a study, there is need to go further and test hypothesis. The multiple regression analysis will be used to explore the relationship between financial innovation, regulatory framework, cost of lending, financial risk and internal controls as the independent variables and financial performance of specialized commercial banks licensed by the Central Bank of Kenya as the dependent variable. Pearson's product moment correlation analysis will also use and it’s a powerful technique for exploring the relationship among variables. Correlation coefficient will be used to analyze the strength of the relations between variables. Correlation coefficients will be calculated to observe the
strength of the association. A series of multiple regression analysis (standard and step wise) will be used because they provide estimates of net effects and explanatory power. Analysis of variance (ANOVA) will be used to test the significance of the model. $R^2$ will be used in this research to measure the extent of goodness of fit of the regression model. The regression model is indicated as shown as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 + \epsilon$$

$Y$ = Represents the dependent variable, Financial Performance
$\alpha$ = Constant
$\beta_1$, $\beta_2$, $\beta_3$, & $\beta_4$ = Partial regression coefficient
$X_1$ = Interest Rate
$X_2$ = Loan Size
$X_3$ = Repayment Instalment
$X_4$ = Collateral
$\epsilon$ = error term or stochastic term

### DATA ANALYSIS, RESULTS AND DISCUSSIONS

#### 4.1 Introduction

This chapter presents analysis of the data on the effects of non-performing loans on the financial performance of commercial banks in Kenya, Kenya. The chapter also provides the major findings and results of the study and discusses those findings and results against the literature reviewed and study objectives. The data is mainly presented in frequency tables, means and standard deviation.

#### 4.2 Response Rate

The study targeted 68 employees of commercial banks in Kenya. From the study, 40 out of the 52 sample respondents filled-in and returned the questionnaires making a response rate of 76.9% as per Table 4.1 below.

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response</td>
<td>40</td>
</tr>
<tr>
<td>Non- Respondents</td>
<td>12</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>52</strong></td>
</tr>
</tbody>
</table>

According to Kothari and Gang, (2014) a response rate of 50% is adequate for analysis and reporting; a rate of 60% is good and a response rate of 70% and over is excellent; therefore, this response rate was adequate for analysis and reporting.

#### 4.2.1 Validity

Factor analysis was used to check validity of the constructs. Kaiser-Mayor-Oklin measures of sampling adequacy (KMO) & Bartlett’s Test of Sphericity is a measure of sampling adequacy that is recommended to check the case to variable ratio for the analysis being conducted. In most academic and business studies, KMO & Bartlett’s test play an important role for accepting the sample adequacy. While the KMO ranges from 0 to 1, the world-over accepted index is over 0.5. Also, the Bartlett’s Test of Sphericity relates to the significance of the study and thereby shows the validity and suitability of the responses collected to the problem being addressed through the study. For Factor Analysis to be recommended suitable, the Bartlett’s Test of Sphericity must be less than 0.05.

The study applied the KMO measures of sampling adequacy and Bartlett’s test of sphericity to test whether the relationship among the variables has been significant or not as shown in below in table 4.2. Factor 1 was based on four items that represented interest rates; Factor 2 was based on four items that represented loan size, Factor 3 was based on four items that represented repayment instalments, Factor 4 was based on four items that represented collateral, Factor 5 was based on four items that represented financial performance. The Kaiser-Mayor-Oklin measures of sampling adequacy shows the value of test statistic as 0.748, which is greater than 0.5 hence an acceptable index. While Bartlett’s test of sphericity shows the value of test statistic as 0.000 which is less than 0.05 acceptable indexes. This result indicates a highly significant relationship among variables.

<table>
<thead>
<tr>
<th>KMO and Bartlett's Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kaiser-Meyer-Oklin Measure of Sampling Adequacy.</td>
</tr>
<tr>
<td>Bartlett's Test of Sphericity</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
4.2.2 Reliability Analysis
Prior to the actual study, a pilot study was carried out to pre-test the validity and reliability of data collected using the questionnaire. The pilot study allowed for pre-testing of the research instrument. The results on reliability of the research instruments are presented in Table 4.3

