RELATIONSHIP BETWEEN THE LEVEL OF NON-PERFORMING LOANS AND FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN KENYA

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DECLARATION

I, the undersigned, declare that this is my original work and has not been presented to any institution or university other than the University of Nairobi for examination.

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

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LIST OF ABBREVIATIONS

ANOVA	Analysis of Variance
CBK	Central Bank of Kenya
GDP	Gross Domestic Product
KDIC	Kenya Deposit Insurance Corporation
NPL	Non- Performing Loans
NSE	Nairobi Securities Exchange
SPSS	Statistical Package for Social Sciences

ABSTRACT

Since the main source of income for commercial banks is interest charged when they issue loans, the main risk which the commercial banks encounter is increase in the level of NPLs. The bank's profitability is highly impacted by the level of NPL because a significant amount of banks revenue is generated from interest charged on the loans issued. Nonetheless, the performance of the banks is highly influenced by the level of NPL. The study aimed on determining the impact of level of NPLs on financial performance of commercial banks in Kenya. This study population comprised all the 43 banks in operation in Kenya as at 2018-year end. The data was acquired for only 37 banks which was equivalent to an 88.1% response rate. The independent variable for the study was NPLs. The control variables were liquidity, capital adequacy, bank size, management efficiency and off-balance sheet financing. In measuring the financial performance return on assets was used and it was the dependent variable. Annual Data, which was from secondary sources, was gathered for a 5 years' period, 2015- 2019. Research design was descriptive cross-sectional design whereas association between variables was determined by multiple linear regression model. SPSS version 23 aided the achievement of data analysis. An R-square value of 0.316 was revealed implying that around 31.6% of the changes in financial performance can be related to the six chosen independent variables whereas 68.4% in the changes of financial performance was related to other variables that did not form part of this study. From the study findings it was additionally uncovered that the independent variables strongly correlated with financial performance (R=0.562). The ANOVA results exhibited that the F statistic was significant at 5% level with p value of 0.000. Henceforth the model was appropriate in explaining the association amongst the chosen variables. Additional results demonstrated that the level of NPLs negatively and significantly affected financial performance while capital adequacy, liquidity and bank size positive and statistically significant values for this study. The study discovered that management efficiency and off-balance sheet financing are statistically insignificant determinants of financial performance of commercial banks. This gives recommendation that measures ought to be set up to reduce level of NPLs while at the same time boosting capital adequacy, liquidity and bank size as these four have a significant influence on financial performance.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The level of non-performing loans has been one of the main causes of irritation to the banking sector throughout the world (Kagoyire & Shukla, 2016). Existence of NPLs reduces the interest income of banks which consequently result to a low net income for the commercial banks. According to research and literature reviews Various research and literatures carried out have shown that there is a significant increase in NPLs in emerging and matured economies and is a problem to the banks (Bhattarai, 2016). Bank performance financially depends on the interest income which forms the main income source in comparison to non-interest income sources. An analysis of different banks' income statements in Kenya and across the globe over years reveal that interest income is the major item in profit generation. Consequently, non-performing loans greatly impact with a big percentage on the income generating variable (Kwaku, 2015).

Three theories formed the basis of this study namely; stakeholder theory, the adverse selection theory as well as theory of moral hazard. Stakeholder theory contends that banks strategies for assessment of probable borrowers and eliminating the opportunistic behaviors presented in the loan contracts is the one that to a greater extent shapes the credit or loan markets (Freeman, 1984). Consequently, lenders normally hike the pricing of credit to a level that they anticipate to maximize returns. This regularly omits borrowers which are small, costly and risky. The theory of adverse selection describes the scenario of a bank which is unable to isolate the risky borrowers from safe borrowers. The bank which lends in this theory has sufficient

information regarding the loan customers (Pagano & Jappelli, 1993). Moral hazard arises because lenders lack adequate sufficient to assess and believe the wealth level which will have been built by borrowers by the repayment's due date, as opposed to the time of application (Holmstrom, 2014).

The Kenya's banking sector is regulated by the Banking Act, Companies Act and the Central Bank of Kenya through the various regulations it formulates. The CBK founded under the Finance Ministry, has the mandate of formulating and implementing monetary policies and solvency fostering, credit risk, liquidity and effective financial system's functioning (CBK, 2013). The recent banking crisis in Kenya where three banks collapsed in a period of less than 1 year has highlighted the importance of stability in the banking sector. While the main factors attributed to the collapse were mostly fraud and corporate governance, previous banking crisis in the history of our country can be traced back to problematic loans. This research paper therefore endeavored to examine the association amongst the level of NPLs in the banking industry in Kenya and financial performance.

1.1.1 Level of Non-Performing Loans

NPLs denotes principle or interest overdue for a period of 90 days or more. Fofack, (2005) agrees with the definition suggesting that NPLs are overdue loans which do not generate income for a long duration, which mean that both the principle and interest on the loans have remained outstanding for over three months. Therefore, Loans that are considered uncollectable are referred to as NPLS., and they influence the lending patterns of various banks depending on historical impacts and the measures put in place to regulate lending per bank and across the industry (Tanui, Wanyoike & Ngahu, 2015).

Level of NPLs is important because it affects the lending of banks that is the main income source of the banks and in large affects the economy at large as it brings financial stability (Fofack, 2005). As a result of this, a lot of attention have been drawn to NPLs by recognizing the effects of huge amount of NPLs in banks which can result to banks failure and as well be an indicator of a slowdown in the economy. This is mainly because performance of commercial banks is measured by profitability and NPLs directly have a negative effect on it because of provisions made on NPLs account (Ezeoha, 2011).

The level of NPL in a bank is determined by the percentage of the NPLs to the total loans advanced. The higher the percentage, the higher the credit risk that a bank will be facing. Indeed, lately, the issue of non-performing credits has occupied the interests of banks and controllers, both in developed and developing nations in view of the part that bad debts contribute to the banking crisis. Towards controlling the level of NPL in a bank income statement, Manoj and Gauray (2010) advocate the utilization of various strategies in the face of the defenselessness of the monetary framework tests to reign in the control of NPL in banks. Saba, Kouser and Azeem (2012) recognize the volume of outstanding loans allowed by banks to be directly related with the volume of non-performing loans (Mutua, 2015).

1.1.2 Financial Performance

Financial performance (FP) as defined by Almajali, Alamro and Al-Soub (2012) refers to a firm's ability to achieve the range of set financial goals such as profitability. Financial performance is a degree of the extent to which a firm's financial benchmarks has been achieved or surpassed. It shows the extent at which financial objectives are being accomplished. As outlined by Baba and Nasieku (2016)

financial performance show how a company utilizes assets in the generation of revenues and thus it gives direction to the stakeholder in their decision making. Nzuve (2016) asserts that the health of the bank industry largely depends on their FP that is applied in indicating the strengths and weaknesses of individual banks. Moreover, the government and regulatory agencies are interested on how banks perform for the regulation purposes.

The focus of financial performance is majorly on items that directly alter the statements of finance or the firm's reports (Omondi & Muturi, 2013). The firm's performance is the main external parties' tool of appraisal (Bonn, 2000). Hence this explains why firm's performance is used as the gauge. The attainment level of the objectives of the firm describes its performance. The results obtained from achieving objectives of a firm both internal and external, is the financial performance (Lin, 2008). Several names are given to performance, including growth, competitiveness and survival (Nyamita, 2014).

Measurement of financial performance can be done using a number of ratios, for instance, Net Interest Margin (NIM) and Return on Assets (ROA). This is a measure that exhibits the potential of the bank to make use of the available assets to make profits (Milinović, 2014). ROA is calculated by dividing operating profit by total asset ratio which is used for calculating earnings from all company's financial resources. On the other hand, NIM measures the spread of the paid out interest to the lenders of banks, for instance, liability accounts, and the interest income that the banks generates in relation to the value of their assets. Dividing the net interest income by total earnings assets expresses the NIM variable (Crook, 2008).

1.1.3 Level of Non-Performing Loans and Financial Performance

From an accounting perspective, the concept of "prudence" requires that assets should be reviewed and revalued to reflect their realistic value because the value of certain assets is a function of some future events and or developments. To comply with the "matching" principle the costs of such assets have to be allocated to the periods that will benefit from such assets (Sohaimi, 2013). The expenditures for these assets are matched against the revenues that the assets help to produce through provisions. From this view, adequate provisions should be made, if it occurs that the entity may not be able to collect all the amounts due as per the contract, thus recognizing impairment. Financial institutions should thus save some funds that are charged to the income statement as provisional expenses, to safeguard against any losses that it may incur in future (Guru, Staunton & Balashanmugam, 2002).

Sangmi and Nazir (2010) states that the whole status of banks is determined by the level of NPLs which is mainly impacted by the credit policies and the quality of the loan book. The greatest risks faced by banks are those related to NPLs, hence to mitigate the risks and improve the assets quality non-performing loan ratios needs to be keenly observed (Dang, 2011). Banks with less NPLs indicates that they have a healthy loan book. Most banks therefore make efforts to maintain the loans at risk at the lowest possible level.

Ombaba (2013) noted that "the level of NPL is a strong determinant of financial institution performance because it influences the interest incomes while at the same time reduces the cost burden of bad debts management. The higher the non-performing assets to the gross / net assets book, the lower the asset quality and vice versa and therefore it means that the trade-off between NPL and bank performance is

expected to be negative". Ales and Bosworth (1998) reasons that an entity financial viability is weakened by the cost incurred and time spent in recovering defaulted loans and also the loss of both the interest and principle of the defaulted loan. Investors are mostly affected by the performance of institutions and low financial performance may not attract the investors and consequently may lead to institution being insolvent or even collapsing (Amalendu & Sri, 2011).

1.1.4 Commercial Banks in Kenya

As per the directory of the CBK, 42 commercial banks operate in Kenya, including some that are foreign owned. All these banks are headquartered in Nairobi and they offer both retail and corporate services to their clients. Some of the roles perfomed by these banks include: Credit facilities provision, storage of valuable goods, ensure seamless flow of international transactions, ensure smooth support of payment mechanisms community savings, and creation of money. The CBK which is under the ministry of Treasury is charge with the responsibility of formulating and implementing the monetary policy as well as fostering liquidity for proper operations of commercial banks. This policy formulation and implementation also include fiscal performance and fiscal risk management of the commercial banks (CBK, 2015). Out of the 42 banks, 30 are owned by locals and 12 by foreigners while those listed on the Nairobi Securities Exchange are 11 (CBK, 2017).

