

**EFFECT OF NON-PERFORMING LOANS ON VALUE OF
COMMERCIAL BANKS LISTED AT NAIROBI SECURITIES
EXCHANGE**

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

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ABSTRACT

To balance between losing a business and a loss in a business is sometime challenging and especially on leading business. Adverse selection is a key aspect by management. It requires good understanding to ensure that maximization of investors' money is achieved. This research was set out to analyze effects of loans which the borrower is not making interest payments on value of financial institutions listed in Nairobi stock exchange. It was founded on some theories i.e., market efficiency theory, agency theory, information asymmetry theory and credit agency theory. It was conducted through a descriptive design which was considered suitable for this research because it offered an outline to portray relevant features of the variables of interest from a person-oriented perspective which also allows for a multifaceted approach to data collection and examination. The information gathered was aggregated, sorted, validated and arranged before it was analyzed in the Statistical packages for social sciences (SPSS). Secondary data was used which was gathered from the analysis of finance books of commercial banks in consideration and from Nairobi stock exchange records/reports. It includes, stock value, non-performing or insolvent loans and yearly accumulated loans and advances for calculation of insolvent loan ratio. For the resources availability such as capital measure, risk weight and credit exposure was established and tier I and tier II capital was used to get core capital Commercial banks quick assets and liabilities for liquidity measure. Total loans and loan loss for asset quality description. All this data was for 5 years starting from year 2012 to 2016. The data was analyzed via a multiple regression model which tested the relationship between dependent variable i.e. value of commercial banks and dependent variance which is the non-performing loan and control variables i.e. capital adequacy, Liquidity and asset quality. The finding of the study are, the higher the NPLs, the lower the stock value (negative relationship): this depicts that NPLs affect the stock value of commercial banks listed in the NSE in a negative manner. By the fact that, higher NPLs command higher cost resulting from loan provisions and loan loss costs. The higher the costs, the greater the reduction in stock returns, which in turn trickles leads to lower stock value. The value representing asset quality, capital adequacy and liquidity management is negative in relation to stock value of NSE listed commercial banks. This shows a negative relationship between these variables and stock value of commercial banks. If asset quality is high, capital for investment choices and other requirements is available and liquidity then the stock value of commercial banks at the NSE is negative. Following these findings, the study concludes that non-performing loans have an adverse effect on the stock value of commercial banks listed in the NSE. The controlling variables that is capital adequacy, asset quality and liquidity quotient determine how the stock values of commercial banks change over a given period of time. Capital adequacy leads to underperformance of stocks in the market as they had negative cumulative abnormal return values especially in the post-announcement dates. Deficiencies in any of the variables calls for corrective measures or reduced budgets in achieving set objectives as opposed to when the variables are sufficient. Following the study conclusion, the recommendation are: Investors should not sole use capital adequacy announcement to make investment decisions as that would not make them have an above normal returns since the market digest the same information in almost a similar way. The finance managers should therefore pay attention to the determinants of stock value especially the liquidity of commercial banks listed at the NSE. The listed banks ought to sort out the process of liquidity administration through distinguishing, controlling, observing, and measuring liquidity risk. Such a procedure involves no less than four components, the liquidity administration strategies of the responsibilities of the Board of Directors (BOD), the

Asset Liability Committee (ALCO), the effectiveness of the information system for checking and announcing liquidity risk as well as the functions of internal control frameworks for liquidity administration. The major limitation of the study was use of secondary data only. Primary data could add substance to study with personal responses from bank's management stating the levels of NPLs effect on their stock. The suggestion is that another study to include the primary data to capture those factors which cannot be stored in numerical report.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

The Kenyan banking sector is a significant body when it's come to money transactions and investments. This is through its role on mobilizing of collecting funds through savings and after that looks for ways to channel those funds into investments to raise more income. This is made possible because of their good networking with the relevant investment infrastructure. Because of their strong regulatory body, they can convince savers to deposit with them. Accepting money deposits and lending the same to borrowers who need it for various purposes is the major business of commercial banks across the globe. Like any other investment, banks do suffer some risks while trying to meet the ultimate goal that is the maximization of owner's wealth. One of the risk that faced by banks is some of their customers won't be faithful enough to repay a loan extended to them. Since lending represents the bulk of banking industry business, the operating income of the bank will have a significant percentage that depends on how the lending sector will perform. Therefore, a good measure should be set up to ensure cases of non-performing loans are as low as possible. Effective evaluation of credit risk and creating room for bad and doubtful debts shield banks from these losses. However, this will be applicable when the NPLS are at low level.

