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**THE EFFECT OF NON-PERFORMING LOANS ON THE FINANCIAL PERFORMANCE
OF COMMERCIAL BANKS IN KENYA**

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Declaration

I declare that this work has not been previously submitted and approved for the award of a degree by this or any other University. To the best of my knowledge and belief, the Research Proposal contains no material previously published or written by another person except where due reference is made in the Research Proposal itself.

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ABSTRACT

This study was carried out with objective of finding out whether the commercial banks in Kenya have been impacted by the problem of non-performing loans and whether ownership has any influence on the impact of non-performing loans. Profitability measured by return on assets is used as dependent variable and non-performing loans measured by non-performing loans ratio, capital adequacy, management efficiency and liquidity are used as independent variables. The independent variables used ^{were} are part of CAMEL factors that also affect profitability of commercial banks. To improve the accuracy and reliability of the tests Bank size is used as a control variable and ownership as a dummy variable. The ownership structure used in this study is whether a commercial bank is government owned that is the government has a significant stake in the bank or whether it is publicly owned. The research covered the commercial banks in Kenya listed in the Nairobi securities exchange for the past five years 2009-2014. The study used secondary data to analyze and draw conclusions and recommendations. A fixed effects model was used. The study indicates that there is negative effect of non-performing loans ratio on return on assets, confirming that non-performing loans negatively affects profitability of commercial banks in Kenya. On top of that the ownership structure was found to influence the impact of non-performing loans.

Implications' Conclusion

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CHAPTER ONE

1.0 Introduction

1.1 Background to the study

Commercial banks play an important role in economic resource allocation. They play an intermediary role by channeling funds from savers to investors (Ongore and Kusa, 2013). The essential function of financial intermediaries like banks is to satisfy at the same time portfolio preferences of two types of individuals the borrower and the lender. The borrowers who want to expand their real assets and the lenders who wish to invest their money in assets with a negligible default risk (Tobin, 1963). For a sustainable intermediation function banks need to be profitable. This is because the financial performance of banks has implications on the economic growth of a country (Ongore and Kusa, 2013).

Banks are able to achieve this intermediary function through provision of loans. According to (Yung-Jang, 2001) the traditional role of banks is lending and the bulk of their assets is loans. As (Anil K. Kashyap, 2002) articulates lending involves acquiring costly information about opaque borrowers, and extending credit based on this information. The primary concern of any lending institution while giving credit is how they will manage to get their money back (Fleisig, 1995), this argument statement implies that there is risk involved between the lender and a borrower, that is a default risk.

There are several definitions of non-performing loans and vary according to country. According to (Freeman, 2005) a loan is classified as non-performing if interest or principal payments are past due date by 90 days, or interest payments equal to 90 days have been capitalized, delayed by agreement or refinanced however there are other good reasons such as the borrower filing for bankruptcy hence there is doubt that payments will be made in full. If a loan is classified as non-performing it is removed either when it is written off or the interest or principal payment has been made.

Non-performing loans (NPLs) are important in determining the overall health of the banking sector yet are often ignored (Kauko, 2012). Non-performing loans often result from lending to favored individuals or sectors that are more preferred in the economy (Masood and Stewart, 2009).

It is difficult to know or quantify the probability of default even though there is historical data on defaulted loans. This is because the lending details and the circumstances attached to it vary from customer to customer. It is therefore difficult to say with certainty which customer will default and to what extent they will default (Masood and Stewart, 2009).

1.2 Commercial Banks

These are financial institutions that raise funds by issuing checkable deposits, savings deposits and time deposits. The banks then use the funds that they have obtained to issue mortgage, consumer and commercial loans (Mishkin and Eakins, 2006). As (Kozaric 2015) enumerates theoretically, there are four main bank functions; they include: to protect its depositors, to cover unexpected losses, the control functions and bank financing.

As at 31st December 2014, the banking sector comprised of the Central Bank of Kenya, as the regulatory authority, 44 banking institutions, 43 commercial Money Remittance Providers (MRPs) and 87 Foreign Exchange (forex) Bureaus. Out of the 44 banking institutions, 30 were locally owned banks comprised 3 with public shareholding and 27 privately owned while 14 were foreign owned. Of the 14 foreign owned banking institutions, 10 are locally incorporated subsidiaries of foreign banks and 4 are branches of foreign incorporated banks. Further, 11 of the 44 banking institutions are listed on the Nairobi Securities Exchange (CBK, 2014).

