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Type of the Paper: Research Paper.
Type of Review: Peer Reviewed.
Indexed in: worldwide web.
Google Scholar Citation: IJFAE

How to Cite this Paper:

International Journal of Finance, Accounting and Economics (IJFAE)

A Refereed International Journal of OIRC JOURNALS.
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Araka et al., (2018)
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Abstract
Commercial banks in Kenya have suffered significant loan repayment default problems resulting into decreased employment levels and liquidity problems. Interest rate changes have also contributed to non-performing loans. Non-performing loans are associated with bank failures because borrowers do not pay their loans in time which leads to financial crises for commercial banks in Kenya. Due to the nature of their business, commercial banks expose themselves to the risks of default from borrowers and this risk is known as credit risk. If the non-performing loans are kept existing and continuously rolled over the resources are locked up in unprofitable sector thus hindering the economic growth and impairing the economic efficiency. This study sought to establish the relationship between interest rate regulations and non-performing loans on financial performance of commercial banks in Kenya. The study used questionnaires to collect primary data and used secondary data for period 2013 – 2017 from Bank’s Annual Reports. Descriptive research design and census survey method was used whereby all the 43 commercial banks registered in Kenya for period 2013 – 2017 were selected. The target population was 86 officers: 43 bank managers and 43 credit managers of all the 43 commercial banks registered in Kenya. Inferential statistics was used where multiple linear regression analysis was used to analyze the data. The data was presented in tables, graphs and pie charts. The findings of the study revealed that poor credit assessment, unfair competition among banks, willful default by borrowers and their knowledge limitation, fund diversion for unintended purpose, over/under financing by banks, bank size, interest rates changes, growth in loans, inflation ascribe to the causes of loan default and they affect financial performance of commercial banks in Kenya. The study also revealed that there exist a relationship between interest rate regulations and non-performing loans of commercial banks. The study concludes that interest rate regulations contribute to non-performing loans which affects the financial performance of commercial banks in Kenya in terms of ROA and ROE. The study recommends that commercial banks should have a mechanism of identifying loan defaulters and take necessary action, charge their clients interest rate as per the regulations of CBK, enhance regular credit risk monitoring of their loan portfolios to reduce the level of non-performing loans.

1.0 Introduction
An efficient and well-functioning financial sector is essential for the development of an economy and the achievement of high and sustainable growth of any country. One of the indicators of financial sector health is loan qualities. Most unsound financial sector show high level of non-performing loans within a country. The causes of loan default vary in different countries and there are so many reasons as to why loans fail to perform and thus affecting financial performance of commercial banks. Some of these include: interest rate regulations, depressed economic conditions, high real interest rates, inflation, lenient terms of credit, credit orientation, growth in loans, diversion of funds to unintended purposes, under financing and poor credit monitoring among others. Cholastem (2017) stated that lending represents the heart of the banking industry. Loans are the most dominant assets and represent 50 to 70 percent of the total loan amount of most banks generate the largest
share of operating income and represents the bank’s greatest risk exposure. More ever its contribution to the growth of any country is huge in that they are the main intermediaries between depositors and those in need of funds for their viable projects (creditors thereby ensure that money available in the economy is always put to good use. Therefore managing loans in a proper way not only has positive effect on the bank’s performance but also on the borrower, firms and a country as a whole. Failure to manage loans which make up the largest share of bank’s assets would likely lead to high level of NPLs which will eventually affect the financial performance of commercial banks.

Banking industry in Kenya has 43 registered and licensed commercial banks that provide banking and financial services to customers across Kenya and East Africa region (CBK, 2015). The banking sector plays a vital role in the economic growth of a country. Banks stimulate the flow of funds in the economy and fuels economic growth. The efficiency of banking system thus determines the pace of development of the economy. At the same time like any other business enterprise, the efficiency of a bank is evaluated based on profitability and quality of asset it possesses. Loans however expose the banks to the greatest level of credit risk (Nyaliet, 2017). Non-performing loans affect economic growth. Therefore causes of loan default should be established so as to reduce the level of non-performing loans (Murithi, 2013)

International Monetary Fund (IMF), (2009) states that a non-performing loan is any loan in which interest and principal payments is more than 90 days overdue or more than 90 days worth of interest has been refinanced. Non-performing loans are loans left unpaid for a period of 90 days. A non-performing loan is a loan that is non performing when payments of interests and principal are past due by 90 days or more or at least 90 days of interest payments have been capitalized, refined or delayed by agreement. NPL can be treated as undesirable output or costs to loaning banks which decreases the bank performance. (Hennie and Sanja 2009) define NPLs as assets not generating income. This is when principal or interest is due and left unpaid for 90 days or more. Loan default is inevitable in any lending. What banks do is to minimize the risk of default. NPL are loans that have defaulted or in danger of defaulting when payments are no longer able to be made. Typically loans that have not received payments for three months are considered to be non-performing though specific contract time may differ occasionally (Chege, 2014).