In the past, Kenyan banks have endured banking problems, with a study showing failures of major bank(As at 1998, 37 banks had failed) following the 1998, 1993/1994 and 1986 - 1989 crises (Ngugi, 2006: Kithinji and Waweru, 2007). Non-performing loans have emerged as the major factor contributing to bank failures in Kenya, though some measures have been put in place by government and Banking sector to try to fight the challenge. Introduction of credit reference bureaus is among the measures that have been set up. Most studies have not focused on effects of nonperforming loans on stock price despite some few past previous studies have confirming the profitability implications of nonperforming loans. This research study, therefore, examines how the stock price of Kenyan commercial banks is influenced by non-performing loans.

Theories based on this study are asymmetric Information Theory which brings out the aspect of moral challenges and adverse choosing as a result of challenges in

differentiating between good borrowers and bad borrowers. For one to make a prudence choice, she must have full and correct information regard matters in question. The second theory is agency theory which expounds on the correlation which is exploited between the management of banks and the owners of the banks. According to this theory, whenever the management gets involved in the personal interests' activities and not those geared towards owners of the firm, then there is a risk of lowering performance of the firm. The third one is credit default theory which is relevant to this study on the correlation between non-performing assets and the commercial banks' financial performance based on the fact that delinquency is a result of the inability to services a loan by borrowers by the set due date which is highly caused by failures in liquidity. The fourth theory is market efficiency theory. It tells us that the stock price that is trading in the market is a true and fair drive of company value. It reflects all information relating to company performance and there for a clear mirror of the value of the business.

1.1.1 Non-Performing Loans

NPLs are also referred to as Non-Performing Assets (NPAs) can be said to be a credit facility which no-longer generates income to the bank. That is if its interest and principal has not been serviced for a specified period depending on if it's a short-term or a long-term advance. An installment paid for an advance (which is a cash inflow to the lender), comprises of interest (which is an earning to a lender,) and principle (which is an asset for a bank). A bank makes its profits from the interests paid by its debtors. When assets are not serviced for a long period, banks will treat them as non-performing. Similarly, when a loan is not serviced for more than three months, it will be classified as non-performing (Guy, 2011). Prior 90 days it's said to be overdue.

High level of NPAs is an indication of poor financial performance of banks. Low level of NPLs indicates that the financial performance of a bank is healthy. Stuti and Bansal (2013) explains that the NPAs level is an appropriate way of showing if the banking industry in a country is running on a healthy platform. A decline in Nonperforming loans ratio records an Asset quality of banks improves with a decline in nonperforming loans ratio, and vice verse is true with an increase in the ratio. Thus, a direct posture on ROA as well as liquidity-risk management of banks lost interest and principles written off is a total loss of income and banks assets.

There is a direct relationship between qualities of asset and NPL (Gu7 2011). This makes NPL a good measure of a quality asset. According to Michael et al. (2006), when a loan portfolio has a NPL, it will affect operational efficiency and therefore have further effects on the bank's profitability, liquidity and solvency position. Batra (2003) added psychological effects of bankers as another aspect affected by NPL in respect towards credit expansion. NPLs can be measured by none performing ratio and Non-performing coverage ratio. They are calculated as $\text{NPL} / \text{total loans and advances}$ and $\text{the losses provision on non-performing Loans} / \text{non-performing Loans}$ respectively.