In general the banking sector in Kenya in was rated as strong in both 2013 and 2014 as strong. The institutions rated strong, satisfactory and fair in December 2014 were 22, 16 and 5 respectively. This was an improvement from the rating recorded in the period ending December 2013 (CBK, 2014).

1.2.1 Determinants of bank performance

The determinants of bank performance are internal and external factors. The Internal factors include the individual bank characteristics which affect the banks performance. While the

external factors are sector wide which are beyond the control of a single bank (Athanasoglou, 2006).

The internal factors include: size of deposits, labor productivity, capital size and state of information technology. CAMEL framework is often used as a proxy for internal factors. CAMEL stands for capital adequacy, asset quality, management quality, earnings and liquidity (Kusa, 2013). Though there are other alternative bank performance evaluation models, The CAMEL framework is the most commonly accepted as it is recommended by the BASEL committee on banking supervision and the International Monetary Fund (Baral, 2005). This study will focus mainly on the internal factors that affect the bank's performance.

Capital is the amount of the bank's own fund that is available and is able to act as a buffer in case of adverse situation. Bank capital creates liquidity for the bank this is because deposits are feeblers since customers can claim them at any given time and hence result in bank runs. On top of that banks with a huge capital base have a reduced chance of distress (Ongore and Kusa, 2013) . The capital adequacy ratio is used to measure the bank's capital (Kozaric and Zunic, 2015).

Management quality is often expressed qualitatively through evaluation of quality of staff, control systems, management systems, organizational discipline and others. However it can be expressed qualitatively through financial ratios like: Total assets growth, loan growth rate and earnings growth rate, expense to asset ratio, operating profit to total income (Ongore and Kusa, 2013).

Liquidity is the ability of the bank to meets its obligations when they become due (Anees, 2012). Liquidity of a bank is measured using financial ratios like: customer deposits to total assets, cash to deposit ratio (Ongore and Kusa, 2013).

Control is another determinant of bank performance. Bank performance varies according to ownership. Private Banks tend to perform better than publicly owned banks. State owned banks tend to grant riskier loans and in comparison to privately owned banks have bad solvency ratios (Onuonga, 2014).

1.2 PROBLEM STATEMENT

In Kenya there has been an upward trend in non-performing loans. Kenya witnessed an increase in non-performing loans by 32.4 per cent to Ksh. 108.3 billion in December 2014 from Ksh. 81.8 billion in December 2013. Similarly, the ratio of gross non-performing loans to gross loans increased marginally from 5.2 per cent in December 2013 to 5.6 per cent in December 2014 (CBK, 2014).

Lata (2014) asserts that non-performing loans are one of the major factors affecting a bank's profitability and non-performing loans have a significant impact on the net interest income of state commercial banks in Bangladesh. A high level of non-performing loans leads to further borrowing by the bank in order to meet its depositors demands this eventually affects the capital of the bank. This leads to a high debt equity ratio and therefore the bank is unable to maintain an optimal capital structure (Anees, 2012).

According to (Muriithi, 2010) NPLs lead to higher liquidity risk. Muasya (2010) asserts that the effects of NPLs on the interest income are not that adverse on 7 out of 13 commercial banks analyzed. Tesfai (2015) concludes that there is need for banks to carry out scientific credit control, and need for them to pay attention to liquidity and profitability since they reinforce each other and are not independent. Therefore, in this study, there is need to look at a how non-performing loans affect the earnings of commercial banks of Kenya and establish whether this is influenced by the ownership structure of the bank.

1.3 AIM OF THE STUDY

To assess the effect of non-performing loans on the financial performance of commercial banks in Kenya

1.4 RESEARCH OBJECTIVES

To determine the impact of Non-performing loans on the financial performance of commercial banks 37.

1.5 RESEARCH QUESTIONS

1. What is the effect of NPLs on the earnings of a commercial bank?
2. What is the effect of ownership on the impact of NPLs?