Lamarana (2012) stated that in the first 3 decades, Malaysian banking sector had faced several financial crisis such as that of the period 1985 – 1986 in which some financial institutions went to bankruptcy because of default on loans, 1987-1998 which is related to a high level of non-performing loans on financial companies and small banks in contrast 1997-1998 and 2008 are the effects of the Asian crisis and Global crisis respectfully. The Australian financial system remains in good condition and the overall credit growth has been stable over the past 6 months and credit growth has increased with non-performing assets being at 4%. (Paudel, 2012) stated that in Australia, the impact of credit risk management is loan default which eventually affect financial performance of commercial banks. The loan default rate is the most predator of banks financial performance in terms of profitability, ROA and ROE. The banks should formulate strategies that will minimize the exposure of the banks to credit risk and enhance profitability. The Nepal Retral Bank (NRB) that is Central Bank of Australia has issued guidelines which give attention to the general principles that are prepared governing the implementation of more detailed lending procedures and practices within the banks. These guidelines are: credit assessment of borrowers, credit track record, repayment capacity, liquidity status, collateral as security, credit policy guidelines for making investment and lending decisions. Inadequate credit policies are still the main source of serious problems in the banking industry as a result of effective credit risk management which has gained an increased focus.

This has affected the performance of commercial banks in Australia in terms of profitability, ROI and ROE and banks need to put in place strategies to deal with credit risk (Paudel, 2012). Korankye (2014) stated that the causes and control of loan default or Delinquency in Microfinance Institutions in Ghana include: high interest rate, inadequate loan sizes, poor appraisal, lack of monitoring of the borrowers and improper client selection. The government and the banks of Ghana should regulate, monitor and supervise the Microfinance institutions so as to ensure safety of client deposits and customers confidence. Measures to control default were found to include training before and after disbursement, reasonable interest rates, monitoring clients and proper loan appraisal systems. Default occurs when a debtor has not met her/his legal obligations according to debt contract. The causes of loan default include; the types of loan offered, term of
the loan, interests rate on the loan, poor credit history, borrowers’ income and transaction cost of the loans. High interest rates on the loans by the Microfinance institutions have been discovered to be the reason behind the alarming loan default. Nakayiza (2013) indicated that although commercial banks in Uganda have tried to follow procedures and regulations on administering credit, there is still clients defaulting on loan repayments and increasing the effect of bad debts in the banks. This has created risk in the loan portfolio performance and has affected profitability. Interest rate rise in times of inflation, greater demand for credit, tight money supply or due to higher resource requirements for banks. A rise in interest rate for any reason tends to lessen business activity because credit becomes more expensive and the stock market because investors can get better returns from banks deposits on newly issued bonds from buying shares. There is lack of effective analysis on the impact of increasing interest rates on loan repayment trends. Fair interest rates favour client’s willingness to repay affordably. There is need for adequate loan review policies and strict enforcement to credit officers who issue credit without following the credit policies of the bank. Continuous improvement in internal controls is a requirement to enforce compliance with policies and regulations. In 2011, banks in Uganda increased the Central bank rate to a staggering of 23% from 13% in 2010, and banks took advantage of the situation and hiked their prime lending rates accordingly ranging from 23% to 34%. This reduced the number of borrowers and the bank’s profits decreased by 12%. The bank’s financial performance was affected by this increase in interest rates.

Muriithi (2013) conducted a study on the causes of non-performing loans among commercial banks in Kenya and stated that lending represents the heart of the banking industry and loans are the dominant asset as they generate the largest share of operating income. Loans, however exposes the banks to the greatest level of risk. Prudent credit risk assessment and creation of adequate provisions for bad and doubtful debts can cushion the banks risk. However, when the level of non-performing loans is very high the provisions may not be adequately covered. Lending money is the main traditional function of commercial banks but when loan default remains high, it leads to financial stress of the banks and eventual collapse. Interest rate by banks has an inherent implicit cost on the credit issued by banks with antecedent implication on loan defaults. This findings were supported by Ombaba (2013) who did a study on assessing the factors contributing to Non–Performance Loans in Kenyan Banks.

Statement of the Problem
The financial sector needs to manage the credit risk in its loan portfolio as well as the risk in individual credits and transactions. Lending is considered the most important function for fund utilization of commercial banks as major portion of their income is earned from loans and advances. Interest rates are ordinarily the drivers of commercial banks’ performance. They are the ones that determine the size of the profit margin for every transaction between a commercial bank and its customers. Yet, there are many reported cases of defaults in loan repayment in commercial banks. Interest rate regulations partly contribute to NPLs. When borrowers default in their loan repayment, the concerned banks are financially affected. There will be limited finances to run its operations and also to loan out to other potential borrowers. In the event that the challenge of non-repayment persists for long, the banks will have huge bad debts, the situation will lead to downsizing of its workforce, stall in its market expansion and finally collapse (Kariuki, 2016). In the year 2016/2017 the banking sector experienced a lot of challenges of the non-performing loans which has led to the closure of some banks in Kenya such as Imperial bank, Dubai bank, National bank of Kenya and Chase banks which was the last to be placed under receivership. The problem encompassing the stated banks above is due to lack of risk management and control measures on the bank’s assets and depositors savings which later on leads to huge non-performing facilities and in the long run leads to bank closure. Through this most banks now have realized that recovering outstanding loans is becoming a tedious and expensive exercise. Most of the default arose from poor management procedures, loan diversion and unwillingness to repay loans among others because of this the lenders must give various institutional methods that aim to reduce the risk of loan default (CBK, 2016).