### Table 4.3 Reliability Analysis

<table>
<thead>
<tr>
<th>Scale</th>
<th>Cronbach’s Alpha</th>
<th>Number of Items</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest Rate</td>
<td>0.844</td>
<td>4</td>
<td>Accepted</td>
</tr>
<tr>
<td>Loan Size</td>
<td>0.721</td>
<td>4</td>
<td>Accepted</td>
</tr>
<tr>
<td>Repayment Instalments</td>
<td>0.799</td>
<td>4</td>
<td>Accepted</td>
</tr>
<tr>
<td>Collateral</td>
<td>0.800</td>
<td>4</td>
<td>Accepted</td>
</tr>
<tr>
<td>Finance Performance</td>
<td>0.811</td>
<td>4</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

The overall Cronbach’s alpha for the four categories which is 0.882. The findings of the pilot study showed that all the four scales were reliable as their reliability values exceeded the prescribed threshold of 0.7 (Bryman and Bell, 2015).

4.3 Background Information
The background information gathered was based on working experience and the number of branches.

#### 4.3.1 Working Experience
The study sought to establish the working experience of respondents. The study results revealed that 25% of the respondents have worked for between 1 – 5 years, 47.5% between 6 – 10 years and 27.5% above 10 years with a mean score of 2.03 and a standard deviation of 7.33 as shown in Table 4.4. This shows that there is a good mix of working experience. This shows that majority of the respondents that participated in the study have a working experience of between 6 10 years.

### Table 4.4 Working Experience

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between 1 – 5 Years</td>
<td>10</td>
</tr>
<tr>
<td>Between 6 – 10 Years</td>
<td>19</td>
</tr>
<tr>
<td>Above 10 Years</td>
<td>11</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>40</strong></td>
</tr>
</tbody>
</table>

#### 4.3.2 Number of Branches
The study sought to establish the number of branches represented by respondents. The study results revealed that 67.5% 1 – 5 branches, 20% between 6 10 years and 12.5% over 10 branches with a mean score of 1.45 and a standard deviation of 0.714. This shows that the majority of the respondents that participated in the study have between 6 – 10 years as shown in Table 4.5.

### Table 4.5 Number of Branches

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between 1 – 5 Branches</td>
<td>27</td>
</tr>
<tr>
<td>Between 6 – 10 Branches</td>
<td>8</td>
</tr>
<tr>
<td>Over 10 Years</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>40</strong></td>
</tr>
</tbody>
</table>

4.4 Analysis of Objectives
In the research analysis the researcher used a tool rating scale of 5 to 1; where 5 were the highest and 1 the lowest. Opinions given by the respondents were rated as follows, 5= Strongly Agree, 4= Agree, 3= Neutral, 2= Disagree and 1= Strongly Disagree. The analyses for mean, standard deviation were based on this rating scale.
4.4.1 Interest Rates

Table 4.6 Interest Rates

<table>
<thead>
<tr>
<th>Description</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Interest rates have greatly caused poor loan repayment rate</td>
<td>40</td>
<td>4.38</td>
<td>.925</td>
</tr>
<tr>
<td>Willingness of clients to repay loans is affected by the lending rates</td>
<td>40</td>
<td>3.25</td>
<td>1.410</td>
</tr>
<tr>
<td>Some of loan clients have lost their collaterals to the bank due to failed loan repayments caused by the high interest rates</td>
<td>40</td>
<td>4.30</td>
<td>.939</td>
</tr>
<tr>
<td>Interest rates are periodically structures to improve on the loan portfolio performance</td>
<td>40</td>
<td>3.90</td>
<td>1.057</td>
</tr>
</tbody>
</table>

The first objective of the study was to establish the effect of interest rates on financial performance of commercial banks. Respondents were required to respond to set questions related to interest rates and give their opinions. The statement that high interest rates have greatly caused poor loan repayment rate had a mean score of 4.38 and a standard deviation of 0.925. This is in agreement with Tsuma and Gichinga, (2016) that interest rates affects loans uptake in commercial banks. The statement that willingness of clients to repay loans is affected by lending rates had a mean score of 3.25 and a standard deviation of 1.410. The statement that willingness of clients to repay loans is affected by the lending rates had a mean score of 3.25 and a standard deviation of 1.410. The statement that some of the loan clients have lost their collateral to the banks due to failed loan repayments caused by high interest rates had a mean score of 4.30 and a standard deviation of 0.939. This statement is in agreement with Lipunga, (2016) that when borrowers default on secured loans, commercial banks recovers the outstanding loans by offering for sale the collateral offered. The statement that interest rates are periodically structures to improve on the loan portfolio performance had a mean score of 3.90 and a standard deviation of 1.057.