1.1.2 Stock price

A price one pay at the market to acquire a stock is the stock price. According to efficiency market theory market is believed to be fair enough to price stocks correctly. The stock price does change daily depending on market forces for the day that is demand and supply. Stock supply is a function of share issued by a company while the demand depends on number people require to buy from those acquired them earlier. (Byun and Rozeff, 2003). Stock price movement depicts how investors think of worth of the company. A company commands a high cash flow inter of revenue, well-managed company operation, e.g., the collection of accounts receivables results to a higher stock value. This is because investors care about the cash flows and what those flows mean to them in the present. Therefore, a bank which can manage the collection of its debts (loan issued) contributes to the good performance of its stock prices. The other fact is that well managed issued loans reduce the cost of bank operation which contributes to a good cash flow position. Since the ability to pay divided depends on a company's cash flow, therefore its health cash flow become of great interest to investors (Byun and Rozeff, 2003).

1.1.3 The Effect of Non-Performing Loans on Stock price.

There is a close and strong association between NPLs and banking performance over the recent years. Most of the economies that have collapsed over past years, financial crises were seen to have caused by high credit risk effects. According to Khemraj (2005) in Chikoko, Mutambanadzo, and Vhimisai (2012), NPLs has been a major cause of banking crises in Sub-Saharan African countries. Stock prices are a good benchmark for measuring the performance of a business which includes commercial banks. However, an increase of NPA affects ROA negatively and thus it has a similar direct

impact on banks financial performance. Interest earnings from loans rendered to customers is the major source of the bank's income, therefore, NPL eats on banks' profitability which cost banks very high disposal expenses as well as sends negative signal o investors.

There is an opportunity cost suffered by banks due to NPA since the interest to be earned could have been reinvested to earn more income. Beside this, there should be allowances for losses on NPLs which also affect the financial performance of banks due to opportunity cost. Managers can, however, introduce some allowance for losses on NPAs for them to realize the financial objectives of the banks including agency theory and profits smoothing as explained in the asymmetry of information theory.

Problematic loans have negative effects on banks cost efficiency which related to the negative performance of banks (Berger et al., 1997). When banks suffer NPL more is needed on credit risk management, and when the challenge is severe, more efforts are put at the cost of other operating factions Batra (2003). There is an opportunity cost suffered where a bank could have invested resources used on risk management into an income generation project and thus a chance to invest is foregone. Also, there is an effect of NPL is changing the banker's opinions which are likely to limit credit expansion for a bank. Therefore, banks may forfeit risk-free investments while trying to reduce riskiness, which is not conducive to their growth.

1.1.4 Commercial Banks in Kenya

In Kenya, the greatest function of financial institutions is deposits mobilization and provision of credit services to customers. There were 44 banking institutions recorded by Supervision Annual Report (2012), and 31 are locally owned while 13 were owned by foreigners. From 2011-2016, the banks were healthy, due to low financial incorporation and a strict regulatory supervision (Bank Supervision Annual Report, 2016).The Finance ministry supervises the Central Bank of Kenya.

The Ministry formulates implements monetary policy and advances the liquidity, solvency and the overall running of the financial system. The size of a bank is determined by its assets, and profitability and quality of assets are used to assess the financial performances of financial institutions in Kenya. NPL do affect the quality y

of assets negatively and therefore, the profitability of financial establishments. Though CBK is the sole regulator of financial institutions in Kenya, it introduces credit reference be aural as an effort to deal with the issue of the non-performing loan, the challenge has not been dealt with exhaustively. Cost associated with management and prevention of occurrence of non-performance loan also reduces the banks' profitability.

1.2 Research Problem

If banks can avoid giving loan it can eliminate this problem of bad debts. On the other hand, by not leading banks will eliminate the chance to maximize investor's capital which is a major goal of any entrepreneur, hence the main purpose of carrying on business. Thus, it requires for adequate management of credit by banks so that they can remain in business and by prudent lending they can do so. One of the cushions to bad debt is providing an allowance for bad debts as well as doubtful debts, however high rise of the provision in annual reports will send a bad signal to the investors. Investors have lost confidence in banks due to repeated scenarios where certain banks have failed in the country. Non-Performing Loans directly affect the performance of commercial banks by influencing its cash flow which affects the bank's ability to realize its short-term financial obligations a negative indicator to the share prices a measure of its value. Also, an opportunity cost is suffered since the assets that do not earn interests could be profitable if they were invested elsewhere. Provision for losses on non-performing loans may be used by manages personal interest objectives like profits smoothening.