Commercial banks offer loans mostly to business people who cannot afford collaterals which is expected of them to ensure that the money for repayment of loans is resolved (Nguta, 2013). High level of non-performing loans is linked with bank’s failures and financial crises. NPLs offer the greatest risk to the banking industry not only in Kenya but also globally (Onsarigo, 2013). Banks depend to the greatest extent on performing loans for their revenues and profits.

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High level of NPLs may lead to the collapse of the banking industry and affect a country’s economy. The identification of the causes of non-performing loans is necessary to minimize the chances of such bad loans in Kenyan banks as it can affect the financial performance of commercial banks (Wanjau, 2011). If loans are managed well, banks will increase their profits. NPLs are a threat to the banks financial performance and profitability. The banks should also charge interest rates as per the CBK regulations to avoid NPLs. The increasing level of NPLs may lead to very serious implications. It discourages the financial institutions’ refinancing the defaulting clients. Many studies have examined the causes of NPLs in commercial banks in Kenya and in several countries but no research has been done on the relationship between interest rate regulations and NPLs on financial performance of commercial banks in Kenya.

Objective of the Study
To establish the effect of non-performing loans on financial performance of commercial banks in Kenya.

2.0 Literature Review
Asymmetry Theory
The theory of asymmetry information states that it may be difficult to distinguish between good borrowers and bad ones which may result into adverse selection and moral hazard problems. The moral hazard problem implies that a borrower has the incentive to default unless there are consequences for his future application for credit. This result from the difficulty lenders have in assessing the level of wealth borrowers will have accumulated by the date on which debt must be repaid. This theory explains that in the market, the party that possess more information on the specific item to be transacted is in a position to negotiate optimal terms for the transaction than the other party. 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 Averse selection and moral hazards have led to significant accumulation of NPLs in commercial banks (Muriithi, 2013).

Empirical Review
Factors accounting for bad loans
All financial institutions in the world operate in a changing environment. These changes present threats or opportunities thus exposing banking sector to a high risk which need to be managed efficiently and effectively. A number of financial institutions in the world have collapsed or experienced financial problems due to inefficient credit management systems (Pierre, 2017). Cholastem (2017) stated that currently the major problems facing commercial banks in Kenya is increasing amounts of NPL which have to be provided for in the financial institution’s income statement or written off thereby impacting on the performance of banking sector.

Bank Size: The size of the bank is negatively related to NPLs (Weill, 2017). Masood, 2014 suggested that smaller banks adapt small business loan underwriting practices that are riskier than those of larger banks. Large banks benefit from diversification opportunities. Small banks prefer to lend to small firms that lack hard financial data to support the lending decision and riskier to the extent that the failure rates of small businesses are higher than those of large established firms Nakizaya (2012).

Diversion of funds: Diversion of funds occurs when the borrowers have to use the funds for a different purpose than the one that it was intended for. Therefore, because the funds are not used for the primary purpose they were intended for and as such many projects become half way done in such a case the funds were meant for income generating projects but the borrower decides to diverse into a different project this leading to loan overdue or default (Muriithi, 2013).

Loss of employment: Roche (2013) explains that loss of employment can be brought about by different circumstances such as retrenchment, retirement, sacking or firing due to events such as strikes, misconduct and many other factors. When such a thing takes place and the individual affected had taken a loan from commercial banks, then such a lending institution is likely to lose money hence leads to loan default.

Inflation: Opuodho (2014) defined inflation as the persistent increase of price level of goods and services in an economy over a period of time. Inflation reflects the general increase in prices of commodities measured by consumer index. When inflation is drastically reduced, banks see one of their main source of revenue disappear and stabilization from chronic inflation may lead to a reduction in the size of the banking system which adversely affects the economy (Marsha, 2013). There is a positive relationship between inflation and NPLs which affects financial performance of commercial banks. Consequently inflation results into a reduction in the purchasing...
power per unit of money, a loss in real value in the medium of exchange and unit of account in the economy. Inflation is the key determinants of commercial bank’s lending rates globally. According to Opuodho (2014) inflation depreciates the value of money such that a percentage increase in inflation results into a similar percentage fall in value of the country’s currency. Taner (2014) study on the effect of uncertainty on credit markets reveals that unpredictable inflation raises interest rates decreases loan supply and affects loan demand. Thus therefore suggests that an increase in inflation may raise the bank lending rates and lead to low bank lending erodes the value of their money over the time period of a loan so they increase the interest rates to compensate for the loss. The increased rates may therefore influence the borrowing patterns for any commercial bank.

**Interest rates:** The commercial banks that charge high interest rates would relatively face high loan default rate. A study conducted by Waweru (2009) on commercial banks in Kenya using a statistical analysis indicated that high interest rates charged by banks is one of the internal factors that leads to a incidence of non-performing loans. Interest rates charged to borrowers operating on the high risk segment of the credit market also contributes to loan default (Muriithi, 2013).

**Illness of the borrower:** Under certain circumstances, the borrower instead of repaying the loan he/she uses the funds for medical expenses instead of the intended purpose. This can be seen in the illness or such diseases such as Hiv and aids, cancer which can be very expensive to treat. Due to ill health, such borrowers will find it difficult to honor their loan obligations. In many cases where the borrower is terminally ill or dies, the borrower may end up not repaying the loan in good time or not repay it at all. This kind of problem could be more pronounced in cases where the borrower is either an individual or a principal partner of a company. The general health of the borrower should be taken into consideration and health of a close relative (Nyaliet, 2017).