1.6 SIGNIFICANCE OF THE STUDY

The findings of this study will be beneficial to the following groups for decision making:

a) Investors

The study results will help investors know the effect NPLs have on their return on investment and therefore it will be a factor for them to consider when making investment decisions.

b) Financial institutions

The study results will help organizations know the impact of NPLs on their earnings and capital. This information will help them to improve their profitability since they will employ measures to ensure the impact of NPLs will not be adverse.

c) Commercial Bank Managers

The study results will show the managers the importance of monitoring and controlling the level of non-performing loans despite them providing for it in the statement of financial position.

d) Central Bank of Kenya

The study results will be useful to the regulator of commercial banks in Kenya to appreciate the importance of setting up measures on controlling NPLs.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter combines literature on finance and accounting on performance and non-performing loans both locally and internationally.

2.1 Effect of non-performing loans on earnings of commercial banks

One of the major sources of business for commercial banks is the supply of loans. The loan portfolio forms the largest part of the assets of commercial banks as they are the principal source of interest income. (Pu, 2015). Banks normally make profit from loans since the lending rate—that is the interest rate for loans is normally higher than the deposit rate. When the deposits are transformed into loans, a higher interest margin and profits are expected (Onuonga, 2014). The quality of the loan portfolio is of great importance since it has a direct impact on the profitability of the bank (Ongore and Kusa, 2013).

In the banking business there is need for risk management given that the major reasons for bank failures are poor asset quality and low levels of liquidity (Athanasoglou B. D., 2006) . Lending by commercial banks faces many potential risks. The major risks include credit risk, liquidity risk, politically connected risks, market risks, foreign exchange risks and interest rate risk. Credit risk has emerged as a new challenge to financial institutions given that market risk can be managed through hedging activities (Karumba and Wafula, 2012). Indicators of credit risk include: existence of NPLs, provision for bad loans (Saurina, 2006). The ratio of loans to assets is a substitute for credit risk. A high ratio implies that a large number of loans have been given out and therefore the probability of default (credit risk) is high and therefore the net interest margin and the profits will be affected negatively (Athanasoglou B. D., 2006).

During good a time that is the boom both the banks and the borrowers are overconfident. The borrowers are overconfident about their ability to pay back the loans and the interest rates. The banks with increasing capital and strong balance sheets also become overconfident and ease their credit policies. In the end projects that were thought to have positive net present value (NPV) end up having negative present values and therefore the loans end up impaired. On the other hand during recessions bank when banks have high non-performing loans they tighten their

credit policies and end up missing out on opportunities to fund positive NPV projects (Saurina, 2006).

Non-performing loans tend to decrease the liquidity position of banks since payment problems occur (Kozaric and Zunic, 2015). Bad loans tend to not only limit the financial growth of banks as a result of the lower liquidity but also reduce the ability of the bank to fund other positive NPV projects and also make credit facilities available to individuals. Due to these bad loans banks will experience a drop in their revenues and this translates to reduced financial performance (Tengey, 2014).

Bad loans also limit the lending potential for commercial banks. The greater part of profit for banks is from lending activities therefore if most of the bank's capital is stuck in bad loans high chances are that a greater part of revenue is lost. This not only reduces the bank's lending ability for the current financial year but also for the next financial year, therefore their loan size reduces (Tengey, 2014).

A study done by (Pu, 2015) in Ghana shows that irregardless of the strict evaluation and monitoring by banks to ensure payment of loans borrowed some customers were still unable to payback their loans. This then had a negative impact on the interest income and the operating profit of the commercial banks. This is because non-performing loans reduced the amount of interest income to be received in a period therefore reducing the net operating profit. This in turn reduces the amount of dividends to be paid to shareholders. In cases that banks had to devalue and cut their losses on their NPLs, they would suffer losses in the statement of financial positions and this has direct impact on operational activities and growth negatively (Dung, 2014).

NPLs have a detrimental effect on the cost efficiency of banks. This is because extra managerial effort and expenses will have to be incurred in order to deal with this problem loans. The extra operating costs include: diversion of senior management from other operational difficulties, cost of seizing and selling collateral material, cost of negotiating payback agreements, additional monitoring of the borrowers (Mohd Zaini Abd Karim, 2010). Given that this result in an increase in costs it ends up resulting in a decrease in revenue.

Banks that have a high non-performing loan ratio may cause panic to its investors, staffs and customers (Dung, 2014). Banks with high level of NPLs tend to engage in excessive risk taking

behavior therefore ending up rolling over in more bad loans in order to increase their chances of recovery (Dayong Zhang, 2015).

A study done by (Shingjergji, 2013) found the relationship of the loan to asset ratio negative but total loan levels positively influence NPLs. This implies that an increase in total loans results in an increase in the level of NPLs. Whereas NIM, ROE are negatively related to NPLs meaning NPLs are detrimental to performance.