In regards to the level of NPL on Kenyan banks, there have been fluctuations over the years, majorly based on prevailing country economic conditions and inflation. Non-performing loans in Kenya were highest in year 2003 standing at 34.9% of total loans and lowest in 2011 standing at 4.43%. From 2011 to 2018, the number has been going up by a marginal percentage of around 8% p.a. (The World Bank report, 2018).

Liquidation of some banks such as Dubai Banks and Imperial Bank by the Kenya Deposit Insurance Corporation (KDIC) is a clear indication for the necessity of credit risk-based supervision and policy recommendations that would safeguard banks' financial risk and the stakeholders' funds.

In regard to financial performance, on average, the Kenya's banking sector performance has tremendously improved over the last 10 years. Notwithstanding, the in-depth analysis shows that not all commercial banks reports profits there are those have losses an example of some in Kenya that have been placed under statutory management of CBK are Imperial Bank and Chase bank. The industry of banking has been reserved as a main pillar to the accomplishment of vision 2030 through improved savings, encouragement of Foreign Direct Investment (FDI) which will conserve the economy and boost Kenya as a country financially as one of the best in Africa (The National Treasury, 2016).

1.2 Research Problem

Since the main income source of income for commercial banks is interest charged when they issue loans, the main risk which the commercial banks encounter is increase in the level of NPLs (Li & Zou, 2014). The information asymmetry in the banking industry leads to adverse selection and moral hazards which consequently lead to increase in NPLs. The bank's profitability is highly impacted by the level of NPL because a significant amount of banks revenue is generated from interest charged on the loans issued. Therefore, the level of NPL threatens the banks performance. According to prior studies, managing the level of NPL is a predictor of the performance of banks as far as its finance is concerned. For Example, the level of

NPL is likely to affect the credit system of commercial banks and decrease the bank's overall financial performance (Afriyie & Akotey, 2012).

Kenya's banking sector has seen a rise in nonperforming loans from most banks, which have seen a huge rise in the nonperforming loans ratio. The issue of rise in the level of NPLs has become among the key challenges to the commercial banks in Kenya (Kibor, Ngahu & Kwasira, 2015). Failure to manage non-performing loans effectively would lead to a situation where banks make losses which in effect will influence its financial performance. Poor credit risk management among banks is usually characterized by adverse selection issues and a rise in moral hazards as a result of the lenders not understanding the ability of the borrower.

Empirical evidence is to a greater extent varied and inconsistent on the association amongst the level of NPLs and FP. Shukla and Bajpai (2015) assessed how the control of NPL relates to the profitability of banks and realized direct correlation between management of NPL and profitability of Rwandan banks. The study by Sujeewa (2015) assessed the management of NPLs bearing on performance of banks and revealed that NPLs and its provisions have an negative impact on profitability of commercial banks in Sri Lanka. Alshati (2015) investigated on how managing NPLs affects how Jordanian commercial banks perform financially. The study concluded that good measures of controlling NPLs were important in promoting better performance of the Jordanian banks.

Locally, Mutuku (2016) focused on the effect of NPLs on FP. The study established a negative effect of NPLs ratio on returns on assets, this confirmed that profitability of Kenyan banks is adversely influenced by NPLs. Kubai (2016) did a research on how NPLs impacted the operational efficiency of banks in Kenya and concluded that there

exists an adverse association amongst operational efficiency and NPLs for commercial banks in the country. Kinuthia (2016) on the association amongst NPLs and FP of commercial banks in Kenya established that NPLs have no significant correlation with FP. They concluded that the price of an increased loan portfolio and return is NPLs and it is inevitable. The mixed views by different scholars on the effect of NPLs on FP of commercial banks was reason enough to conduct another study. This study attempted to contribute to this debate by giving an explanation to the research question; what is the relationship between the level of non-performing loans and financial performance of commercial banks in Kenya?

1.3 Objective of the Study

The objective of this study was to establish the relationship between the level of non-performing loans and financial performance of commercial banks in Kenya.

1.4 Value of the Study

The study results will be used as a reference point by academicians, researchers and students that wish to conduct studies in this or related areas. More so, scholars and researchers will benefit as this study will help them identify other areas of future studies through listing associated topics which needs further studies and gaps that need to be bridged

The findings are anticipated to be beneficial to the various managers who are responsible for the management of commercial banks in Kenya as this study presents crucial recommendations and information that will inform management decisions culminating to wealth maximization to the shareholders. The study widens the available knowledge pool to assist both existing and future firms to improve their returns and ensure sustainability.

To government and organizations such as the CBK as it will assist them in formulating and implementing polices and regulations overseeing the monetary policies and credit risk in ensuring a stable banking sector in order to improve the economic growth and minimize its spiral impact on the economy. Consequently, this will lead to credit risk management improving as well as the whole economy.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This section contains a review of the theories forming the study's foundation. Additionally, previous studies by researchers in this area and those related to it will be discussed. Also determinants of financial performance will be detailed in the sections of this chapter and a conceptual framework exhibiting how the study variables relate and at the end the literature review summary will conclude the chapter.

2.2 Theoretical Framework

This reviews theories presented that explains how the level of NPLs relates to the FP of commercial banks. The theories that relate to this study are; stakeholder's theory, the theory of moral hazard and the theory adverse selection.

2.2.1 Stakeholder's Theory

Stakeholders' theory, which as originally developed by Freeman (1984) was to be used as an instrument of management. It has however since advanced to become a firm's theory that has high potential of explanation. The stakeholder theory is like a framework of concepts pertaining ethics in business and organizational management that deals with ethical and moral values in business management or other organizations. Stakeholder theory majorly focuses on equilibrium of the interests of the stakeholders as the corporate policy core determinant. The theory has a large contribution to risk management coming up as an addition to implicit contracts theory as well as other contracts forms, comprising sales and financing (Cornell & Shapiro, 1987).

In various industries, consumer trust and particularly high-tech services, and the specifically involved companies affording to maintain the delivery of such services in posterity, may eventually boost the value of the company. The implicit claims value is however very sensitive to probable costs of bankruptcy and/or fiscal distress. This is because practices of management on corporate risks can front the lowering of these expected costs, raising the value of company (Klimczak, 2005). The stakeholder theory therefore presents a diversified understanding into feasible justification for risks control such as bad debt. The hypothesis however has not been directly tested. A hypothesis investigating financial distress only provides indirect evidence (Judge, 2006). Stakeholder theory is applicable to this study as it highlights such effects as fraudulent directors, insider lending and bizarre acquisition of loans. For example, the case of Chase bank Kenya 2016, where one director of the bank borrowed Ksh7.9 billion without security.

2.2.2 Adverse Selection Theory

According to Pagano and Jappelli (1993), regulation through use of law is the first way of addressing the problems brought about by agency relationship. IFRS, IASs and securities exchanges makes rules that mandates the management to completely disclose private information. The FASB and SEC have issued an outlined the guidelines that ought to be followed in the processes of ensuring mandatory disclosures. Despite the existence of these regulations, the is no guarantee of full disclosure because of the conflict existing amongst the shareholder and managers. An argument is made that the corporate reporting direction are thereby anticipated to provide the financial specialist with basic amount of information which helps in basic leadership (Auronen, 2003).

Additionally, in the effort of mitigating the agency costs the principals end up incurring agency costs. These agency costs comprise of monitoring cost (incurred by the shareholder in following up with the manager and reducing the divergent activities of agents), outstanding loss costs (originating from difference in judgments of the agents and principal that would translate to the principal's welfare being maximized) connection costs (paid by managers for ideal agreement to guarantee the principals interest will not be affected negatively by their actions). Therefore, the three aforementioned costs are the summary of the agency cost (Bester, 1994; Bofondi & Gobbi, 2003). This hypothesis is applicable to the study since it relates to how highly a firm can charge interest rates that are non-favourable to borrowers concealed as lending risk. This contributes to NPLs because of the burden of payment by clients.

2.2.3 Moral Hazard Theory

From economic definition, a scenario where one party becomes involved in an event that is risky conscious of its protection against the risk resulting in the other party bearing the cost is called moral hazard (Holmstrom, 2014). It is brought about by information asymmetry between the involved parties. On a lending perspective, the moral hazard problem implies that, unless there are imminent future consequences, a borrower has the spur to default credit applications. In financial markets/ banking sector, a risk of the borrower engaging in undesirable activities from the lender's point of view exist since they reduce his likelihood of pay the loan back. This is so likely because, the borrower presumes that another person will offset the mistake done (Down, 2012).

During a lending contract, lenders lack adequate information to assess and believe the wealth level which borrowers will have created by the debt repayment's due date, as

opposed to the application time. When the lenders have no ability to assess the level of wealth of the borrowers, it will be tempting for the latter to default the loan. To reduce this, lenders cover the risk by increasing the rates, culminating to the market breakdown (Alary & Goller, 2001). In economics therefore, the incentive that a borrower has to act in a riskier and non-favourable way to the lender is described as moral hazard.

2.3 Determinants of Financial Performance

The determination of an organization's FP can be ascertained by a number of factors; these factors are either internal or external. Internal factors differ from one bank to the next and are within a bank's scope of manipulation. These consist of level of NPLs, capital size, quality of management, efficiency of management, deposit liabilities, credit portfolio, policy of interest rate, ownership and bank size. External factors affecting a bank's performance are mainly gross domestic product, Inflation, stability of macroeconomic policy, Political instability and the rate of Interest (Athanasoglou, Brissimis & Delis, 2005).

2.3.1 Level of Non-Performing Loans

Level of NPLs is a major and costly risk for any financial institution. In comparison to other risk which are encountered by banks, rise in NPLs risk is a significant risk as it is a direct threat to their solvency (Sufi & Qaisar, 2015). In spite of loan issued by lenders being subject to default risk, the lenders goes on an gladly advances the loans to the borrowers anticipating that they will continue making repayments of their installments without defaulting and resulting to NPLs (Bhattarai, 2016). To a large extent, NPLs can bring down the profits of banks. This may suggest that banks have

failed in setting up appropriate measure of effectively dealing with the credit risk control (Afriyie & Akotey, 2012).