CAMEL factors among other factors affect the value of commercial banks. Despite efforts like licensing of Credit Reference Bureaus, which has been taken as a measure to reduce non-performing loans, the challenge has continuously increased, and commercial banks continue reporting increased non-performing loans and profits. According to the study by Berger et al., (1997), banks loans and its efficiency regarding administration cost linked Problem Loans wits its performance and thus value. To contribute to the study, Batra (2003) noted that it had an impact on competitive functioning, liquidity and performance of the banks. Michael et al., (2006) also added to the study that presence of NPLs affect operational efficiency which consequently affects bank's solvency position, performance as well as liquidity. The study period (the year 2012 to 2016) was regarded appropriate as the latest study period in Kenya. This study, therefore, answered the question; Do NPAs have effects on the stock value of

Kenyan commercial banks?

Locally, research related to this topic has been done by other scholars. Macharia (2012) deliberated on the connection between the performance of financial institutions and the NPLs level. The finding of the study was that NPAs and the credit amount do not influence the bulk of the commercial banks profit. Therefore, there are other variables which have high impacts on banks performance compared to non-performing loans. Kithinji (2011), conducted a study on the viability of commercial banks, and Credit risk management and his findings were that value of credit, profits, and the level of NPAs have no relationship. However, effects of the spread of NPLs to stock prices for commercial bank have not being featured in those studies. NPAs coverage ratio was not a measure of NPAs and therefore, it was not used in their studies. Their studies used non-performing loans ratio only. The CAMEL determinants having effects on the stock value of financial establishments as control variables in the regression analysis were considered in this research study. Period under consideration is Year 2012 to 2016 and the question to be answered is: Do non-performing Loans affect the stock value of Kenyan banks.

1.3 Research Objective

The objectives of this research were:

- i. To examine the connection between NPLs and the value of commercial bank listed in the NSE.
- ii. To ascertain the extent of the impact of NPLs on the value of banks listed in the NSE.

1.4 Value of the Study

By understanding the effects of NPLs on the value of banks, it guided the lenders if it's necessary to take good measures to control occurrences of nonperforming loans. This started with measures on selecting and evaluation of borrowers to extend the credit facility to. Bank regulators can also use the findings in their role of giving guidelines that help in the management of NPAs to financial establishments in Kenya. Nonperforming loans have negative contributions to profitability and the liquidity position of a Banks, this call for a need to tackle Non-performing loan with the highest level of seriousness. The study also used for further discussion and debates on NPL and

financial position, therefore, contribute to the body of knowledge and existing theories thus forming basis of further studies in related filed.

It will be informative to investors on the factors that may affect the value of their investment. As a result, investors will be able to make informed decisions when they need to invest or while evaluating the position of their investment portfolio.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The relevant literature relating to the impact of nonperforming loans on stock value has been discussed in this chapter. It specifically focuses on reviewing empirical literature where past studies on the subject are explored in an effort to highlight the relationship

between these studies and this research. Moreover, it presents a theoretical framework by reviewing the existing theories on stock value and credit risk. In addition, the chapter presents a conceptual framework that gives the correlation amidst the variables examined in the study and also provides the knowledge gap that this study will address.

2.2 Theoretical Review

Theoretical reviews addressed in this study include the Agency Theory, Efficiency market theory, Asymmetric Information Theory, and Credit default theory.

2.2.1 Asymmetric Information Theory

Asymmetric information refers to situations where some parties in a business have information whereas the others do not yet they are party to that business. Instances when there is imperfect knowledge are best fit for this theory. An example is when the borrower has more information about his credit worth, and she does not disclose it to the lender. This theory is presented as "The Market for Lemons" by Akerlof (1970). Mirrlees (1996) investigated this theory in relation to how key decision makers have access to information while deciding on issues to do with the economy.