**Effect of Non-Performing Loans on Financial Performance of Commercial Banks in Kenya.**

Negera (2012) conducted a study on the determinants of non-performing loans, the case of Ethiopian banks and stated that mixed research approach was adopted for the study. Survey was conducted with professionals engaged in both private and state owned banks in Ethiopia holding different positions using a self-administered questionnaire. In addition, the study used structured review of documents and records of banks and in depth interview of senior bank officials in the Ethiopian banking industry. The findings of the study showed that poor credit assessment, failed loan monitoring, undeveloped credit culture, lenient credit terms and conditions, aggressive lending, compromised integrity, weak institutional capacity, unfair competition among banks, willful default by borrowers and their knowledge limitations, fund diversion for unintended purpose, over/under financing by banks ascribe to the causes of loan default. However, the study outcome failed to support the existence of relationship between bank size, interest rate they charge and ownership type of banks and occurrence of NPL.

Kamunge (2013) conducted a study on the effect of interest rate spread on the level of non-performing loans of commercial banks in Kenya and research design used was explanatory because the study intended to establish if there was a causal relationship between interest rate spread and level of NPL. The study population was all the 43 commercial banks. The study used secondary data sources to gather information relevant in reaching at the research objective the secondary data were collected from the CBK supervision reports on the macroeconomic indicators and the Kenya National Bureau of statistics (KNBS) reports. Data was sorted and input into the SPSS for production of tables and descriptive statistics. The ANOVA results showed that the independent variable; factors accounting for bad loans, challenges of managing credit and loan portfolio performance were good predictors on the level of NPL. The results indicated that log interest rate spread and log debt collection cost were statistically significant in explaining the level of non-performing loans. Results indicate that a unit change in log interest rate spread variable will lead to a positive change in level of NPL while a unit change in log debt collection cost will cause a negative and significant change in level of NPL. It is recommended that banks should be encouraged to conduct regular training programs for credit staff. It is recommended that Central bank which is the Regulatory Authority of commercial banks in Kenya should apply stringent regulations on interest rates charged by commercial banks. Banks should also apply efficient and effective credit risk management. It is recommended that commercial banks should use the services provided be credit reference bureaus for the purpose of determining the
credit workings of borrowers as a means of minimizing bad loans.

Chege (2014) conducted a study on the effect of non-performing loans in commercial banks in Kenya and stated that lending money is the main traditional function of commercial banks and this aspect of banking remains to date. However, loan defaults among commercial banks remain high leading to financial distress of the banks even eventual collapse. Interest rate has an inherent implicit cost on the credit issued by banks with antecedent implication on loan defaulters. The study adopted a descriptive research design targeting all the 43 licensed commercial banks in Kenya. Secondary data was collected on the interest rate charged by the banks, total risk weighted assets non-interest expense, total revenue for five years period (2009-2013). The data collected was analyzed using both descriptive and inferential statistics from multiple linear regression analysis. The findings were presented in tables and figures. The study’s findings established significant negative and good linear relationships between bank’s NPL and interest rate spread and total assets. Significant positive and good linear relationships between bank’s NPL and cost income ratio and capital adequacy were also adduced. The study concluded that there is a strong relationship between financial performance of commercial banks and interest rate. The study recommended that there is need for banks to apply efficient and effect credit risk management that will ensure that loans are matched with ability to repay and minimize on their interest rate spread and other incidental cost so as to reduce loan default.

Sheefani (2016) conducted a study on the effect of interest rate spread on non-performing loans in Namibia and the study employed the technique of unit root, co integration and error correction model technique on the quarterly data covering the period 2001-2014. The findings showed that interest rate spread has a positive and statistical significant effect on NPL in Namibia. Furthermore the study also showed that inflation has a positive effect though not statistical significant effect on NPL in Namibia. Therefore the positive impact of interest rate spread suggest that increase in interest margin has potential of increasing the probability of defaulting on loans by clients.

**Independent Variables**

**Non-performing Loans**

- Sub-standard Assets
- Doubtful Debts
- Loss Assets

**Dependent Variables**

**Financial Performance of commercial banks**

- ROA
- ROE

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**3.0 Research Methodology**

**Research Design and Approach**

To achieve the objectives of the study, the study used quantitative research design to establish the relationship between interest rate regulations and non-performing loans on financial performance of commercial banks in Kenya. Thus the study was conducted for a five year period from 2013 to 2017.

**Sample size and sampling procedures**

The study employed census survey method. The number of respondents in this study on the relationship between interest rate regulations and non-performing loans on financial performance of commercial banks in Kenya was 86 officers of the 43 commercial banks registered in Kenya. The respondents were 43 bank managers and 43 credit managers of all the 43 commercial banks registered in Kenya.

**Target Population**

The population of the study was all the 43 commercial banks in Kenya. Data for the period 2013 to 2017 was analyzed. The population of the study comprised of 86 employees of 43 commercial banks registered in Kenya that is: 43 bank manager and 43 credit managers.