The levels of NPLs arise due to the existence of information asymmetry in the banking section which lead to adverse selection and moral hazards. The bank's profitability is highly impacted by the level of NPL because a significant amount of banks revenue is generated from interest charged on the loans issued. Therefore, the level of NPL threatens the banks performance. According to prior studies, managing the level of NPL is a predictor of the performance of banks as far as its finance is concerned. For Example, the level of NPL is likely to affect the credit system of commercial banks and decrease the bank's overall financial performance (Afriyie & Akotey, 2012).

2.3.2 Bank Size

The level at which a firm is affected by financial or legal factors is determined by the bank size. There is a close connection of capital adequacy and the size of a bank mainly due to the fact that large banks are able to obtain capital that is less expensive which enables them to make big profits. There is a positive association between size of a bank and return on assets showing that large banks are able to take advantage of economies of scale and minimize on costs of operations therefore enabling the banks to increase the financial performance (Amato & Burson, 2007). Magweva and Marime (2016) related capital ratios with bank size suggesting that they have positive relationship amongst themselves implying that as the bank size grows profitability increases.

According to Amato and Burson (2007), the size of an organization is primarily determined by the amount of assets it owns. An argument can be made that the larger the assets a firm owns, the more its ability to undertake a large number of projects with greater returns in comparison with small firms with a smaller amount of assets. Additionally, the bigger the firm, the larger the amount of collateral that can be pledged in a move to access credit facilities in comparison to their smaller competitors (Njoroge, 2014). Lee (2009) concluded that the amount of assets in control of a firm has an influence on the level of profitability of the said firm from one year to the next.

2.3.3 Bank Liquidity

Liquidity denotes the extent that an entity is capable of meeting its obligations that fall due in the next one year by use of cash or cash equivalent for instance short term assets that can be simply converted in to cash. Ability of the managers to met their dues to creditors without financial assets having to be liquidated is where liquidity results from (Adams & Buckle, 2003).

As suggested by Liargovas and Skandalis (2008) firms may utilize liquid assets for purposes of financing investments and their activities where the external finance is not imminent. Firms able to deal with unexpected or contingencies that are unforeseen and cope with its falling obligations are those with higher liquidity. Firm's liquidity might have impact which is high on firm's efficiency (Almajali, Alamro and Al-Soub, 2012) Thus firms ought to aim on decreasing their current liabilities while increasing their current assets as indicated by the suggestion. However, at times liquidity abundance may lead to more harm (Jovanovic, 1982).

2.3.4 Management Efficiency

Management efficiency is a major internal factor which is measures a firm qualitatively and determines its operational efficiency. Some of the ways which are used in assessing the firm's management efficiency includes, its capability its management to utilize its resources efficiently, its capability of maximizing funding and its abilities in effectively allocating those resources (Kusa & Ongore, 2013).

Since management efficiency involves measurement that are qualitative and determines firm's operational efficiency some of the way in which it can be evaluated includes identifying the staff quality, assessing the internal controls efficiency and effectiveness, checking on discipline of staffs in the organization and also assessing the management systems effectiveness (Athanasoglou, Sophocles & Matthaois, 2009). The level operating expenses in an organization is affected by the management quality which consequently affects the firm profitability and therefore management efficiency impacts the firms' performance (Kusa & Ongore, 2013).

2.3.5 Capital Adequacy

Athanasoglou et al. (2005) asserts that when the banks financial performance is being determined it is necessary to consider capital since it is a significant variable. Capital is the contribution of the owners to the business for supporting the banks operations and it alos protects the banks against an adversity. In imperfect capital markets, banks that are properly capitalized ought to minimize its borrowing in order to support certain classes of assets and hence be able to reduce likelihood of bankruptcy costs as they are inclined to facing lower funding costs.

Banks that are well capitalized signals to the market that they should expect a performance that is above average. Athanasoglou et al., (2005) noted that banks

profitability is positively affected by the capital contributed, that show good financial condition of Banks in Greece. In addition, Berger et al., (1987) revealed a positive causality of capital contribution and firms' profitability in both directions.

2.3.6 Off Balance Sheet Financing

Off balance sheet activities engage risks that may include operational risks, credit risks and also market risks that can impact the solvency as well as liquidity for banks (Casu & Girardone, 2005). Therefore, considerable expansion in derivatives dealings by marketable institutions can be clarified through augmented rates of interests, credit risk as well as the risks from foreign exchange coverage that financial institutions encounter on both international as well domestic markets. These activities provide means of hedging above risks with no need to produce broad alterations on the financial statements (Aktan et al., 2013).

In the off balance sheet funding, the sum liability of an entity raises however the raised debt is not shown in the balance sheet of the entity. This makes the firm reveal improved gearing ratios, acquire extra debts as well as allow the firm obtain extra finances whilst tranquil maintaining its gearing levels with the providers (Karim, Abd & Gee, 2007).

2.4 Empirical Review

Studies have been carried out both internationally and locally to ascertain the relationship existing between NPLs and FP of commercial banks and their findings have been diverse.

2.4.1 Global Studies

Shukla and Bajpai (2015) studied NPLs relationship to banks' profitability in Rwanda. The outcomes of the regression analysis undertaken realized a direct correlation between them. Capital adequacy, bank size and gross domestic product were identified to have negative effect on financial performance, while, asset quality positively influenced financial performance.

Alshati (2015) investigated on how managing NPLs affects how Jordanian commercial banks perform financially. The study was done during the period (2005-2013). 13 commercial banks made up the target population of the research. Results of the research explained that the effect between the two was positive, whereby FP was measured using ROE and ROA. The conclusions of the study were that indicators of managing NPLs were important to promote better Jordanian banks performance.

Sujeewa (2015) conducted a research on how managing NPLs influenced how the banks in Sri Lanka performed financially. Both primary and secondary data was utilized. For the primary data, interviews were conducted while banks' annual reports provided secondary data to researcher. The study had 24 commercial banks as the target population and 8 banks as the sample size. Data was collected for the period between 2009 and 2013. To assess how NPL relates to profitability, regression analysis was used. In data analysis, Panel data analysis was used. The study concluded that NPLs impacted profitability of banks negatively.

Vighneswara (2015) examined the profitability of Indian Banks and determinants of NPLs where he used panel data of the period 199-2009. The findings indicated that the priority sector credit wan not sufficient to have an influence of NPLs. This was a contravention of the common opinion and comparative is the situation with local

branches indicating that avoidance of rural credit is a false opinion. Not on only the performance of individual bank is tied to bad debts but also that of the whole sector. More so, unlike asset size that don not have an effect on banks profitability, investment activity and capital adequacy have a significant effect on banks profitability.

Rasika, Hewage and Thennakoon (2016) investigated on whether NPLs affects how profit making banks in Sri Lanka performed financially. The research conducted a research on 2 state banks and four private domestic banks. The research was conducted for the period between 2005 and 2014. The research employed secondary data to obtained information from the financial statements of the bank. The analysis of data collected was carried out using panel data analysis method. The findings of the study indicated negative relationship on non-performing ratio and the ratio of capital adequacy on FP that was measured using ROE.

2.4.2 Local Studies

Mutuku (2016) examined the impact of NPLs on the profitability of commercial banks in Kenya. All commercial banks in Kenya were the study population (CBK 2016). Secondary data was collected for period 2006- 2016, analyzed and the conclusions and recommendations were made. This study finding is that Return on assets is negatively influenced by NPLs, which affirm the assertion that profitability of banks is adversely affected by NPLS.

Kinuthia (2016) undertokk a study in determining whether NPLS significantly affected profitability of commercial banks in Kenya. Forty-two banks which formed the population of the commercial bank in Kenya were studied and regression and correlation analysis was done. From this study findings, it was revealed that despite

banks being affected by NPLs which they consider as part of their expenses, the impact is not big enough to result to a negative growth in the returns of assets. This simply meant that NPLs increased because an increase in the loan portfolio and NPLs was the cost of having a big loan book and cannot be avoided.

Kubai (2016) did a research to determine the impact of NPLs on operational efficiency of the Kenyan commercial banks. An investigative and exploratory research design was used and sought to analyze and correlate the effects of NPLs to the daily operational efficiency. Secondary data was extracted from financial reports of 43 commercial banks in Kenya and scrutinized using regression analysis. From the analysis of the findings a negative association amongst NPLs and operational efficiency was established.