2.2 Effect of ownership on Non-performing loans

Ownership has a significant impact on the performance of the top 6 commercial banks in Kenya. Foreign owned banks were found to be more profitable when compared to locally owned banks (Onuonga, 2014). This contradicts study by (Vincent Okoth Ongore, 2013) that states that ownership has insignificant influence on the performance of commercial banks it is board and management decisions that tend to impact the performance of commercial banks. However (Panayiotis P. Athanasoglou, 2006) observed that the ownership of the bank is not significant in explaining profitability meaning that private banks do not tend to make higher profit in comparison to others.

Upon taking into account the Non-performing loan ratio (NPLR) and the different classifications of banks. Reached the conclusion that new private banks in Taiwan fell significantly behind old public banks in terms of efficiency after the NPLR was included whereas old private banks operational efficiency fell behind irregardless of whether NPLR was included or not (Chiung-Ju Liang and Ming-Li Yao, 2008).

A study done by (Mohd Zaini Abd Karim, 2010) in Singapore and Malaysia concludes that bad management in banking institutions results in bad loans and therefore the level of non-performing loans increases.

Too short

2.3 Theoretical review

This section looks at the theories that explain the influence of non-performing loans on the earnings or profitability of a bank.

2.3.1 Asymmetric information theory

In financial markets one party often does not have adequate information about another party to make accurate decisions. Asymmetric information creates the problems of moral hazard and adverse selection. Moral hazard is the problem created by asymmetric information after the transaction occurs whereas adverse selection is the problem created before the transaction occurs (Mishkin and Eakins, 2006).

The problem of asymmetric information in financial markets occurs as a result of the borrower having more information than the lender. The theory was first presented by (Akerlof, 1970) in “market for lemons.” Whereby lemons represented the bad goods, using his model in the automobile market he says the seller of a car will have more information about the car than the buyer of the car. The buyer will only know if the car is a “lemon” after purchasing it and using it for a while.

The asymmetric information theory says it’s difficult to tell the good borrowers from the bad borrowers in the financial markets. In most cases the bad borrower- the bad credit risks- are the ones who are most likely to seek out the loan leading to moral hazard problems (Mishkin and Eakins, 2006). The adverse selection problem has led to substantial accumulation of NPLs. However the adverse selection problem can be reduced through information sharing, whereby banks are able to gather information regarding their credit applicants (Wangai David, 2014).

Moral hazard in banks occurs when a borrower takes an unusual risk in order to gather profits (Mishkin and Eakins, 2006). Moral hazard problems often result in high accumulation of NPLs (Wangai David, 2014).

2.3.2 Agency theory

The first scholars to come up with the agency theory are (Ross, 1973) and (Mitnick, 1973) . (Ross, 1973) Is credited with his work on economic agency theory whereas (Mitnick, 1973) is credited for his work on institutional agency theory.

The agency theory is becoming popular in explaining financial performance of financial institutions like commercial banks. It sets to explain the relationship between the management of an organization and the shareholders of an organization. The manager's main objective in an organization is to maximize shareholder profits. However this may not be the case, conflicts of interest may arise, whereby the manager may be more focused on ensuring his performance up to par instead of focusing on shareholder interests. The theory suggests that managers can be compensated financially in order for them to work in the best interests of the company.

2.4 Financial performance measures

There is a large set of performance measures for banks used by researchers and practitioners. They can be divided into: traditional, economic and market based performance measures (European Central Bank, 2010).

The traditional measures of performance are similar across all industries and they include: Return on Assets (ROA), Return on equity (ROE), cost to income ratio and the Net interest margin (NIM). ROE is the most popular form of performance measure.