4.4.2 Loan Size

Table 4.7 Loan Size

<table>
<thead>
<tr>
<th>Description</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loans at the branch are applied for through fraudulent procedures</td>
<td>40</td>
<td>2.93</td>
<td>1.071</td>
</tr>
<tr>
<td>Loans committee at the branch grant loans on false information provided by loans officers</td>
<td>40</td>
<td>3.22</td>
<td>1.121</td>
</tr>
<tr>
<td>Loans size enables commercial banks to have sufficient cash flows</td>
<td>40</td>
<td>3.00</td>
<td>1.013</td>
</tr>
<tr>
<td>Commercial banks are limited on loan size depending on deposits available</td>
<td>40</td>
<td>3.78</td>
<td>.862</td>
</tr>
</tbody>
</table>

The second objective of the study was to establish the effect of loan size on financial performance of commercial banks. Respondents were required to respond to set questions related to loan size and give their opinions. The statement that loans at the branch are applied for through fraudulent procedures had a mean score of 2.93 and a standard deviation of 1.071. The statement that loans committee at the branch grant loans on false information provided by loans officers had a mean score of 3.22 and a standard deviation of 1.121. This statement are in disagreement with Katrodia, (2016) that commercial banks have a code of ethics and compliance with good corporate governance. The statement that loans size enables commercial banks to have sufficient cash flows had a mean score of 3.00 and a standard deviation of 1.103. The statement that commercial banks are limited on loan size depending on deposit had a mean score of 3.78 and a standard deviation of 0.862.
4.4.3 Repayment Instalments

Table 4.8 Repayment Instalments

<table>
<thead>
<tr>
<th>Descriptive Statistics</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repayment instalments are high than the ability of clients to honor their obligations</td>
<td>40</td>
<td>3.75</td>
<td>1.354</td>
</tr>
<tr>
<td>Repayment instalments methods and modes are not suitable for clients</td>
<td>40</td>
<td>3.10</td>
<td>0.778</td>
</tr>
<tr>
<td>Repayment instalments periods are shorter causing poor cash flows in the banks</td>
<td>40</td>
<td>2.90</td>
<td>1.336</td>
</tr>
<tr>
<td>Poor loan repayment instalments cause poor cash flows to commercial banks</td>
<td>40</td>
<td>3.32</td>
<td>1.228</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>40</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The third objective of the study was to establish the effect of repayments instalments on financial performance of commercial banks. Respondents were required to respond to set questions related to repayment instalments and give their opinions. The statement that repayment instalments are high than the ability of clients to honour their obligations had a mean score of 3.75 and a standard deviation of 1.354. This is in agreement with Halkos and Salamouris, (2016) that high instalments more often cause borrowers to default on their loans repayment leading to loan defaulting. The statement that repayment instalments methods and modes are not suitable for clients had a mean score of 3.10 and a standard deviation of 0.778. The statement that repayment instalments periods are shorter causing poor cash flows in the banks had a mean score of 2.90 and a standard deviation of 1.336. This statement is in disagreement with Bofondi and Gobbi, (2011) that borrowers can adjust their repayment period to suit their financial needs and ability to repay. The statement that poor loans repayment instalments cause poor cash flows to commercial banks had a mean score of 3.32 and a standard deviation of 1.228. This statement is in agreement with Kiyai, (2014) that poor repayment of loans causes reduced liquidity to commercial banks.