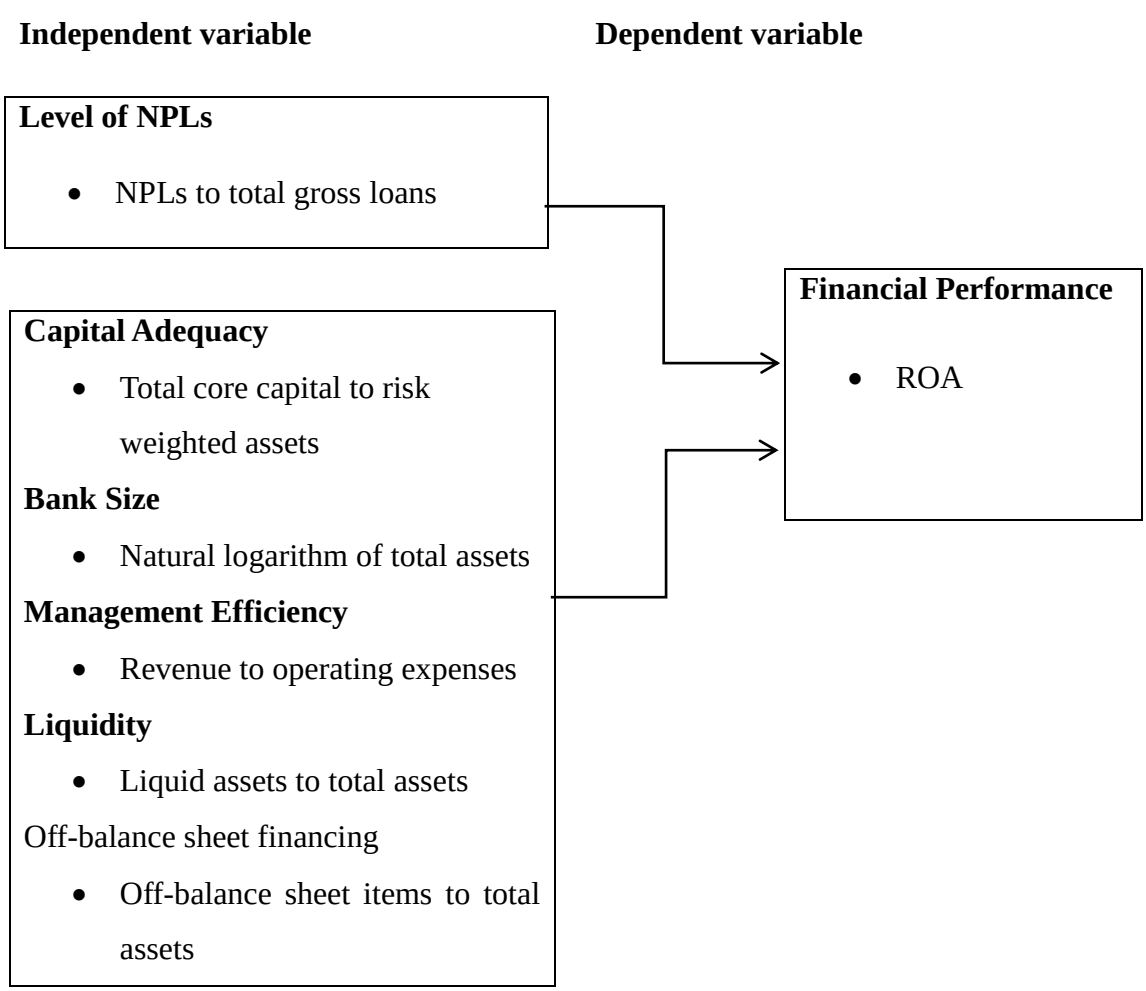
Mburugu (2018) sought to investigate NPLs and the possible effect on lending behaviour of commercial banks in the country. This scenario was modeled in the form of a multiple linear regression model that was used to describe the effect of non-performing loans on lending behaviour. The study applied descriptive research design and secondary data collection methods employed to collect data for the various variables that were studied. Their effect on lending behaviour was determined for a period of 5 years (2013-2017). The study was significant at 95% degrees of freedom as it revealed a positive significant effect of NPLs on lending behaviour. The study found out that increment in NPLS results to increase in lending behaviour.

2.5 Conceptual Framework

NPLs were the independent variable which was measured by the ratio of NPLs to total loans. The control variables characterized here are capital adequacy as measured by the ratio of total core capital to risk weighted assets, bank size as measured by natural

logarithm of total assets, management efficiency as measured by total revenue divided by total expenses, liquidity as measures by ratio of liquid assets to total assets and off-balance sheet financing as measured by the ratio of off-balance sheet items to total assets. Financial performance was measured by ROA.

Figure 2.1: Conceptual Model



Source: Researcher (2020)

2.6 Summary of the Literature Review

This section looked on to the theories and the empirical studies that this study was founded on. The theoretical framework was formed of three theories which consisted of; the stakeholder theory, adverse selection and the moral hazard theory. In addition,

factors which are thought to determine financial performance were reviewed. Under the empirical review, studies on area of study or associated areas were reviewed. As indicated by the results, it is proved that although there exist local studies on non-performing loans, most of them focus on how to mitigate NPLs without addressing its relationship with FP. Besides, there was no consensus among the existing local studies on the association amongst NPLs and FP of commercial banks in Kenya. This is the gap that the current study leveraged on by answering the research question; what is the relationship between level of NPLs and FP of commercial banks in Kenya?

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

A methodology is required in outlining how the research will be done to ascertain how the FP of commercial banks is related with level of NPLs. Sections incorporated in this chapter are; research design, data collection, diagnostic tests and data analysis.

3.2 Research Design

The research will utilize a descriptive cross-sectional research design in determining association amongst the level of NPLs and performance of commercial banks. The research will utilize this design as it will enable obtaining of the state of affairs as the actually exists (Khan, 2008). The research is well familiar with the area under scrutiny but wish to learn more with respect to the nature of relationship amongst the study variables hence the research design is the most suitable. More so, the aim of descriptive research is provision of an authentic and correct representation of the study variables and this aids when it comes to replying to the research questions (Cooper & Schindler, 2008).

3.3 Population

A population is the total number of observations of interest from a collection such as persons or events as specified by a research investigator (Burns & Burns, 2008). This study's population comprised of the 42 commercial banks in Kenya as at 2018-year end. Because the population is comparatively small, a census of the 42 banks was undertaken for the study (see appendix I).

3.4 Data Collection

Data was gotten from a secondary source. The data was obtained from financial reports of banks and from the Capital Markets Authority as it is a requirement for the listed commercial banks to submit their reports to the regulator. The data obtained covered 5 years on an annual basis from January 2014 to December 2018. The specific data collected was; gross loans, non-performing loans, risk weighted assets, core capital, liquid assets, total assets, off-balance sheet items, total revenue and total operating expenses.

3.5 Diagnostic Tests

To determine the viability of the study model, the researcher carried out several diagnostic tests, which included normality test, stationarity test, test for multicolinearity, test for homogeneity of variances and the autocorrelation test. Normality tests the presumption that the residual of the response variable have a normal distribution around the mean. The test for normality was done by the Shapiro-wilk test or Kolmogorov-Smirnov test. In the case where one of the variables was not normally distributed it was transformed and standardized using the logarithmic transformation method. Stationarity test was used to assess whether statistical properties such as mean, variance and autocorrelation structure vary with time. Stationarity was obtained using augmented Dickey Fuller test. In case, the data fails the assumption of stationarity, the study used robust standard errors in the model (Khan, 2008).

Autocorrelation measures how similar a certain time series is in comparison to a lagged value of the same time series in between successive intervals of time. This was measured by the Durbin-Watson statistic and incase the assumption was violated the

study employed robust standard errors in the model. Multicollinearity occurs when an exact or near exact relation that is linear is observed between two or several predictor variables. Variance Inflation Factors (VIF) and the levels of tolerance were used. Any multicolinear variable was dropped from the study and a new measure selected and substituted with the variable which exhibits co-linearity. Heteroskedasticity tests if the variance of the errors from a regression is reliant on the independent variables. The study assessed for heteroskedasticity using the Levene test and incase, the data failed the assumption of homogeneity of variances the study used robust standard errors in the model (Burns & Burns, 2008).

3.6 Data Analysis

After the data is collected from the numerous sources, it will be arranged in a way that shall will be able assist to address the research objective. The SPSS computer package version 23 will be applied in analyzing the data. Descriptive statistics will be used to calculate the measures of central tendency as well as dispersion together with standard deviation for each variable. Inferential statistics on the other hand will entail correlation and regression analysis. Correlation analysis will involve establishing the degree of relationship amongst the study variables whereas regression analysis will entail knowing the cause and effect between the variables. A multivariate regression analysis will be utilized in determining the association between the dependent variable and independent variables

3.6.1 Analytical Model

The study will employ the following multivariate regression model;

$Y= \beta_0 + \beta_1X_1+ \beta_2X_2+ \beta_3X_3 + \beta_4X_4 + \beta_5X_3 + \beta_6X_6 +\varepsilon.$

Where: Y = Financial performance as measured by return on assets on an annual basis

β_0 =y intercept of the regression equation.

β_1, β_2, β_3, β_4, β_5 and β_6 =are the regression coefficients

X_1 = Level of NPLs as measured by the ratio of non-performing loans to total loans on an annual basis

X_2 = Capital adequacy as measured by the ratio of total core capital to risk weighted assets

X_3 = Bank size as measured by the natural logarithm of the total assets

X_4 = Management efficiency as measured by the ratio of total revenue to total operating expenses on an annual basis

X_5 = Liquidity as measured by the ratio of liquid assets to total assets

X_6 = Off-balance sheet financing as measured by the ratio of off-balance sheet items to total assets on an annual basis

ε =error term

3.6.2 Tests of Significance

Parametric tests will be conducted so as to determine the statistical significance of the overall model as well as individual parameters statistical significance. The F-test which will be obtained from ANOVA will be applied in establishing the overall model statistical significance while that of the individual variables will be obtained from the t-test.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This section details the analysis, findings and interpretation of the secondary data collected from the CBK and individual banks websites. The aim of the study was determining the influence of level of NPLs on the FP of commercial banks in Kenya. The independent variable for the study was level of NPLs whereas the dependent variable was the FP measured by ROA. Regression analysis was adopted to determine the effect amongst the variables of study in relation to the study's objectives. In ascertaining the suitability of the analytical model, ANOVA was applied. The results were presented in tables and figures.

4.2 Descriptive Analysis

The statistics produces a representation of the mean, minimum and maximum values of variables presented including the standard deviations. Table 4.1 below displays the characteristics of each variable. An output of each variable was extracted using SPSS software for a five-year time frame (2015 to 2019) on an annual basis.

Table 4.1: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ROA	185	-.001	.07	-.005	.0308
Level of NPLs	185	.014	38.6	.358	2.8320
Capital adequacy	185	.028	2.1	.236	.2173
Liquidity	185	.004	.2	.077	.0537
Management efficiency	185	.016	11.4	1.638	1.1803
Bank size	185	14.8	20.6	17.726	1.3658
Off-balance sheet financing	185	-.005	.2	.009	.0308
Valid N (listwise)	185				

Source: Research Findings (2020)

4.3 Diagnostic Tests

The data collected was undertaken through a diagnostic test. The study presumed a significance level of 5% or 95% confidence interval to make variable deductions on the data adopted. Diagnostic tests were useful for ascertaining the falsity or truth of the data. Therefore, the nearer to 100% the confidence interval, the more accurate the data used is presumed to be. In this case, the tests conducted were Multicollinearity test, normality test, and autocorrelation and Heteroscedasticity tests.