---

**Table 3.1 Target Population**

<table>
<thead>
<tr>
<th>Sub-standard Assets</th>
<th>Doubtful Debts</th>
<th>Loss Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Figure 2.1: Conceptual Framework**

Source: Researcher 2018
NAME OF BANK                      NUMBER OF OFFICERS
Bank Managers                      43
Credit Managers                     43
Of all the 43 commercial
Banks registered in Kenya
Total                                 86
Source: Researcher 2018

Research Instruments
The data collection instruments which were employed in this study were questionnaires and Document Analysis Guide was used to collect secondary data. The design of the questions included structured questions or tick in questions and questions that required ranking of answers. Factors accounting for bad loans; bank size, inflation, interest rates, diversion of funds, challenges of managing credit; complying with regulations, default loss., measurement of credit risk; effect of NPLs; reduction of liquidity, loss of profits, and debt collection costs. The study covered data for five years 2013 to 2017. The secondary data was collected from CBK offices or website on their annual reports on the commercial banks (Nduati, 2013).

Validity of Research Instruments
Validity refers to the degree of success of an instrument in measuring what it is set to measure so that differences in individual scores can be taken as representing true references in the characteristics under study. The content validity will be used to determine the validity of the instruments. In subjecting the tools to validation, the process started by discussing with the supervisor of the study who scrutinized all the questions in the tools to assess their appropriateness in addressing critical issues in the study. Secondly, content validity was established through pilot testing where the responses of the subjects were checked against the objectives. Face validity was also used to measure the validity of the research instrument. Face validity is the extent to which a test is subjectively viewed as covering the concept it purports to measure. It refers to the transparency or relevance of a test.

Reliability of Research Instruments
Reliability is the ability of research instruments to consistently yield the same results when repeated measurements are taken under same condition Sharma (2012). The questionnaires were pre-tested through pilot study to ascertain reliability of instrument in collecting the required information for the study. Reliability of the data collection instrument was first established through test re-test method (Bryman and Cramer, 2007). A reliability test was done using cronbach’s alpha test. The main objective of this test is to measure the internal consistency of the study components which is how closely related a set of components are in a group. Alpha value of 0.7 was appropriate for this study (Kibor, 2015).

Empirical Models
A model is a simplified view of reality designed to enable a researcher describe the essence and inter relationship within the system or phenomenon is depicts (Onnumure, 2015). A multiple linear regression model was used to test the significance of the influence of the independent variable on the dependent variable. Multiple Linear regression equation was used to determine the effect of interest rate regulations on the relationship between loan portfolio management and performance of commercial banks in Kenya.

\[ Y = B_0 + B_1X_1 + e \]  
Equation 1
Where: \( Y \) = Dependent variable
\( X_1 \) = Non-performing Loans;
\( B_0 \) = Constant
\( B_1 \) = Regression coefficient or change included in X value
\( e \) = Error term

4.0 Findings and Discussions
Response rate
The study used a sample comprising of 43 bank managers and 43 credit managers. A total of 86 questionnaires were administered. Out of this number a total of 74 questionnaires (34 bank managers and 40 credit managers) were returned. The response rate was therefore computed to be 86.05% (see table 4.1). The response rate was deemed to be acceptable based on the recommendations of Nulty (2008).
Table 4.1: Distribution of the Response Rate

<table>
<thead>
<tr>
<th>Nature of respondent</th>
<th>Expected Number</th>
<th>Actual Number</th>
<th>Percentage of Actual Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank Managers</td>
<td>43</td>
<td>39</td>
<td>(45.35)</td>
</tr>
<tr>
<td>Credit Managers</td>
<td>43</td>
<td>35</td>
<td>(40.70)</td>
</tr>
<tr>
<td>Total</td>
<td>86</td>
<td>74</td>
<td>(86.05)</td>
</tr>
</tbody>
</table>

Source: Researcher 2018

The respondents were 74 out of 86 target population reflecting (86.05%) response rate. The Bank managers were 39 and credit managers 35.

Table 4.2: Gender

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>42</td>
<td>56.8</td>
</tr>
<tr>
<td>Female</td>
<td>32</td>
<td>43.2</td>
</tr>
<tr>
<td>Total</td>
<td>74</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Source: Researcher 2018

The study findings revealed that there were more men than women working in management positions in the banks. The mean difference was however not significantly big. There was no major imbalance on the distribution of the officers in various departments. Both sexes were almost equally represented in various categories. Male officers formed the highest percentage of the officer’s population of 56.8% whereas the female officers’ proportion was 43.2%.

Table 4.3: Age Group

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>21-30</td>
<td>8</td>
<td>10.8</td>
</tr>
<tr>
<td>31-40</td>
<td>24</td>
<td>32.4</td>
</tr>
<tr>
<td>41-50</td>
<td>32</td>
<td>43.2</td>
</tr>
<tr>
<td>Over 50</td>
<td>10</td>
<td>13.5</td>
</tr>
<tr>
<td>Total</td>
<td>74</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Researcher 2018

The study findings revealed that the officers between the ages 21 to 30 had 10.8 percentage of the respondents, the officers between the ages 31 to 40 had 32.4%, the officers between the ages 41 to 50 had the highest percentage at 43.2% while the officers of ages above 50 years had 13.5% respectively. The study findings therefore, revealed that the majority of the respondents were between the ages 41 to 50.