Pagaon and Jappelli (1993) assert that information on credit applications is made better due to sharing of information which lowers adverse selection. Auronen (2003) This theory brings out the aspect of moral challenges and adverse choosing as a result of challenges in differentiating between the two types of borrowers, i.e., good and bad. It further asserts that in the market, a person with higher ability to negotiate better terms as compared to the others one who has adequate information that is more on the issue being dealt with as compared to the other (Auronen, 2003). There is a relatively low moral issues and negative selection leading to aggregation of poorly performing loans in the lending institutions (Bofondi and Gobbi, 2003).

Information on the impact of loans that do not do well in the market to bank performance is well known to commercial bank managers as compared to any other stakeholder hence a higher probability of hiding vital information on loans which perform poorly. In line with this study, this theory tells us that there will be a challenge to differentiate good borrowers from bad one when information is not symmetry. This

result to adverse selection problems thus a risk of ending up with a non-performing loan which costs the value of bank shares.

2.2.2 Agency Theory

Ross (1973) and Mitnick (1973) were the first scholars to introduce the agency theory. Ross (1973) originally introduced the economic agency theory while Mitnick (1973) introduced the institutional agency theory. Despite the fact that both theories were based on same concepts, varying approaches were made use of the theory seeks to expound on the correlation which is exploited between the management of a firm and the owners of the firm that is stockholders. The management of a firm is seen as an agent who enhances perfect financial performance by improving the value of stakeholders, and due to this fact, it is bound to ensure it acts in the interests of the owners. According to this theory, whenever the management gets involved in the personal interests' type of activities, and not those geared towards owners of the firm, then this results in lower performance of the firm. Financial rewards are one of the strategies in which Stockholders can help motivate and ensure that managers act in the interests of the organization. Use of threats is another strategy to enhance good performance. In summary, the agent cost affects the profitability of commercial banks thus the financial performance. Also when the bank managers do engage in actives that meet their personal goals rather than the firm's goal, this will be at the cost of the firm, which may increase chances on bank suffering non-performing loans and eventually dilute the value of its stock since the maximization of investors capital was not meet.

2.2.3 Credit Default Theory

Situations, where there is an indirect correlation between impacts of default to financial performance, are best fit for this theory. This theory was introduced in 2007 by Wilson. Evaluation of credit risk in a fast changing environment is a challenge to a high number of the operating credit default theories since them unable to coordinate causes directly to the effect of default (Wilson, 2007). Wilson (2007) asserts that delinquency and insolvency are the main causes of credit defaults. Inability to timely repay loans before due dates is referred to as delinquency which is caused by failures of liquidity whereas insolvency refers to a situation where liabilities are more than assets.

Loan Serviceability Ratio (LSR) refers to the interest rate on a loan that a owner-occupier borrower repays for a loan amount from net disposable income after living

expenses and LSR Evolution which is the aspect of changes in the ways loans are serviced is a result of varying individual circumstances and the surroundings are the two cardinal ratios of loans that perform poorly. The relevance of this theory to this research is illustrated by the correlation between non-NPLs and financial performance based on the fact that delinquency is a result of an inability to services a loan by borrowers by the set due date which is highly caused by failures in liquidity.

2.2.4 Market Efficiency Theory (EMH).

This theory springs from the notion that investors like returns but do not like risks thus dispersion around expected return is a reasonable measure of risk. It supports the notion that market prices are in fact fair. It focuses on three type of market efficiency which is Operation efficiency which measures how well things function in term of speed of execution and accuracy. It's a function of SEVERAL transactions that are lost or filled incorrectly and of time elapsed between the receipt of an order and its execution. The second type of efficiency is allocation efficiency which states that's market does allocate funds to the most efficient user that is there is no better alternative allocation that could yield higher returns. The third efficiency is information efficiency. Its measures accuracy and how quickly the market reacts to new information. Market prices adjust fast and accurately to new information, and therefore, a market that is informed is very efficient. Therefore the stock price that is trading on the market is a true and fair drive of company value. It reflects all information relating to company performance and there for a clear mirror of the value of the business.