4.4.4 Collateral

Table 4.9 Collateral

<table>
<thead>
<tr>
<th>Descriptive Statistics</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borrowers are motivated to repay loans cause of fear of losing collateral</td>
<td>40</td>
<td>3.18</td>
<td>1.259</td>
</tr>
<tr>
<td>Borrower provide various forms of collateral to access loans</td>
<td>40</td>
<td>3.75</td>
<td>1.410</td>
</tr>
<tr>
<td>The value of collateral determines the loan size a borrower can access</td>
<td>40</td>
<td>2.75</td>
<td>1.193</td>
</tr>
<tr>
<td>The weakness in due diligence processes in ascertaining collateral causes bank losses</td>
<td>40</td>
<td>3.75</td>
<td>1.481</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>40</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The fourth objective of the study was to establish the effect of collateral on financial performance of commercial banks. Respondents were required to respond to set questions related to collateral and give their opinions. The statement that borrowers are motivated to repay loans because of fear of losing collateral had a mean score of 3.18 and a standard deviation of 1.259. The statement that borrowers are motivated to repay loans because of fear of losing collateral had a mean score of 3.18 and a standard deviation of 1.259. The statement that borrower provide various forms of collateral to access loans had a mean score of 3.75 and a standard deviation of 1.410. The statement that the value of collateral determines the loan size a borrower can access had a mean score of 2.75 and a standard deviation of 1.193. This statement is in disagreement with Davis and Zhu, (2014) that the value of collateral determines the loan size a borrower can access, however there are other indicators that determines how much one can borrow such as credit history of the borrower, type of client such as high net worth customers and the relationship with the commercial banks. The statement that the weakness in due diligence processes in ascertaining collateral causes bank losses had a means score of 3.75 and a standard
deviation of 1.481. This statement is in agreement with Joroin, (2010) that commercial banks hire third parties such as lawyers and land surveyors to carry out due diligence on collateral to validate them therefore chances of going wrong are reduced.,

4.4.5 Financial Performance

Table 4.10 Financial Performance

<table>
<thead>
<tr>
<th>Statement</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is poor collection of interest income by commercial banks</td>
<td>40</td>
<td>3.65</td>
<td>1.388</td>
</tr>
<tr>
<td>There is increase of bad debts caused by defaulters</td>
<td>40</td>
<td>3.93</td>
<td>1.248</td>
</tr>
<tr>
<td>Lack of liquidity stifles growth of commercial banks</td>
<td>40</td>
<td>3.88</td>
<td>1.017</td>
</tr>
<tr>
<td>There is closure of branches or mergers of branches and banks</td>
<td>40</td>
<td>3.25</td>
<td>1.780</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>40</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The statement that there is poor collection of interest income by commercial banks had a mean score of 3.65 and a standard deviation of 1.388. This statement is in agreement with Tsuma and Gichinga, (2016) with capping of interest rates has caused a reduction in interest income to commercial banks. The statement that there is increase of bad debts caused by defaulters had a mean score of 3.93 and a standard deviation of 1.248. The statement that lack of liquidity stifles growth of commercial banks had a mean score of 3.88 and a standard deviation of 1.017. The statement that there is closure of branches or mergers of branches had a mean score of 3.25 and a standard deviation of 1.780.

4.5 Correlation Analysis

To establish the relationship between the independent variables and the dependent variable the study conducted correlation analysis which involved coefficient of correlation and coefficient of determination.

4.5.1 Coefficient of Correlation

Pearson Bivariate correlation coefficient was used to compute the correlation between the dependent variable (Financial Performance) and the independent variables (Interest rates, loan size, repayment instalments and collateral). According to Sekaran, (2015), this relationship is assumed to be linear and the correlation coefficient ranges from -1.0 (perfect negative correlation) to +1.0 (perfect positive relationship). The correlation coefficient was calculated to determine the strength of the relationship between dependent and independent variables (Kothari and Gang, 2014).

Table 4.11 Pearson Coefficient of Correlation

<table>
<thead>
<tr>
<th>Correlations</th>
<th>Financial Performance</th>
<th>Interest Rates</th>
<th>Loan Size</th>
<th>Repayment Instalments</th>
<th>Collateral</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Performance</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest Rates</td>
<td>.173</td>
<td>.335*</td>
<td>.191</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Loan Size</td>
<td>.226</td>
<td>.211</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repayment Instalments</td>
<td>.576**</td>
<td>.335*</td>
<td>.191</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
</tr>
</tbody>
</table>
**Correlation is significant at the 0.01 level (2-tailed).**

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

In trying to show the relationship between the study variables and their findings, the study used the Karl Pearson’s coefficient of correlation (r). This is as shown in Table 4.11 below. According to the findings, it was clear that there was a positive correlation between the independent variables, interest rates, loan size, repayment instalments and collateral and the dependent variable financial performance. The analysis indicates the coefficient of correlation, r equal to 0.173, 0.226, 0.576 and 0.796 for interest rates, loan size, repayment instalment and collateral respectively. This indicates positive relationship between the independent variable namely interest rates, loan size, repayment instalment and collateral and the dependent variable financial performance.