Table 4.4: Designation

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank managers</td>
<td>35</td>
<td>47.3</td>
</tr>
<tr>
<td>Credit managers</td>
<td>39</td>
<td>52.7</td>
</tr>
<tr>
<td>Total</td>
<td>74</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Researcher 2018

The study findings revealed that credit managers were the majority of the respondents with a percentage of 52.7 followed by bank managers with 47.3%. The study findings revealed that all the officers who responded had professional qualifications and understood the questionnaire very well. They also understood the concept of interest rate changes and non-performing loans.
Table 4.5: Academic Qualifications

<table>
<thead>
<tr>
<th>Qualification</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diploma</td>
<td>11</td>
<td>14.9</td>
<td>14.9</td>
</tr>
<tr>
<td>Undergraduate</td>
<td>38</td>
<td>51.4</td>
<td>66.2</td>
</tr>
<tr>
<td>Master’s Degree</td>
<td>22</td>
<td>29.7</td>
<td>95.9</td>
</tr>
<tr>
<td>Ph. D</td>
<td>3</td>
<td>4.1</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>74</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Source: Researcher 2018

The officers with undergraduate degrees formed the majority of the respondents with 51.4% followed by those with Masters with 29.7%. The study findings revealed that all the officers who responded had professional qualifications and understood the questionnaire very well. They also understood the concept of interest rate changes and non-performing loans. These findings indicate that the respondents were highly educated and thus could easily respond to the questions posted on the questionnaires. They accepted that there exist a relationship between interest rate regulations and non-performing loans which affect financial performance of commercial banks in Kenya.

Table 4.6: Work Experience

<table>
<thead>
<tr>
<th>Experience</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 5 years</td>
<td>14</td>
<td>18.9</td>
<td>18.9</td>
</tr>
<tr>
<td>6 - 10</td>
<td>15</td>
<td>20.3</td>
<td>39.2</td>
</tr>
<tr>
<td>11 - 20</td>
<td>30</td>
<td>40.5</td>
<td>100.0</td>
</tr>
<tr>
<td>Over 20</td>
<td>15</td>
<td>20.3</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>74</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Source: Researcher 2018

Table 4.6 shows that 40.5 percent of the respondents had worked in the bank for between 11 to 20 years while 20.3 percent had worked in the bank for 6 to 10 years and some over 50 years. Only 18.9 percent had worked for less had worked for less than 5 years.

Data Analysis

This section presents the findings and discussion in order of the three objectives of the study. Frequencies and descriptive statistics are presented first followed by inferential statistics. The questionnaires responses were based on a likert scale which was assigned values of Not at all, to a less extent, to a moderate extent, to a great extent and to a greater extent.

Effect of non-performing loans on financial performance of commercial banks (ROA, ROE).

The third objective of the study was to determine the effect of non-performing loans among commercial banks in Kenya. The objective was assessed by the use of statements which were on the questionnaires where the respondents indicated their degree of agreement with the statements.

Table 4.7: Effect of non-performing loans on financial performance of commercial banks in Kenya

<table>
<thead>
<tr>
<th>Statement</th>
<th>Not at all</th>
<th>To a Less extent</th>
<th>To a Moderate extent</th>
<th>To a Great extent</th>
<th>To a Greater extent</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduction of liquidity</td>
<td>0.00</td>
<td>12.2</td>
<td>24.3</td>
<td>32.4</td>
<td>31.1</td>
<td>3.82</td>
<td>1.012</td>
</tr>
<tr>
<td>Loss of profits</td>
<td>2.7</td>
<td>4.1</td>
<td>21.9</td>
<td>52.1</td>
<td>19.2</td>
<td>3.81</td>
<td>0.892</td>
</tr>
<tr>
<td>Debt collection costs</td>
<td>2.7</td>
<td>8.1</td>
<td>29.7</td>
<td>39.2</td>
<td>20.3</td>
<td>3.66</td>
<td>0.983</td>
</tr>
<tr>
<td>Average mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3.763</td>
<td>0.962</td>
</tr>
</tbody>
</table>

Source: Researcher 2018
Table 4.7 shows responses on statements regarding the effect of non-performing loans on ROA, ROE of commercial banks in Kenya. Reduction of liquidity being the effect of NPLs had the highest mean of 3.82 followed by loss of profits which had a mean of 3.81 and debt collection costs had a mean of 3.66 and the respondents agreed to a moderate and great extent by 24.3% and 32.4% that reduction in liquidity being the effect of non-performing loans affect financial performance of commercial banks in Kenya. This was followed by loss of profits which had a mean of 3.81 and the respondents agreed by 21.9% and 52.1% to a moderate and great extent that loss of profits because of NPLs affect financial performance of commercial banks. Debt collection costs had a mean of 3.58 and the respondents agreed to a moderate extent by 31.1% and to a great extent by 28.4%, that non-performing loans in terms of debt collection costs affect ROA and ROE of commercial banks in Kenya. The overall mean score of response regarding NPLs was 3.763 on a 5 point scale and the overall average standard deviation was 0.962.