4.3.1 Multicollinearity Test

Multicollinearity can be defined as a statistical state where more than one predictors are highly correlated in a multiple regression model. It is an unwanted situation for independent variables to have a strong correlation. A combination of variables is said to exhibit high Multicollinearity in case there is one or more 100% linear correlation amongst the study variables.

Table 4.2: Multicollinearity Test

	Collinearity Statistics	
Variable	**Tolerance**	**VIF**
Level of NPLs	0.366	2.732
Capital Adequacy	0.398	2.513
Liquidity	0.388	2.577
Management efficiency	0.368	2.717
Bank size	0.376	2.659
Off-balance sheet financing	0.372	2.688

Source: Research Findings (2020)

VIF value and Tolerance of the variable were utilized where the values below 10 for VIF and values more than 0.2 for Tolerance imply no Multicollinearity. From the

results, all the variables had a VIF values <10 and tolerance values >0.2 as illustrated in table 4.2 suggesting that no Multicollinearity.

4.3.2 Normality Test

Shapiro-wilk test and Kolmogorov-Smirnov test was utilized for normality testing. The level of significance in the study was 5%. The outputs of the test are depicted in Table 4.3. The null hypothesis is that the data is distributed normally. If the Shapiro-wilk test and Kolmogorov-Smirnov tests contradict, the later test is picked over the former because it is more statistically sound. Since the p value in both tests of all the variables is more than the α (0.05), then the null hypothesis is not rejected. Hence the data series of all the variables is normally distributed.

Table 4.3: Normality Test

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
ROA	Statistic	Df	Sig.	Statistic	Df	Sig.
Level of NPLs	.173	185	.264	.918	185	.822
Capital Adequacy	.180	185	.264	.894	185	.790
Liquidity	.176	185	.264	.892	185	.784
Management efficiency	.178	185	.264	.893	185	.787
Bank size	.181	185	.264	.896	185	.792
Off-balance sheet financing	.188	185	.264	.892	185	.788

a. Lilliefors Significance Correction

Source: Research Findings (2020)

4.3.3 Autocorrelation Test

To test for autocorrelation, Durbin-Watson statistic was applied which gave an output of 1.863 as displayed in Table 4.4. The Durbin-Watson statistic ranges from point 0 and point 4. If there exist no correlation between variables a value of 2 is shown. If the values fall under point 0 up to a point less than 2, this is an indication of an autocorrelation and on the contrast a negative autocorrelation exist if the value falls

under point more than 2 up to 4. As a common rule in statistics, value falling under the range 1.5 to 2.5 are considered relatively normal whereas values that fall out of the range raise a concern. Field (2009) however, opines that values above 3 and less than 1 are a sure reason for concern. Therefore, the data used in this panel is not serially autocorrelated since it meets this threshold.

Table 4.4: Autocorrelation Test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.562[a]	.316	.293	.0259	1.863

a. Predictors: (Constant), Off-balance sheet financing , Level of NPLs, Liquidity, Capital adequacy, Bank size, Management efficiency
b. Dependent Variable: ROA

Source: Research Findings (2020)

4.3.4 Stationarity Test

In nature, most economic variables before undertaking regression analysis are mainly non-stationary. Therefore, unit root test was therefore carried out using Augmented Dickey-Fuller (ADF) in testing whether the variables were non-stationary or stationary. The reason for undertaking this was preventing false regression outcomes from being found through use of stationary series. As shown in Table 4.5 below, the variable at a 5% level of significance were stationary. Henceforth, there was no necessity of differencing some of the variables.

Table 4.5: Unit Root Tests at Level

Variable name	ADF test	5% Level	Prob	Comment
ROA	-3.753547	-3.540328	0.0312	Stationary
Level of NPLs	-4.262276	-3.540328	0.0093	Stationary
Capital adequacy	-4.522157	-3.540328	0.0520	Stationary
Management efficiency	-3.98997	-2.91452	0.0043	Stationary
Liquidity	-2.78574	-1.53674	0.0381	Stationary
Bank size	-3.453231	-3.23456	0.0037	Stationary
Off-balance sheet financing	-3.387451	-3.22754	0.0041	Stationary

Source: Research Findings (2020)

4.4 Correlation Analysis

Correlation analysis shows whether there is a relationship amongst two variables. The relation ranges from strong negative correlation to perfect positive correlation. This study utilized Pearson correlation in analyzing the association level amongst ROA and level of NPLs. A confidential level of 95% was employed since it's the most common in social sciences. Additionally, a two tailed test was applied. Table 4.6 shows the correlation analysis outcome.

Existence of a negative and statistically significant correlation ($r = -.483$, $p = .000$) between level of NPLs and FP was revealed. Further results revealed a positive and significant association amongst bank size and commercial banks' performance as demonstrated by ($r = .260$, $p = .000$) existed. Liquidity was also noted to have a positive and significant association with performance as shown by ($r = .154$, $p = .037$). Capital adequacy, management efficiency and off-balance sheet financing exhibited a positive association with FP however the association was not statistically

significant as evidenced by p values above 0.05. The study further found that although there was an association between the independent variables, it was not strong enough to result to Multicollinearity. In statistics, multicollinearity is a situation where there is existence of a perfect association amongst the predictor variables. Existence of an exact or a perfect among the predictor variables makes it challenging to derive dependable estimations of individual coefficients. Thus, it leads to improper conclusions of the relationships among the independent and the dependent variables.

Table 4.6: Correlation Analysis

		ROA	Level of NPLs	Capital adequacy	Liquidity	Management efficiency	Bank size	Off-balance sheet financing
ROA	Pearson Correlation	1						
	Sig. (2-tailed)							
Level of NPLs	Pearson Correlation	-.483**	1					
	Sig. (2-tailed)	.000						
Capital adequacy	Pearson Correlation	.110	.145*	1				
	Sig. (2-tailed)	.135	.049					
Liquidity	Pearson Correlation	.154*	-.103	-.050	1			
	Sig. (2-tailed)	.037	.163	.502				
Management efficiency	Pearson Correlation	.134	-.113	.144	-.275**	1		
	Sig. (2-tailed)	.069	.125	.050	.000			
Bank size	Pearson Correlation	.260**	-.172*	.026	-.062	.267**	1	
	Sig. (2-tailed)	.000	.019	.721	.402	.000		
Off-balance sheet financing	Pearson Correlation	.119	-.002	.187*	.034	.013	.206**	1
	Sig. (2-tailed)	.106	.974	.011	.641	.863	.005	

**. Correlation is significant at the 0.01 level (2-tailed).

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

c. Listwise N=185

Source: Research Findings (2020)

4.5 Regression Analysis

At significance level of 5% a regression analysis was accomplished between FP and the six independent variables chosen for this study. The F critical value was compared against the F calculated.

Table 4.7: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.562[a]	.316	.293	.0259	1.863

a. Predictors: (Constant), Off-balance sheet financing , Level of NPLs, Liquidity, Capital adequacy, Bank size, Management efficiency
b. Dependent Variable: ROA

Source: Research Findings (2020)

From the output in table 4.7, the R-square value was 0.316, implying that 31.6 % of the deviations in FP of commercial banks is attributed to changes in level of NPLs, liquidity, liquidity, management efficiency, bank size and off-balance sheet financing. Other factors not incorporated in the model are attributed 68.4% of the changes in FP. The correlation coefficient (R) value of 0.562 shows existence of a strong association between the independent variables contained within the study and financial performance.

Table 4.8 provides the outcomes of the ANOVA; the essence of F-test was for establishing an overall model significance. The formulae for calculating the critical value for the F test is;

$$\mathbf{F} = (SSE_1 - SSE_2 / m) / SSE_2 / n\text{-}k$$

Where;

SSE = Residual sum of squares,

m = Number of restrictions

k = Number of independent variables.

A critical value of 2.46 was gathered from the F-Test tables. The F statistic indicated in the study findings is more than the critical value, thus the whole model is significant to predict FP.

Table 4.8: ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.055	6	.009	13.692	.000[b]
	Residual	.119	178	.001		
	Total	.175	184			

a. Dependent Variable: ROA

b. Predictors: (Constant), Off-balance sheet financing , Level of NPLs, Liquidity, Capital adequacy, Bank size, Management efficiency

Source: Research Findings (2020)

So as to ascertain the each variable significance individually in this research as a predictor of the performance of banks it was important for t-test to be employed. P-value was utilized to indicate the significance of the association amongst the response and the predictor variables. Confidence level at 95% and value of p below 0.05 was understood as an index of statistical significance of the concepts. Therefore, a p-value more than 0.05 depicts an insignificant the variables. The outcomes are demonstrated in table 4.9.

Table 4.9: Model Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.081	.027		-3.024	.003
	Level of NPLs	-.005	.001	-.458	-7.097	.000
	Capital adequacy	.023	.009	.161	2.491	.014
	Liquidity	.079	.037	.138	2.112	.036
	Management efficiency	.001	.002	.055	.804	.423
	Bank size	.004	.002	.160	2.400	.017
	Off-balance sheet financing	.053	.065	.053	.818	.414

a. Dependent Variable: ROA

Source: Research Findings (2020)

In indicating both the direction and extent of the relationship amongst the response variable and independent variables the coefficients were used. On the other hand, the significance of the association amongst the dependent and independent variables was shown using the T values. The values identified were compared to the critical values. A confidence interval of 95% and a two tailed T test critical value of ±2.04523 was obtained from the T test tables. A T test value that lies out of this range is significant.

The results revealed that level of NPLs have a negative and significant influence on FP of banks while capital adequacy, liquidity and bank size have positive and significant influence on FP. Implication of this is that an increment with a unit in the level of NPLs will reduce FP by 0.005 while a unit increment in either capital adequacy, liquidity or bank size will result to an increment in financial performance by 0.023, 0.079 and 0.004 respectively. The findings further revealed that although management efficiency and off-balance sheet financing had a positive impact on FP, the influence was not statistically significant. The constant coefficient -0.081 implies

that when the six selected independent variable have a zero value, financial performance would be equal to the figure.