**4.5.2 Coefficient of Determination (R²)**

To assess the research model, a confirmatory factors analysis was conducted. The four factors were then subjected to linear regression analysis in order to measure the success of the model and predict causal relationship between independent variables (interest rates, loan size, repayment instalments and collateral), and the dependent variable (Financial Performance).

**Table 4.12 Coefficient of Determination (R²)**

<table>
<thead>
<tr>
<th>Model Summary</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.866*</td>
<td>.751</td>
<td>.722</td>
<td>1.83778</td>
</tr>
</tbody>
</table>

The model explains 75.1% of the variance (Adjusted R Square = 0.722) on financial performance. Clearly, there are factors other than the four proposed in this model which can be used to predict financial performance. However, this is still a good model as Cooper and Schinder, (2013) pointed out that as much as lower value R square 0.10-0.20 is acceptable in social science research.

This means that 75.1% of the relationship is explained by the identified four factors namely interest rates, loan size, repayment instalments and collateral. The rest 24.9% is explained by other factors in the financial performance not studied in this research. In summary the four factors studied namely, interest rate, loan size, repayment instalment and collateral or determines 75.1% of the relationship while the rest 24.9% is explained or determined by other factors.

**4.6 Regression Analysis**

**4.6.1 Analysis of Variance (ANOVA)**

The study used ANOVA to establish the significance of the regression model. In testing the significance level, the statistical significance was considered significant if the p-value was less or equal to 0.05. The significance of the regression model is as per Table 4.13 below with P-value of 0.00 which is less than 0.05. This indicates that the regression model is statistically significant in predicting factors of financial performance. Basing the confidence level at 95% the analysis indicates high reliability of the results obtained. The overall Anova results indicates that the model was significant at F = 25.443, p = 0.000.

**Table 4.13 ANOVA**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>356.190</td>
<td>4</td>
<td>89.048</td>
<td>26.365</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>118.210</td>
<td>35</td>
<td>3.377</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>474.400</td>
<td>39</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Financial Performance
b. Predictors: (Constant), Collateral, Interest Rates, Loan Size, Repayment Instalments
4.6.2 Multiple Regression
The researcher conducted a multiple regression analysis as shown in Table 4.14 so as to determine the relationship between value chain and the four variables investigated in this study.

Table 4.14 Multiple Regression

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>17.018</td>
<td>6.883</td>
<td>2.472</td>
<td>.000</td>
</tr>
<tr>
<td>Interest Rates</td>
<td>.163</td>
<td>.128</td>
<td>.129</td>
<td>1.273</td>
</tr>
<tr>
<td>Loan Size</td>
<td>.128</td>
<td>.187</td>
<td>.015</td>
<td>.149</td>
</tr>
<tr>
<td>Repayment Instalments</td>
<td>.732</td>
<td>.201</td>
<td>.410</td>
<td>3.644</td>
</tr>
<tr>
<td>Collateral</td>
<td>.760</td>
<td>.148</td>
<td>.612</td>
<td>5.124</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Financial Performance

The regression equation was:

\[ Y = 17.018 + 0.163X_1 + 0.128X_2 + 0.739X_3 + 0.760X_4 \]

Where:
- \( Y \) = the dependent variable (Financial Performance)
- \( X_1 \) = Interest rate
- \( X_2 \) = Loan Size
- \( X_3 \) = Repayment Instalments
- \( X_4 \) = Collateral

The regression equation above has established that taking all factors into account (Financial Performance as a result of interest rates, loan size, repayment instalments and collateral) constant at zero financial performance will be 17.018. The findings presented also shows that taking all other independent variables at zero, a unit increase in interest rate will lead to a 0.163 increase in the scores of financial performance; a unit increase in loan size will lead to a 0.128 increase in financial performance; a unit increase in repayment instalment will lead to a 0.739 increase in the scores of financial performance; a unit increase in collateral will lead to a 0.760 increase in the score of financial performance. This therefore implies that all the four variables have a positive relationship with repayments instalments and collateral got variable coefficients statistically significant since their p-values are less than the common alpha level of 0.05.

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction
The chapter provides the summary of the findings from chapter four, and it also gives the conclusions and recommendations of the study based on the objectives of the study. The chapter finally presents the limitations of the study and suggestions for further studies and research.