**Regression Coefficient Analysis**

Table 4.36 shows the overall regression coefficients of independent variables – loan portfolio management, NPLs bad debts written off financial losses, loan underwriting; debt collection costs and term of the loan, loan lending policies; unsecured loans and customer deposits on the financial performance of commercial banks in Kenya. The positive Beta coefficients indicate that a unit change in independent variable leads to a positive change in dependent variable. A negative Beta coefficient indicates an inverse effect between the variables in that a unit change in the independent variable leads to a negative change in the dependent variable.

### Table 4.8: Regression Coefficient – Non-performing loans on financial performance of commercial banks – Primary Data

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Unstandardized Coefficients</th>
<th>Standardized coefficients</th>
<th>Std. Error</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>3.558</td>
<td>0.675</td>
<td>-</td>
<td>5.272</td>
<td>0.000</td>
</tr>
<tr>
<td>FABLS – Bank size</td>
<td>-0.0126</td>
<td>0.735</td>
<td>0.081</td>
<td>9.130</td>
<td>0.000</td>
</tr>
<tr>
<td>Default loss</td>
<td>0.128</td>
<td>-0.309</td>
<td>0.157</td>
<td>-1.569</td>
<td>0.121</td>
</tr>
<tr>
<td>ENPLs R- Liquidity</td>
<td>0.354</td>
<td>0.506</td>
<td>-1.432</td>
<td>0.432</td>
<td>0.134</td>
</tr>
<tr>
<td>Loss of profits</td>
<td>-0.245</td>
<td>0.471</td>
<td>1.234</td>
<td>0.468</td>
<td>0.135</td>
</tr>
</tbody>
</table>

Source: Researcher 2018

Table 4.8 shows the regression coefficient of the individual independent variables on dependent variables. The results indicate that the factors accounting for bad loans – bank size, inflation, interest rates and diversion of funds with beta of 0.735, standard error of 0.081 and 9.130 are significant in explaining the ROA and ROE of commercial banks in Kenya. The other non-performing loans variables are also significant in explaining variations in the ROA, ROE of commercial banks in Kenya. This leads us to reject the null hypothesis and conclude that NPLs have a negative effect on financial performance of commercial banks in Kenya as they reduce profits and liquidity. The effect of NPLs; reduction in liquidity, loss of profits and debt collection costs were also significant in explaining the ROA, ROE of commercial banks in Kenya the financial performance. The mean value of financial performance of commercial banks is positive which shows that commercial banks registered a high level of non-performing loans (NPLs). These findings are supported by Nakayiza (2013) in studies done in commercial banks a case of Centenary Bank Entebbe Road, Uganda. These studies found that although Centenary had tried to follow procedures and regulations in administering credit, there is still clients defaulting on loan repayments and increasing the effect of bad debts in commercial banks and concluded that loan portfolio management components affect financial performance of commercial banks in Kenya in terms of reducing profits, liquidity position and loss of confidence in the banking sector.
Multiple Regression Analysis
Regression analysis was carried out in order to determine whether independent variable loan portfolio management can be relied in explaining the dependent variable financial performance of commercial banks. The coefficients indicate that the correlation coefficients (R) between independent variable and dependent variable were 0.735 which is a positive relationship.

Table 4.9: Model Fitness – Non-performing loans and financial performance of commercial banks in Kenya - primary data

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>0.334</td>
</tr>
<tr>
<td>R Square</td>
<td>0.111</td>
</tr>
<tr>
<td>Std. Error of the Estimate</td>
<td>0.95911</td>
</tr>
</tbody>
</table>

Source: Researcher 2018

Table 4.9 shows the effectiveness of the model in measuring the effect of loan portfolio management on ROA, ROE of commercial banks in Kenya. The overall correlation coefficient (R) between financial performance of commercial banks and loan portfolio is a strong positive correlation of 0.334. The coefficient 0.735 of determination (R Square) indicates that loan portfolio management in regression model can explain 33.4% of the variations in ROA, ROE of commercial banks in Kenya holding other factors constant. The findings are in corroboration with a study carried out by Mwiti (2014) on the factors affecting credit risk management on loan portfolio of savings and credit cooperative society in Kenya a target of 150 SACCOS in Nairobi and found that the effectiveness of the SACCOS credit risk management process is heavily dependent on the quality of management information systems (MIS).

Analysis of Variance (ANOVA)
Table 4.10 and 11 presents the analysis of variance (ANOVA) on the influence of loan portfolio management; NPLs, loan underwriting and loan lending policies on financial performance of commercial banks in Kenya. The results indicate that the model is statistically significant in explaining the impact of loan portfolio management and financial performance of commercial banks in Kenya.

Table 4.10: AVOVA – Non-performing loans and financial performance of commercial banks in Kenya – primary data

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Sum of squares</th>
<th>Df</th>
<th>Mean square</th>
<th>F</th>
<th>Sign.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>42.361</td>
<td>1</td>
<td>42.361</td>
<td>83.366</td>
<td>0.000</td>
</tr>
<tr>
<td>Residual</td>
<td>36.077</td>
<td>71</td>
<td>0.058</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>78.438</td>
<td>72</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Researcher 2018

Table 4.11 presents the analysis of variance of the loan portfolio management that had to explain the return of assets and return on investment of commercial banks in Kenya. The overall significance of the model at 0.000 is at the level of significance of 0.01 reject the null hypothesis and conclude that loan portfolio management variables (bad debts written off, potential losses, debt collection costs, term of the loan, unsecured loans and customer deposits) have a negative influence on ROA, ROE of commercial banks in Kenya.