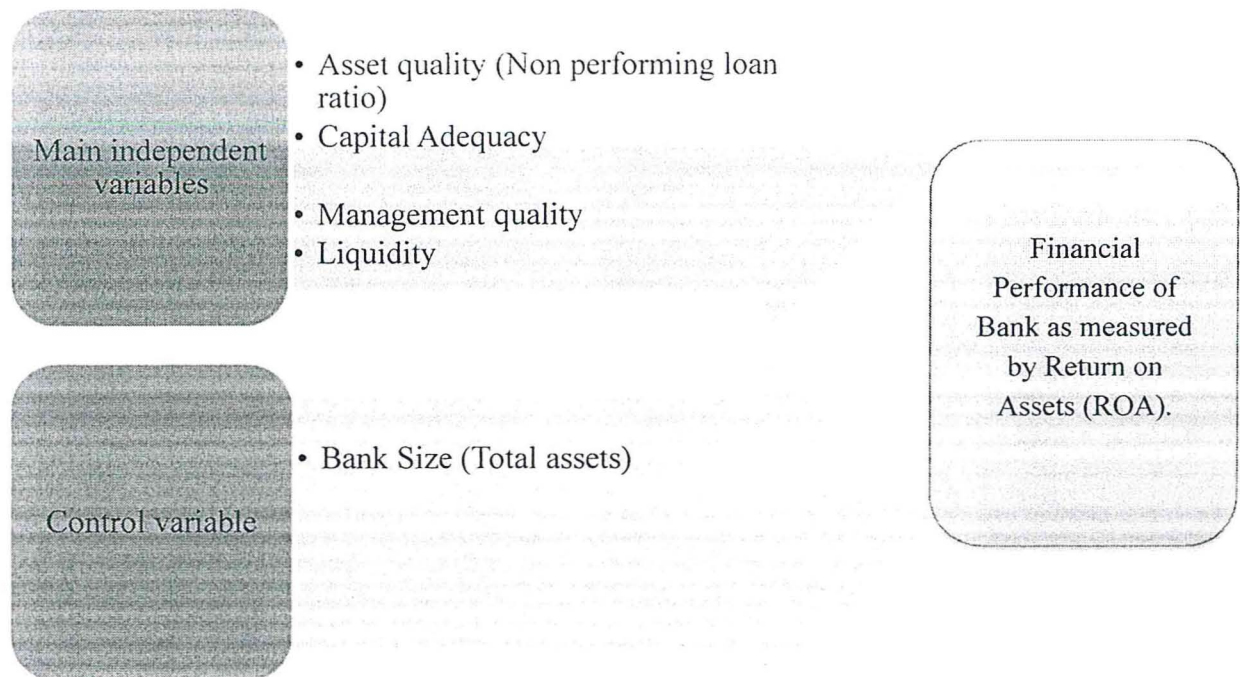
Economic measures mainly focus on efficiency as the core element in financial performance. They aim at assessing for any financial year the economic results a company generates from its economic assets. Two indicators that can be identified as economic measures of performance include: Economic value added and risk adjusted return on capital.

The market based performance measures, measure how capital markets view the activity of any given company compared to its estimated economic or accounting value. The most common used are: Total share return (TSR), Price to earnings ratio, price to book value, credit default swap.

2.5 Conceptual framework

The conceptual framework that will be used in determining the effect of NPLs on Financial performance uses the following: Asset quality, capital adequacy, management quality and

liquidity as the independent variables while the control variable is bank size. The dependent variable is Return on assets.



2.6 Knowledge gap

This study aims at filling the gap by studying whether the ownership structure affects the impact of Non-performing loans on financial performance. The form of ownership structure used by this study is whether the government has significant stake in the commercial bank that is they can easily influence the decisions or whether the commercial bank is just owned by the public. This differs from previous studies done by (Ongore and Kusa G. , 2013) and (Onuonga S. , 2014) who used whether the commercial is locally owned or foreign owned as the distinguishing factor for ownership. On top of that the study includes bank size as a control variable.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the design, population, sampling, data collection and the data analysis that will be used to conduct the research.

3.2 Research design

The study will be a descriptive study but quantitative in nature. A descriptive study involves observing what is happening to a particular variable concerned without manipulation and this design will be used to investigate the effect of non-performing loans on the financial performance of commercial banks. Descriptive study is also used because of its ability to cover a lot of material.

3.3 Population and Sampling

The study will use panel data of the commercial banks dating from 2010-2015. Panel data is used in order to see the effects over years and across the commercial banks. The population of this study includes all commercial banks in Kenya. There are 44 commercial banks in Kenya. Purposive sampling will be used in the sample selection. The study focuses on the banks listed on the Nairobi Securities Exchange. There are 11 commercial banks listed in the Nairobi securities exchange. The reason behind choosing commercial banks listed on the stock exchange is that they are required by law to release their financial statements and hence it will be easier to obtain the financial statements.