The regression equation below was thus estimated:

$$\mathbf{Y_i = -0.081 - 0.005\ X_1 + 0.023X_2 + 0.079X_3 + 0.004X_4}$$

Where;

Y_i= Return on Assets

X_1 = Level of NPLs

X_2 = Capital adequacy

X_3 = Liquidity

X_4 = Bank size

4.6 Discussion of Research Findings

The researcher was seeking in determining the influence of level of NPLs on the commercial banks' FP. Level of NPLs, liquidity, capital adequacy, management efficiency, bank size and off-balance sheet financing were the predictor variables in this study while FP of commercial banks measured by ROA was the dependent variable. The adequacy of the overall model in predicting FP was examined. The influence of each predictor variable on the dependent variable was also examined with respect to strength and direction.

From the results of Pearson correlation, the study found an existence of a negative and statistically significant correlation between level of NPLs and financial performance. Further a positive and significant correlation between bank size and commercial banks' performance existed. Liquidity was also noted to have a positive and

significant association with performance. Only capital adequacy, off-balance sheet financing and management efficiency were revealed to be positively and insignificantly linked with FP.

The independent variables from the model summary revealed that: Level of NPLs, liquidity, capital adequacy, management efficiency, bank size and off-balance sheet financing explains 31.6% of variations in the dependent variable according to the R square which suggests that 68.4% changes in performance is explained by factors not incorporated in this model. With the F-value at 13.692 the model was considered suitable at 95% confidence level. This means that the model is suitable to be used to predict and explain how commercial banks' FP is affected by the independent variables. This implies that level of NPLs, liquidity, capital adequacy, management efficiency, bank size and off-balance sheet financing are good predictors of financial performance.

This study agrees with Rasika, Hewage and Thennakoon (2016) who investigated on whether NPLs affects how profit making banks in Sri Lanka performed financially. The research conducted a research on 2 state banks and four private domestic banks. The research was conducted for the period between 2005 and 2014. The research employed secondary data acquired from the financial statements of the bank. The analysis of data collected was carried out using panel data analysis method. The findings of the study indicated negative association amongst non-performing ratio and FP that was measured through ROE

The study agrees with one done by Mutuku (2016) who investigated the impact of NPLs on the profitability. The study population comprised of commercial banks in

Kenya (CBK 2016). Secondary data was gathered for period 2006- 2016, analyzed and the conclusions and recommendations were made. This study finding is that ROA is negatively influenced by NPLs, which affirm the assertion that profitability of banks is adversely affected by NPLs.

The study findings differ with that conducted by Kinuthia (2016) who undertook a study in determining whether NPLS significantly affected profitability of commercial banks in Kenya. Forty-two banks which formed the population of the commercial bank in Kenya were studied and regression and correlation analysis was done. From this study findings, it was revealed that despite banks being affected by NPLs which they consider as part of their expenses, the impact is not big enough to result to a negative growth in the returns of assets. This simply meant that NPLs increased as a result of an increase in the loan portfolio and NPLs was the cost of having a big loan book and cannot be avoided.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The main goal of the study was determining the effect of level of NPLs on the FP of Kenyan commercial banks. This section provides an overview from the prior chapter, conclusion, and limitations faced when undertaking the study. Moreover, it recommends policies that policy makers can use. Additionally, the chapter gives recommendations for future researchers.

5.2 Summary of Findings

The aim of the research establishing how level of NPLs influences FP of commercial banks in Kenya. To conduct the study, level of NPLs was given by the quotient of NPLs to total loans. The control variables were capital adequacy as given by the ratio of core capital to risk weighted assets, liquidity as measured liquid assets divided by customer deposits, management efficiency given as the ratio of total revenue to total expenses, bank size given as the natural log of total assets and off-balance sheet financing as given by the ratio of off-balance sheet items to total assets. FP was the response variable that the study aimed on explaining and it was be given by return on assets. The researcher reviewed available theoretical foundations and empirical reviews to get an understanding on the generally accepted relationship among the selected dependent and independent variables. From this review, a conceptual framework was developed that hypothesized the expected association between the study variables.

Descriptive research design was employed. All the 42 commercial banks as at December 2018-year end comprised the population of this study and from this data was acquired from 37 banks giving a response rate of 88.1%. Data secondary in nature was acquired from CBK and individual banks financial reports for a time frame 5 years spanning 2015 to 2019 was used. The researcher carried out descriptive, correlation analysis as well as regression analysis. So as to confirm that the data is fit for analysis the researcher transformed the data using natural logarithms and conducted diagnostic tests to make sure that the data has the required characteristics before conducting inferential statistics. Regression analysis was applied in testing the strength of the relationship amongst the study variables and to test both the overall model significance and individual parameters. SPSS software version 23 was applied to carry out the analysis.

Pearson correlation found out there is a negative and statistically significant correlation amongst level of NPLs and FP. Further a positive and significant correlation amongst bank size and commercial banks' performance existed. Liquidity was also noted to have a positive and significant association with performance. Capital adequacy, management efficiency and off-balance sheet financing were found to have a positive but insignificant link with performance.

The coefficient of determination similarly denoted as the R square shows the disparities in the response variable triggered by changes from the predictor variable. As indicated by the findings, R square was 0.316, an indication that 31.6% of the variations in performance stems from variations in level of NPLs, capital adequacy, liquidity, management efficiency, bank size and off-balance sheet financing.

Other factors that have not been incorporated in this model make up 68.4% of the variation in financial performance. Correlation analysis results revealed that the chosen variables strongly correlated with FP of banks (R=0.562). Further findings of ANOVA test indicated the F stastistic was significant at the 5% level of significance with P value being 0.000. This indicated that the model was suitable in explaining the variables relationship.

The study further found that an increment in a unit in level of NPLs would lead to decline in performance by 0.005 while capital adequacy, liquidity or bank size will result to an increment in financial performance by 0.023, 0.079 and 0.004 respectively. The findings further revealed that although management efficiency and off-balance sheet financing had a positive influence on FP, the influence was not statistically significant. The constant coefficient -0.081 implies that when the six selected independent variable have a zero value, financial performance would be equal to the figure.

5.3 Conclusion

The findings of this study show that the FP of Kenyan banks is notably impacted by level of NPLs, liquidity capital, adequacy and bank size. This research shows that an increment in NPLs results to a reduction in FP while an increment in a unit in capital adequacy, liquidity and bank size significantly increases the FP of commercial banks. The research has also shown the statistical significance of management efficiency and age for success determination and thus found that these variables do not have a significant effect on performance.

The conclusion of this study is that the chosen independent variables in this study (level of NPLs, capital adequacy, liquidity, management efficiency, bank size and off-balance sheet financing) to a larger extent have a notable influence on the performance of banks in Kenya. The conclusion that these variables have a notable effect on the FP of banks given the p value in anova summary therefore is correct. The findings that 31.6% of the changes in financial performance are due to the six factors incorporated in the model suggest that factors not incorporated in the model accounts for 68.4% of the variations in financial performance.

This study is in agreement with the results of Sujeewa (2015) who conducted a research on how managing NPLs influenced how the banks in Sri Lanka performed financially. Both primary data and secondary data were applied. For the primary data, interviews were conducted while banks' annual reports provided secondary data to researcher. The study had 24 commercial banks as the target population and 8 banks as the sample size. Data was acquired for the period between 2009 and 2013. To assess how NPL relates to profitability, regression analysis was applied. In data analysis, Panel data analysis was used. The study concluded that NPLs impacted profitability of banks negatively.

This study diverges with Kinuthia (2016) who did a study in determining whether NPLS significantly affected profitability of commercial banks in Kenya. Forty-two banks which formed the population of the commercial bank in Kenya were studied and regression and correlation analysis was done. From this study findings, it was revealed that despite banks being affected by NPLs which they consider as part of their expenses, the impact is not big enough to result to a negative growth in the

returns of assets. This simply meant that NPLs increased as a result of an increase in the loan portfolio and NPLs was the cost of having a big loan book and cannot be avoided.

5.4 Recommendations of the Study

Leveraging on the study findings, below recommendations have been drawn. The study recognized that there exists a negative and significant influence of level of NPLs on FP of banks. Thus, the study findings were that an increase in a bank's NPL's relative to total loans will significantly influence financial performance and in a negative way. It is recommended that policy makers should prioritize asset quality when crafting policies to enhance ROA. It can also be recommended to financial institutions, and their boards that credit risk should be considered when carrying out strategic management practices to boost profitability. Thus, it is necessary to adopt sufficient measures by managers of these banks to raise their FP by reducing the level of NPLs in their books. Commercial banks in Kenya should work on increasing their asset quality by undertaking measures such as stringent vetting of customers and other controls.

In the study findings, it was discovered that the bank size and FP were positively related. Therefore, it is recommended that managers as well as directors ought to focus on enlarging the asset base through setting up polices as well as measure that will lead to increment of assets of banks and consequently influencing their FP. As per the study findings, it is expected that large banks in aspects of aster ought to have a higher FP in comparison to smaller banks hence they should focus on growing their assets base.

A positive association amongst FP and liquidity position was found to exist in this study. Therefore, it is recommended that the banks liquidity position ought to be thoroughly evaluated in order to ensure that banks operations are at adequate level of liquidity which will yield better performance. This is due to the fact that the liquidity of a firm is highly significant as it affects the currents operations of a firm.

5.5 Limitations of the Study

This study focused on some factors that are hypothesized to influence FP of banks in Kenya. Specifically, the study concentrated on six explanatory variables. In reality however, there are other variables that are likely to influence FP some which are internal such as age of the firm and leverage while others are not under the control of management such as economic growth exchange rates, balance of trade, and unemployment rate among others.

The study adopted the analytical approach which is highly scientific. The research also disregarded qualitative information which could explain other factors that influence the association between level of NPLs and commercial banks' performance. Qualitative methods such as focus group discussions, open ended questionnaires or interviews can help develop more concrete results.

In achieving the analysis of the data, the study used a multiple linear regression model. Because of the restrictions involved when using the model like erroneous and deceptive outcomes that lead to the value of the variable changing, it was therefore not possible the findings of the study to be generalized with accuracy. More so the result could be different if more data was added in the regression. Hence the model was another limitation.