5.0 Summary, Conclusions and Recommendations
Summary
Loan defaulters among commercial banks remain high leading to financial distress of the banks even eventual collapse. Interest rate has an inherent implicit cost on the credit issued by banks with antecedent implications on loan default. Thus the study sought to determine if there exists a relationship between non-performing loans on financial performance of commercial banks in Kenya as reflected in the books of various commercial banks in Kenya. The findings established a significant positive and linear relationship between bank’s NPLs and financial performance of commercial banks. Excessive lending
by commercial banks is often identified as an important determinant of NPLs. For instance some studies report a negative association between NPLs and bank size. This indicates that when a commercial bank increases its interest rates, this may translate immediately into higher non-performing loans. The study recommended that there is need for banks to apply efficient and effective credit risk management that will ensure that loans are matched with ability to repay and minimize on their interest rate regulations and other incidental costs so as to reduce loan default. The study also recommended that commercial banks should have a mechanism of identifying loan defaulters and take necessary action, charge borrowers interest rates as per the regulations of CBK, enhance regular credit risk monitoring of their loan portfolio to reduce the level of NPLs.

**Conclusion**

The study found that there is strong, relationship between NPLs and financial performance which affect financial performance of commercial banks. The study found that there is a relationship between NPLs in commercial banks. Management of NPLs in banks help to improve the financial performance of banks as interest on loans is the biggest income of banks and increases the liquidity position of banks, helps in protecting the bank’s reputation and reduces losses (Wanjiru, 2013).

**Policy Recommendations**

Banks should endeavor to embrace to know the history of the customer before the credit can be granted. This are the means employed to know and widespread all the particulars and character of the borrower before giving out the loans. It can be achieved through scrutinizing the previous banking from the statements employed or the business transactions from the borrower. Banks should not mainly hand on collateral for them to secure the loans that they can lend. Banks should also apply efficient and effective credit risk management that will ensure that loans are matched with ability to repay, loan defaults are projected accordingly and relevant measures taken to minimize the same. Banks should also enhance periodic credit risk monitoring of their loan portfolio to reduce the level of NPLs. This can be achieved by hiring qualified debt collectors and competent personnel. It is recommended that commercial banks should use the services provided by credit reference bureau for the purpose of determining the credit worthiness of borrowers as a means of minimizing bad loans. CRBS help lenders make faster and more accurate credit decisions. It is recommended that commercial banks needs to invest debt collections and this will entail hiring qualified and experienced debt collectors, lawyers so as to increase mitigation of defaulters and auctioneers. This is from the fact that there is an inverse relationship between debt collection costs and the level of NPLs.

It is recommended that CBK which is the regulatory authority of commercial banks in Kenya should apply stringent regulations on interest rates charged by commercial banks so as to regulate them. Interest rate spread and also they should come up with rigorous policies on loan advances so as to mitigate moral hazards such as insider lending and information asymmetry. It is recommended that management should organize regular training in areas like credit risk management and financial analysis. This would sharpen the knowledge and skills of credit officers so as to improve on the quality of credit appraisals.

**Limitations of the study**

In attaining its objectives, the study was limited to 43 commercial banks in Kenya. Microfinance institutions were excluded since their operation is different from the one of commercial banks. The study could not therefore incorporate the impact of these companies. Secondary data was collected from the commercial banks financial reports. The study was also limited to the degree of precision of the data. Obtained from the secondary source, while the data was verifiable since it came from the CB publications, it never the less could still be prone to these shortcomings. The study was limited to establishing the relationship between interest rate regulations and NPLs on the financial performance of commercial banks in Kenya.

The study was based on a five year study period from the year 2014 to 2017. A larger duration of the study will have captured periods of various economic significance such as booms and recessions. They may have probably given a larger time focus hence given a broader dimension to the problem. There were losses where different financial institutions attached different meaning to the same items. For example a word like non-performing loans was used interchangeably with the words interest rate regulations and financial performance of commercial banks.

**Suggestions for further studies**

The study sought to determine the relationship between interest rate regulations and non-performing
loans on financial performance of commercial banks in Kenya. The need for a study to be conducted to determine the relationship between non-performing loans and financial performance of commercial banks as it was found that default risk negatively affects performance of commercial banks. From the findings and conclusion, the study recommended and in depth study to be carried out on the relationship between interest rates and performance of commercial banks in Kenya. Given the argument that inflation is affected by economic growth of the country, there is need for a study to be conducted to establish the relationship between performance of commercial banks and economic growth. In order to better the effects of credit information sharing on loan default risk there is need to a study to be carried out to determine the impact of credit information sharing on default in commercial banks, this will assist in commercial banks reduce the number of non-performing loans and also reduce default risk.

References
Otieno (2013), the effect of lending policies on the level of non-performing loans (NPLS) of commercial banks in Kenya. Published Master’s Thesis, University of Nairobi.
Standard Newspaper (2016), Nairobi Kenya, The CBK Governor Patrick Njoroge, the Commencement of the new law on reducing interest rates was on September 2016. The Standard Newspaper Daily Publishers PP 9-10.