5.2 Summary of the Findings
The objectives of this study was to examine the effects of non-performing loans on the financial performance of commercial banks in Kenya. The study was conducted on 40 out of 52 that constituted the sample size. To collect data the researcher used a structured questionnaire that was personally administered to the respondents. The questionnaire constituted 20 items. The respondents
were the employees of commercial banks in Kenya. In this study, data was analyzed using frequencies, mean scores, standard deviations, percentage, Correlation and Regression analysis.

The study revealed that majority of respondents have a working experience of between 6 – 10 years and that the majority of respondents banks have between 1 – 5 branches. The study results further showed that there was a positive relationship between the dependent variable and the independent variables with a coefficient of determination of 75.1.

5.2.1 Interest Rate
The study results revealed that high interest rates causes borrower to default on repayment of loans though majority of them are willing to repay. The study results revealed that when interest rate are reduced majority of the borrowers are able to repay their loans without much difficulty because they have some. Although the study revealed that with capping of interest in Kenya, many commercial banks have earned little on interest income however commercial banks have diversified in other income generating activity to cushion on reduced interest income.

5.2.2 Loan Size
The study results revealed that the bigger the size a commercial bank lends out the more interest income they earn. The study further revealed that the more income interest income commercial banks they earn the more liquid they are. The study showed that there was a positive correlation between loan size and financial performance.

5.2.3 Repayment Instalments
The study revealed that repayment instalment of loans is the life line of commercial banks. The more loans are repaid without defaulting the more liquid the commercial bank is and the more they are able to lend to individuals and corporates. Further the study revealed that high repayment instalments causes defaulters and reduces liquidity to commercial banks. The study showed that there is positive correlation between repayment instalments and financial performance.

5.2.4 Collateral
The study revealed that there is a strong correlation between collateral and financial performance of commercial banks. Further the study revealed that borrowers were motivated to repay their loans on time because of fear of being black listed by the credit reference bureau. That commercial banks reduces risks in credit lines by charging collateral in joint names with the borrowers to reduce chances of defaulting. However, it’s not the aim of the banks to sell collateral provided by commercial banks.

5.3 Conclusions
From the research findings, the study concluded all the independent variables studied have significant effect on performance of commercial bank as indicated by the strong coefficient of correlation and a p-value which is less than 0.05. The overall effect of the analyzed factors was very high as indicated by the coefficient of determination. The overall P-value of 0.00 which is less than 0.05 (5%) is an indication of relevance of the studied variables, significant at the calculated 95% level of significance. This implies that the studied independent variables namely interest rates, loan size, repayment instalments and collateral have significant on effects of non-performing loans on the financial performance of commercial banks in Kenya.

The stepwise multiple regression analysis revealed that financial performance namely; interest rates, loan size, repayment instalments and collateral explained statistically significant portion of the variance associated with the extent of financial performance. The stepwise multiple regressions indicated that among the effects of non-performing loans on the financial performance of commercial banks in Kenya, had more effects on improving financial performance of interest rates, loan size, repayment instalments and collateral explained statistically significant portion of the variance associated with the extent of financial performance of commercial banks in Kenya. This result was an emphasis on the role of interest rates, loan size, repayment instalments and collateral explained statistically significant portion of the variance associated with the extent of financial performance of commercial banks in Kenya.

5.4 Recommendations
The study recommends the following:

1. That commercial banks having high non-performing loans should encourage loan defaulter to restructure their repayments schedule that they can comfortable pay to reduce non-performing loans.
2. That commercial banks should give out more secured loans to borrowers than unsecured loans since secured loans are guaranteed that in the event of defaulting then the commercial bank can auction the collateral and recover its principle and interest outstanding.
3. That commercial banks evaluate borrowers on an individual basis using various parameters in order to reduce bad debts and non-performing loans.
4. That commercial banks should diversify their revenue streams and not depend solely on interest income.

5.5 Suggestion for Further Studies
This study focused on the effects of non-performing loans on the financial performance of commercial banks in Kenya. Since only 75.1% of results were explained by the independent variables in this study, it is recommended that a study be carried out on other factors on financial performance in another sector.

5.6 Limitations of the Study
The respondents took a lot of time in filling in the questionnaires therefore the researcher had to collect the already filled questionnaires to do the analysis because of the time constraints. This made the response rate not to be 100% as expected. The respondents were also not free to give personal information as they considered it of private nature but the researcher assured them the information will be will be treated confidentially and will be used purely for academic purposes.

REFERENCE