5.6 Suggestions for Further Research

A suggestion is given that more research ought to include a qualitative analysis of the association amongst level of NPLs and FP of banks in Kenya. That study would deal with interviewing of vital respondents in the banks and this would reveal concealed insights into the fine detailed association amongst level of NPLs and FP of commercial banks.

The study did not exhaust all the independent variables influencing performance of Kenyan commercial banks and a recommendation is given that more studies be carried out to constitute other variables for instance ownership structures, industry practices, growth opportunities, political stability and age of the firm. Determining the impact of each variable on FP shall enable the policy makers to understand the tools that can be used to control performance.

The research only focused on the commercial banks. The study's recommendations are that further studies be carried out on other financial institutions in Kenya. Future studies can also focus on how level of NPLs influences other aspects other than FP such as credit accessibility by those excluded from traditional banking, poverty eradication and overall economic growth.

The attention of this study was drawn to the latest five years because it was the readily available information. Subsequent studies may cover big time frame like ten or twenty years which can be very impactful on this study by either complementing or disregarding the findings of this study. The advantage of a longer study is that it will enable the researcher to capture effects of business cycles such as booms and recessions.

Finally, this study was based on a multiple linear regression model, which have its own limitations for instance erroneous and misleading outcomes resulting from a change in variable value. Future researchers should focus on other models like the Vector Error Correction Model (VECM) in exploring the various relations between level of NPLs and financial performance.

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APPENDICES

Appendix 1: Commercial Banks in Kenya

1. ABC Bank (Kenya)
2. Bank of Africa
3. Bank of Baroda
4. Bank of India
5. Barclays Bank of Kenya
6. Chase Bank Kenya (In Receivership)
7. Citibank
8. Commercial Bank of Africa
9. Consolidated Bank of Kenya
10. Cooperative Bank of Kenya
11. Credit Bank
12. Development Bank of Kenya
13. Diamond Trust Bank
14. Dubai Islamic Bank
15. Ecobank Kenya
16. Equity Bank
17. Family Bank
18. First Community Bank
19. Guaranty Trust Bank Kenya
20. Guardian Bank
21. Gulf African Bank
22. Habib Bank AG Zurich
23. Housing Finance Company of Kenya
24. I&M Bank
25. Imperial Bank Kenya (In receivership)
26. Jamii Bora Bank
27. Kenya Commercial Bank
28. Mayfair Bank
29. Middle East Bank Kenya

30. National Bank of Kenya
31. NIC Bank
32. Oriental Commercial Bank
33. Paramount Universal Bank
34. Prime Bank (Kenya)
35. SBM Bank Kenya Limited
36. Sidian Bank
37. Spire Bank
38. Stanbic Bank Kenya
39. Standard Chartered Kenya
40. Trans National Bank Kenya
41. United Bank for Africa
42. Victoria Commercial Bank

Source: CBK (2020)

Appendix II: Research Data

Bank	Year	ROA	Bank size	Liquidity	Capital ade.	NPLs	Mgmt eff.	Off-bs fin
ABC Bank	2015	0.008	16.934	0.054	0.165	0.143	1.169	0.014
	2016	0.003	16.945	0.066	0.153	0.157	1.117	0.023
	2017	0.006	17.058	0.099	0.156	0.183	1.096	0.079
	2018	0.000	17.145	0.063	0.184	0.199	1.094	0.022
	2019	0.002	17.196	0.075	0.154	0.149	1.101	0.017
Bank of Africa	2015	(0.015)	18.054	0.086	0.164	0.232	0.716	0.016
	2016	0.000	17.841	0.114	0.162	0.261	0.997	0.042
	2017	0.001	17.808	0.095	0.158	0.282	1.010	0.040
	2018	0.004	17.709	0.202	0.160	0.338	1.078	0.035
	2019	(0.046)	17.600	0.210	0.108	0.414	0.449	0.032
Bank of Baroda	2015	0.030	18.038	0.047	1.962	0.075	2.591	0.005
	2016	0.036	18.233	0.049	0.305	0.085	11.384	(0.009)
	2017	0.041	18.381	0.045	0.323	0.059	7.477	0.001

Bank	Year	ROA	Bank size	Liquidity	Capital ade.	NPLs	Mgmt eff.	Off-bs fin
	2018	0.032	18.628	0.052	0.347	0.088	3.995	0.004
	2019	0.029	18.781	0.055	0.327	0.083	3.394	0.007
Barclays Bank	2015	0.035	19.300	0.075	0.184	0.042	1.694	0.038
	2016	0.028	19.375	0.052	0.179	0.052	1.521	0.036
	2017	0.026	19.420	0.060	0.180	0.056	1.521	0.031
	2018	0.023	19.600	0.072	0.164	0.061	1.506	0.030
	2019	0.020	19.740	0.077	0.167	0.056	1.562	0.029
Bank of India	2015	0.026	17.557	0.036	0.423	0.020	3.597	0.005
	2016	0.034	17.683	0.034	0.457	0.014	4.861	0.006
	2017	0.037	17.852	0.039	0.540	0.021	5.024	0.006
	2018	0.031	17.954	0.034	0.439	0.071	3.654	0.003
	2019	0.037	17.951	0.043	0.484	0.094	4.945	0.004
Citibank	2015	0.039	18.295	0.111	0.283	0.058	2.781	0.034
	2016	0.033	18.453	0.067	0.264	0.019	3.045	0.027

Bank	Year	ROA	Bank size	Liquidity	Capital ade.	NPLs	Mgmt eff.	Off-bs fin
	2017	0.040	18.403	0.084	0.256	0.037	3.027	0.042
	2018	0.037	18.266	0.086	0.276	0.016	2.598	0.045
	2019	0.030	18.386	0.122	0.272	0.026	2.513	0.042
Commercial Bank of Africa	2015	0.017	19.189	0.081	0.179	0.106	1.527	0.017
	2016	0.029	19.251	0.134	0.184	0.075	1.604	0.045
	2017	0.023	19.320	0.095	0.173	0.083	1.507	0.042
	2018	0.023	19.317	0.075	0.157	0.080	1.437	0.056
Consolidated bank	2015	0.003	16.464	0.054	0.094	0.055	1.025	0.070
	2016	(0.015)	16.449	0.047	0.079	0.118	0.839	0.054
	2017	(0.025)	16.415	0.064	0.051	0.153	0.744	0.058
	2018	(0.042)	16.372	0.071	0.028	0.153	0.800	0.059
	2019	(0.045)	16.289	0.076	0.135	0.257	0.704	0.058
Credit bank	2015	(0.006)	16.146	0.025	0.155	0.064	0.821	0.019
	2016							

Bank	Year	ROA	Bank size	Liquidity	Capital ade.	NPLs	Mgmt eff.	Off-bs fin
		0.009	16.320	0.025	0.228	0.072	1.147	0.035
	2017	0.009	16.490	0.020	0.148	0.075	1.152	0.039
	2018	0.014	16.701	0.023	0.145	0.072	1.249	0.044
	2019	0.010	16.891	0.018	0.150	0.087	1.203	0.040
Co-operative bank of Kenya	2015	0.034	19.652	0.086	2.126	0.034	1.701	0.038
	2016	0.036	19.679	0.073	0.228	0.039	1.715	0.036
	2017	0.029	19.774	0.063	0.227	0.062	1.642	0.035
	2018	0.031	19.841	0.079	0.162	0.101	1.700	0.031
	2019	0.031	19.940	0.064	0.151	0.098	1.744	0.038
Development Bank of Kenya	2016	0.004	16.613	0.005	0.251	0.260	1.185	0.008
	2017	0.002	16.607	0.004	0.236	0.210	1.129	0.007
	2018	0.007	16.545	0.008	0.232	0.298	1.461	0.007
	2019	0.070	16.547	0.024	0.315	0.369	3.765	0.074

Bank	Year	ROA	Bank size	Liquidity	Capital ade.	NPLs	Mgmt eff.	Off-bs fin
Diamond Trust Bank	2015	0.024	19.420	0.016	0.146	0.024	2.261	0.009
	2016	0.024	19.609	0.018	0.185	0.032	2.311	0.002
	2017	0.019	19.711	0.021	0.190	0.067	2.047	0.003
	2018	0.019	19.750	0.021	0.211	0.063	2.040	0.006
	2019	0.019	19.772	0.021	0.209	0.068	2.061	0.012
Dubai Bank	2017	(0.230)	14.775	0.042	0.701	38.554	0.016	0.004
	2018	(0.119)	15.474	0.099	0.299	0.004	0.134	0.016
	2019	(0.064)	16.011	0.126	0.149	0.010	0.217	0.006
Ecobank	2015	0.002	17.775	0.068	0.250	0.062	1.031	0.025
	2016	(0.043)	17.668	0.048	0.194	0.163	0.308	0.021
	2017	(0.021)	17.794	0.085	0.160	0.377	0.672	0.013
	2018	0.004	17.813	0.074	0.166	0.174	1.051	0.020
	2019	0.002	18.138	0.030	0.162	0.145	1.088	0.012

Bank	Year	ROA	Bank size	Liquidity	Capital ade.	NPLs	Mgmt eff.	Off-bs fin
Equity Bank	2015	0.040	19.875	0.081	0.202	0.027	1.808	0.043
	2016	0.035	19.976	0.049	0.197	0.063	1.827	0.032
	2017	0.036	20.078	0.051	0.204	0.055	1.937	0.035
	2018	0.035	20.167	0.042	0.159	0.071	1.976	0.030
	2019	0.036	20.328	0.071	0.198	0.087	1.890	0.031
Family bank	2015	0.024	18.213	0.076	0.144	0.037	1.456	0.035
	2016	0.005	18.057	0.079	0.208	0.120	1.076	0.028
	2017	(0.014)	18.052	0.082	0.199	0.192	0.825	0.030
	2018	0.004	18.020	0.094	0.195	0.162	1.066	0.036
	2019	0.012	18.183	0.088	0.187	0.141	1.214	0.034
First Community Bank	2015	(0.001)	16.494	0.168	0.115	0.235	1.008	0.010
	2016	(0.004)	16.521	0.149	0.140	0.320	1.202	0.032
	2017	0.009	16.670	0.134	0.153	0.408	0.972	0.026
	2018							