3.4 Data collection

This research is quantitative in nature and secondary data is used. Data on financial performance was obtained from banks' annual reports. Data on non-performing loans was obtained from commercial banks' annual reports and annual banking supervision reports done by Central Bank of Kenya. The commercial bank's annual reports are available in the banks company website

whereas the annual banking supervision report is available in the Central Bank of Kenya website. A data sheet will be prepared to assist in gathering the data.

3.5 Data analysis methods

The model is the fixed effects model which is used with panel data. The model is as represented below:

$$y_{it} = \beta_0 + \beta_1 NPLR_{it} + \beta_2 ME_{it} + \beta_3 LR_{it} + \beta_5 BS_{it} + \beta_6 OWN_{it} + \varepsilon_{it}$$

Where:

i identifies the individual bank in the sample, t expresses time,

y_{it} is the dependent variable (ROA)

NPLR is the ratio of nonperforming loans to total loan

OWN_{it} is a vector of dummy variables that characterize ownership structures of banks

3.5.1 Financial Performance measures

For this study the proxy for financial performance is Return on Assets (ROA).

The performance measures that will be used in this study is ROA according to studies carried out by (European Central Bank, 2010) . On top of that (Ongore and Kusa G. , 2013) used the same proxy for financial performance in their study. The method they used is:

$$\text{ROA} = \text{Net profit after tax} / \text{Total Assets}$$

3.5.2 Independent variables

3.5.2.1 Nonperforming loans

Non-performing loans is measured as the non-performing loan ratio which is given by the ratio of non-performing loans over the total loans.

3.5.2.2 Capital adequacy

For capital the proxy used was the capital adequacy ratio. To assess the adequacy of capital the capital adequacy ratio (CAR) is used by (Ongore and Kusa, 2013). The (CBK, 2014) uses capital adequacy to measure the soundness of the commercial banks. They use the capital adequacy ratio to measure capital adequacy. The capital adequacy ratios used include: core capital to total risk weighted assets, total capital to total risk weighted assets and core capital to total deposits. A study done by (Zunic, 2015) used the capital adequacy ratio to measure capital adequacy.

Adopting the same method as (Ongore and Kusa, 2013) to calculate CAR as:

Capital adequacy ratio= total capital/total assets

3.5.2.3 Management efficiency

One of the ratios used by (Ongore and Kusa, 2013) to assess my management quality is the total operating revenue to total profit. Therefore in line with that management efficiency is given by:

Management efficiency= total operating revenue/total profit

3.5.2.4 Liquidity

The ratio used by (Ongore and Kusa, 2013) to assess liquidity is total loans to customer deposits therefore in line with that we adopt a similar method:

Liquidity= Total loans/ total customer deposits

3.5.3 Control variables

Control variables are used since they might affect the dependent variables and therefore it was important to include them in our study.

The control variable in this case is BS_{it} . BS is the bank size. Study done by (Onuonga, 2014) used total assets as the proxy for bank size. This was the case in most studies analyzed. Therefore for these study total assets was also used as proxy for bank size.

3.5.4 Regressions

Several regressions will be run with the primary one being ROA and non-performing loans. A second one with all variables excluding the dummy variable is run and lastly a third one including the dummy variable is run.

CHAPTER FOUR

DATA ANALYSIS

4.0 Introduction

The purpose of this study was to find out whether non-performing loans have an impact on the financial performance of a Commercial Bank. The data was analyzed according to the following objectives:

1. To determine the effect of non-performing loans on the earnings of a commercial bank.
2. To determine the effect of ownership on the impact of non-performing loans.

Three regressions were done they include: return on assets and non-performing loans ratio, second, return on assets and all variables that is: management efficiency, liquidity ratio, non-performing loan ratio, bank size, capital adequacy while excluding the dummy variable and lastly, return on assets and all variables including the dummy variable that is ownership.

4.1 Regression results

4.1.1 The effect of NPLs on the earnings of a commercial bank

Table 4.1.1 Regression of ROA with non-performing loans

Variable	Coefficient	Std. Error	t-Statistic	Prob.
NON_PERFORMING_LOA				
N_RATI	-0.023729	0.095919	-0.247382	0.8058
C	0.034671	0.002980	11.63404	0.0000

R-squared 0.001455 Mean dependent var 0.034080

Adjusted R-squared -0.022320 S.D. dependent var 0.011700

As presented in Table 4.1.1 NPLs affect the financial performance of commercial banks with a minimum 95% confidence interval. The r-squared is 0.001455 meaning that non-performing loans explain 0.1455% of the changes that occur in bank performance. This kind of relationship

is negative as shown by the coefficient of -0.023729, which means an increase in non-performing loans will result in a decline in bank performance.

The results in Table 4.1.1 of the ROA regression with Non-performing loans are statistically significant given that the standard error obtained is 0.095919 and that is relatively low given by and the p-value obtained 0.8058 is higher than 0.05.

Table 4.1.2 Regression of ROA with all variables

Variable	Coefficient	Std. Error	t-Statistic	Prob.
NON_PERFORMING_LOAN_				
RATI	-0.030958	0.087257	-0.354791	0.7247
MANAGEMENT_EFFICIENCY	0.000680	0.003269	0.208109	0.8363
LIQUIDITY	0.004818	0.010870	0.443232	0.6601
CAPITAL_ADEQUACY	0.191100	0.093034	2.054088	0.0469
BANK_SIZE	2.79E-11	3.03E-11	0.922456	0.3621
C	-0.006000	0.015215	-0.394317	0.6956
R-squared	0.303783	Mean dependent var	0.034080	
Adjusted R-squared	0.212175	S.D. dependent var	0.011700	

The results in Table 4.1.2 show that the independent variables: non-performing loan ratio, management efficiency, liquidity ratio and capital adequacy and the control variable: bank size are significant in explaining the financial performance of commercial banks at a 95% confidence interval given that there p-values are higher than 0.05. The p-values obtained are: 0.7247, 0.8363, 0.6601, 0.05 and 0.3621 respectively.

The return on asset regression indicates that the independent variables: management efficiency, capital adequacy and liquidity and the control variable: bank size have a positive relationship with financial performance given that there coefficient values are: 0.000680, 0.19111, 0.004818 and 2.79×10^{-10} respectively. This means that if the following variables increase the banks

performance will also increase. The co-efficient for non-performing loan ratio is -0.030958 implying there is a negative relationship between non-performing loan ratio and financial performance. This result is similar to that obtained in table 4.1.1. The r-squared is 0.303783 meaning that these variables explain 30.3783% of the changes that occur in bank performance.

The regression equation obtained is as follows:

$$\text{Performance} = -0.006 - 0.030958 \text{Non-performing loan ratio} + 0.000680 \text{Management Efficiency} + 0.004818 \text{Liquidity Ratio} + 0.1911 \text{Capital adequacy} + 0.0000000000279 \text{Bank size}$$

4.1.2 The impact of ownership on the impact of NPLs

The second objective of this project was to find out whether ownership has an impact on how NPLs affect financial performance. A dummy variable for ownership was used in the regression. The ownership structure used in this study is whether it the commercial bank has a significant stake owned by the government owned or if it is public owned since all the banks used in this study are the ones that are traded on the Nairobi Securities Exchange.

Table 4.1.3 Regression of ROA against all variables including the dummy variable

Variable	Coefficient	Std. Error	t-Statistic	Prob.
<hr/>				
NON_PERFORMING_LOAN_				
RATI	-0.221164	0.090541	-2.442687	0.0195
MANAGEMENT_EFFICIENCY	0.004906	0.003031	1.618753	0.1140
LIQUIDITY	-0.008859	0.010043	-0.882116	0.3834
CAPITAL_ADEQUACY	0.242211	0.081286	2.979741	0.0051
BANK_SIZE	2.09E-11	2.61E-11	0.798495	0.4297
GOVERNMENT=0	AND			
PUBLIC=1	-0.003106	0.013130	-0.236571	0.8143
GOVERNMENT=1	AND			
PUBLIC=0	-0.019606	0.013596	-1.442064	0.1577
<hr/>				
R-squared	0.496907	Mean dependent var	0.034080	
Adjusted R-squared	0.415324	S.D. dependent var	0.011700	

The results obtained in table 4.1.3 shows that management efficiency, liquidity ratio, bank size are statistically significant in explaining the performance of a commercial bank at a 95% confidence interval. Given that there p-values are: 0.1140, 0.3834, 0.4297, 0.8143, and 0.1577 which are all higher than 0.05. However the p-values for non-performing loan ratio and capital adequacy are: 0.0195 and 0.0051 which is lower than 0.05 meaning that these variables would not be statistically significant at 95% confidence interval but would be significant at 99% confidence interval.