Bank	Year	ROA	Bank size	Liquidity	Capital ade.	NPLs	Mgmt eff.	Off-bs fin
		(0.012)	16.699	0.127	0.091	0.488	0.809	0.026
	2019	0.010	16.747	0.168	0.081	0.415	1.184	0.023
Guaranty Trust Bank	2015	0.009	17.528	0.079	0.265	0.092	1.349	0.010
	2016	0.013	17.286	0.227	0.255	0.111	1.423	0.014
	2017	0.007	17.277	0.196	0.239	0.109	1.148	0.017
	2018	0.002	17.452	0.048	0.260	0.147	1.216	0.012
	2019	0.020	17.186	0.053	0.243	0.109	1.364	0.015
Guardian Bank	2015	0.016	16.497	0.090	0.176	0.030	1.387	0.016
	2016	0.016	16.504	0.104	0.190	0.017	1.324	0.018
	2017	0.010	16.576	0.078	0.202	0.045	1.388	(0.006)
	2018	0.014	16.600	0.086	0.227	0.076	2.000	(0.025)
	2019	0.011	16.612	0.096	0.222	0.069	2.000	(0.021)
Gulf	2015							

Bank	Year	ROA	Bank size	Liquidity	Capital ade.	NPLs	Mgmt eff.	Off-bs fin
African Bank		0.029	17.023	0.089	0.158	0.084	1.623	0.034
	2016	0.018	17.117	0.128	0.187	0.092	1.445	0.015
	2017	0.005	17.260	0.109	0.162	0.093	1.107	0.022
	2018	0.004	17.322	0.087	0.187	0.106	1.109	0.023
	2019	0.005	17.374	0.064	0.171	0.153	1.088	0.021
Habib Bank Ltd	2015	0.029	16.141	0.053	0.321	0.079	2.399	0.011
	2016	0.024	16.342	0.067	0.391	0.187	2.446	0.007
	2018	0.011	16.885	0.032	0.246	0.074	1.494	0.004
	2019	0.010	17.027	0.030	0.273	0.092	1.472	0.004
Housing finance Company ltd	2015	0.017	18.087	0.000	0.181	0.044	1.672	0.010
	2016	0.013	18.091	0.070	0.177	0.069	1.517	0.001
	2017	0.002	18.028	0.060	0.170	0.108	1.091	0.011
	2018	(0.010)	17.919	0.046	0.153	0.249	0.874	0.005

Bank	Year	ROA	Bank size	Liquidity	Capital ade.	NPLs	Mgmt eff.	Off-bs fin
	2019	(0.002)	17.849	0.050	0.146	0.236	0.992	0.009
I&M Bank	2015	0.037	19.072	0.052	0.202	0.025	2.880	0.018
	2016	0.037	19.165	0.053	0.182	0.029	2.137	0.013
	2017	0.030	19.297	0.049	0.186	0.087	1.830	0.013
	2018	0.026	19.332	0.048	0.179	0.108	1.955	0.024
	2019	0.033	19.429	0.044	0.216	0.098	2.840	0.025
Jamii Bora Bank Ltd	2015	0.001	16.636	0.065	0.163	0.052	1.492	(0.003)
	2016	(0.011)	16.574	0.044	0.201	0.172	1.279	0.012
	2017	(0.037)	16.371	0.013	0.193	0.133	1.256	0.008
KCB Bank	2015	0.035	20.140	0.174	0.154	0.045	1.876	0.031
	2016	0.033	20.204	0.049	0.180	0.071	1.959	0.026
	2017	0.030	20.287	0.045	0.166	0.077	1.819	0.021
	2018	0.034	20.387	0.059	0.195	0.063	1.997	0.026
	2019							

Bank	Year	ROA	Bank size	Liquidity	Capital ade.	NPLs	Mgmt eff.	Off-bs fin
		0.028	20.616	0.068	0.190	0.102	1.846	0.026
Middle East Bank (K) Ltd	2016	(0.013)	15.471	0.058	0.393	0.159	0.727	0.010
	2017	(0.005)	15.449	0.158	0.571	0.181	0.863	0.016
	2018	0.000	15.495	0.066	0.449	0.382	1.002	0.016
	2019	0.000	15.952	0.062	0.312	0.137	1.128	0.023
M-Oriental bank ltd	2016	0.003	16.110	0.080	0.387	0.082	1.051	0.009
	2017	0.009	16.174	0.092	0.332	0.072	1.174	0.013
	2018	0.008	16.168	0.110	0.309	0.094	1.177	0.018
	2019	(0.002)	16.333	0.086	0.344	0.193	1.113	0.021
National Bank of Kenya	2015	(0.009)	18.647	0.131	0.140	0.112	1.151	0.051
	2016	0.001	18.535	0.076	0.071	0.175	1.006	0.025
	2017	0.007	18.515	0.068	0.054	0.300	1.089	0.022
	2018	(0.001)	18.559	0.053	0.037	0.391	1.078	0.018

Bank	Year	ROA	Bank size	Liquidity	Capital ade.	NPLs	Mgmt eff.	Off-bs fin
	2019	(0.008)	18.534	0.113	0.115	0.356	1.090	0.033
NIC Plc bank	2015	0.027	18.926	0.054	0.206	0.091	2.133	0.014
	2016	0.026	18.948	0.043	0.230	0.113	1.999	0.001
	2017	0.020	19.144	0.046	0.223	0.109	1.895	0.000
	2018	0.020	19.155	0.057	0.187	0.122	1.840	0.002
Paramount Bank Ltd	2015	0.015	16.169	0.096	0.241	0.052	1.492	(0.004)
	2016	0.011	16.059	0.081	0.274	0.083	1.279	0.020
	2017	0.012	16.071	0.115	0.295	0.106	1.256	0.011
	2018	0.024	16.107	0.125	0.285	0.132	1.457	0.012
	2019	0.009	16.161	0.087	0.245	0.121	1.226	0.006
Prime Bank	2015	0.031	17.990	0.057	0.173	0.017	2.443	0.015
	2016	0.029	17.995	0.041	0.222	0.036	2.058	0.015
	2017	0.029	18.172	0.061	0.225	0.049	1.743	0.013
	2018							

Bank	Year	ROA	Bank size	Liquidity	Capital ade.	NPLs	Mgmt eff.	Off-bs fin
		0.023	18.422	0.088	0.373	0.061	1.815	0.009
	2019	0.024	18.505	0.053	0.414	0.102	1.816	0.010
SBM Bank	2015	(0.005)	18.798	0.080	0.151	0.102	0.897	0.029
	2016	(0.192)	16.087	0.031	(0.128)	0.883	0.233	0.012
	2017	(0.029)	16.261	0.088	0.164	0.729	0.510	0.018
	2018	0.019	18.073	0.111	0.243	1.253	1.251	0.053
	2019	0.012	18.099	0.059	0.231	0.852	1.230	0.049
Sidian Bank	2015	0.019	16.766	0.156	0.247	0.128	1.292	0.034
	2016	0.001	16.854	0.149	0.232	0.238	1.025	0.029
	2017	(0.022)	16.776	0.199	0.165	0.278	1.271	0.100
	2018	(0.015)	17.047	0.085	0.144	0.204	1.211	0.086
	2019	0.004	17.091	0.125	0.179	0.197	1.028	0.053
Stanbic Bank Kenya Ltd	2015	0.024	19.155	0.054	0.187	0.041	1.856	0.030
	2016	0.021	19.185	0.040	0.181	0.050	1.588	0.025

Bank	Year	ROA	Bank size	Liquidity	Capital ade.	NPLs	Mgmt eff.	Off-bs fin
	2017	0.017	19.332	0.032	0.168	0.067	1.517	0.021
	2018	0.022	19.454	0.079	0.174	0.094	1.827	0.026
	2019	0.021	19.495	0.091	0.183	0.100	1.555	0.026
Standard Chartered Bank	2015	0.027	19.271	0.061	0.212	0.101	1.557	0.030
	2016	0.036	19.339	0.062	0.209	0.083	1.877	0.030
	2017	0.024	19.471	0.047	0.185	0.090	1.559	0.030
	2018	0.028	19.469	0.071	0.195	0.117	1.703	0.029
	2019	0.027	19.526	0.068	0.177	0.095	1.785	0.031
Spire Bank Ltd	2015	(0.034)	16.488	0.054	0.175	0.333	0.548	0.013
	2016	(0.054)	16.440	0.071	0.163	0.168	0.465	0.027
	2017	(0.101)	16.227	0.031	0.127	0.427	0.259	0.024
	2018	(0.244)	16.037	0.045	(0.220)	0.560	2.737	0.088
	2019	(0.069)	15.741	0.020	(0.206)	0.711	4.314	0.155
Transnati	2015							

Bank	Year	ROA	Bank size	Liquidity	Capital ade.	NPLs	Mgmt eff.	Off-bs fin
onal Bank		0.016	16.162	0.097	0.216	0.110	1.332	0.014
	2016	0.011	16.155	0.124	0.223	0.116	1.173	0.021
	2017	0.004	16.142	0.139	0.291	0.242	1.059	0.028
	2018	(0.007)	16.141	0.129	0.211	0.221	0.894	0.026
	2019	(0.009)	16.047	0.087	0.202	0.286	0.941	0.030
UBA Kenya Bank Ltd	2015	(0.034)	15.867	0.031	0.238	0.018	0.534	0.031
	2016	0.004	15.539	0.037	0.387	0.019	1.092	0.066
	2017	0.003	15.688	0.073	0.388	0.044	1.024	0.044
	2018	0.003	16.545	0.086	0.332	0.128	1.035	0.007
	2019	0.004	16.594	0.026	0.254	0.243	1.126	0.012
Victoria Commercial Bank	2015	0.036	16.812	0.066	0.193	0.033	2.223	0.005
	2016	0.026	16.925	0.060	0.255	0.025	2.311	0.007
	2017	0.024	17.073	0.067	0.227	0.001	2.120	0.007
	2018							

Bank	Year	ROA	Bank size	Liquidity	Capital ade.	NPLs	Mgmt eff.	Off-bs fin
		0.014	17.292	0.082	0.211	0.031	1.720	(0.005)
	2019	0.015	17.401	0.078	0.202	0.051	1.737	(0.007)