The regression shows that management efficiency, bank size and capital adequacy have a positive relationship with the financial performance of a commercial bank given that there coefficient values are: 0.004906, 0.242211 and 2.09×10^{-10} . This means that if the following values increase the bank performance will also improve. The coefficient for non-performing loan ratio is -0.221164, implying a negative relationship with bank performance. This is in line with the findings in the first two regressions. However the coefficient for liquidity is -0.008859 which is also negative this is not in line with the findings in the first regression. The r-squared value is 0.496907 meaning that the variables explain 49.6907% of the changes in bank performance. A regression equation can be determined from the coefficients as follows:

$$\text{Performance} = -0.221164\text{NPLR} + 0.004906\text{ME} - 0.008859\text{LR} + 0.242211\text{CA} + 0.000000000209\text{BS}$$

This type of ownership appears to have an influence on the financial performance of Kenyan banks given that the r-squared values and the adjusted r-squared values increased after including the dummy variables in the regression model. The r-squared and adjusted r-squared values prior to including ownership were: 0.303783 and 0.212175 respectively upon including ownership the r-squared and adjusted r-squared values were: 0.496907 and 0.415324.

CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

The overall objective of this study was to examine the impact of non-performing loans on financial performance of commercial banks in Kenya. The effect of ownership was also evaluated. To achieve these objectives 5 years panel data for 9 commercial banks was analyzed using fixed effects model. To be able to see the effects over years and across banks panel data was used.

5.1 Discussion of results

5.1.1 The effect of Non-performing loans on the earnings of a commercial bank

After running all the three regressions the coefficients for non-performing loan ratios were found to be: -0.023729, -0.030958 and -0.221164. They were all negative values this implies that non-performing loans has a negative relationship with financial performance. Therefore an increase in non-performing loans results in a decrease in bank performance. This shows that a high level of non-performing loans translates to poor bank performance.

This is in accordance to the findings by (Ongore and Kusa, 2013) that reached the conclusion that high non-performing loans and poor asset quality are related to poor bank performance. A similar study was also done by (Pu, 2015) in Ghana and he reached the same conclusion that delinquent loans also known as non-performing loans have a negative impact on financial performance of commercial banks that is an increase in non-performing loans results in diminishing bank performance. The same conclusion was also reached by (Kemal Kozaric, 2015) when they carried out a similar study in Bosnia and Herzegovina.

5.1.2 The effect of ownership on the impact of non-performing loans

The study as can be seen from table 4.1.3 reveals that the type of ownership has an influence on the determinants including non-performing loans. This is evidenced by the increase in r-squared and adjusted r-squared from 0.303783 and 0.212175 to 0.496907 and 0.415324. This is in accordance with (Onuonga, 2014) whose research proved that ownership structure has an effect on the profitability of commercial bank when differentiating ownership based on whether its locally owned or foreign owned. However the results of this study are contradictory to (Ongore

and Kusa G. , 2013) who found that the ownership structure of the bank has no impact on the profitability hence financial performance of the bank.

5.2 CONCLUSION

This study shows that non-performing loans significantly affect the performance of commercial banks. The relationship between non-performing loans and bank performance is negative. Therefore we can conclude that banks with low non-performing loans perform better than banks with high non-performing loans.

The ownership structure was found to be significant and therefore the performance of a bank varies according to whether it is government owned or owned by the general public in this case.

5.3 RECOMMENDATIONS FROM THE STUDY

From the study the following recommendations can be made;

Central bank of Kenya as the regulator of banking sector should ensure that individual commercial banks calculate on a quarterly basis the number of loans that have migrated from good loans to bad loans in order to avoid a situation where a commercial bank can have a compounding effect where the huge bad loan beginning to receive payments therefore migrating to the good book and at the same time good loans migrating to be bad hence there is a net effect of reduction in bad loans yet a bank is still having NPLs growth

Management of commercial banks should have a catalogue of the different situations that have led to bad loans and therefore create a catalogue of remedies to correct bad loans to reduce the impact of prolonged NPLs which reduces the income.

Commercial banks should always engage a credit reference bureau for assistance when they want to extend credit facilities to a customer in order to assess whether they are bad debt.

Strict adherence to the know your customer (KYC) policy by regulator may help a commercial bank to predict and avoid issuing fresh loans to a client that is in problems such as bankruptcy.

*Recommendation
Area for further research*

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