2.3 Determinants of Performance of Commercial Banks

Financial performance of banks is predetermined by Internal drivers of bank functionality are factors highly affected by a bank's management decisions that have a direct impact on the operating results of banks are the internal drivers of performance of banks.

Factors which cannot be controlled by the management of a bank and are based in the external environment of a bank are what are termed as external determinants of bank performance. According to Krakah and Ameyaw (2010), the external determinants comprise of the macroeconomic factors and the financial structure factors.

2.3.1 Capital Adequacy

This is the equity amount able to withstand any shocks experienced by the bank (Kosmidou, 2008). The government regulates to a great extent the amount of capital needed by banks based on its role in ensuring that there is leverage to facilitate the taking of extra risk in the losses experienced by depositors and number of bank failures. As a result, Kamau (2009) notes that the finance providers will incur expenses that will be directed to maximizing the shareholder's value. Bank capital adequacy is measured by use of ratios of equity to total Asset.

It expounds on the adequacy of the equity amount able to absorb shocks that banks are vulnerable to. Higher equity to assets ratio has an impact on improving the long-term profitability of the firm based on the aspect of lowering the urge for external funding. Banks profitability is attributed to higher capital to asset ratio due to high levels of safety they experience, whereas those with low level of capital adequacy are more risky as compared to highly capitalized banks. Profitability of commercial banks is therefore affected by capital adequacy.

2.3.2 Assets Quality

The quality banks' assets depend on exposure to particular risks, the health of a bank debtor and their profitability are the pre-determinants of assets quality (Baral, 2005). Aburime (2008) notes that the forecasting, would help in avoiding and monitoring possible risks, probably to compensate for losses resulting from the arising risks have impact on a bank's profitability. The ability to manage a bank's credit risk is measured by quality of assets Aburime (2008). There exists a positive correlation between asset quality and a banks' profitability. Poor asset quality is what is considered as the main reason for banks poor profitability. Non-performing assets have an adverse impacts on the overall Returns on Assets (ROA) which is a major cause of bank failures which in the long run leads to collapse of these banks. NPA has a high effect and a major contributor to poor performance of commercial banks. Improvement in profitability of a firm is highly attributed to asset quality.

2.3.3 Liquidity

Return on assets is also determined by liquidity which tests their profitability. Banks capabilities to realize their short-term responsibilities as and when they fall due is what is measured by liquidity. All banks usually take deposits and give out loans to

customers and hence liquidity is pre-determined by the ratio of bank's advances to the deposits made by customer. Banks failure is highly contributed to lack of liquidity by the banks. Whenever liquidity problems are experienced by banks, they suffer from inability of meeting customer needs and demands leading to bankruptcy. Lower returns are caused by lower rates of return which is attributed to by reduction of income. There exists a negative correlation between profitability and high liquidity. (Kamau, 2009) asserted that banks hold high liquidity which has a high probability of generating high returns. If the liquidity ratio is high, then the bank business will be less risky although it will be less profitable (Hempel et al, 1994).

2.3.4 Operational Cost Efficiency

Sufian and Chong (2008) asserted that poor levels of profitability are attributed to by management of expenses in a bad way. In the firm, management act in an illegal way by making use of the available provisions on specific loans which perform poorly in smoothening of profits violating the international standards (IAS.39). Asymmetry of information which can unduly raise the expectations of outsiders concerning their future income is a major driver to smoothening. According to Pérez et al. (2008), cost minimization and profit maximization is determined by cost efficiency and profits. Effects of efficiency on bank profitability are pre-determined by expense to income ratio. Profits are lowered whenever the levels of operating costs are high and vice versa. To earn maximum returns, one is needed to lower the operating cost by making the operating costs be minimal.

2.3.5 Ownership

According to Ongore (2011), ownership is based on agency theory, where he adds that ownership concept is based on two lines of thought. One is ownership concentration which relates to the amount of shares held by few shareholders in the company. The other is ownership mix which defines the identity of the shareholder. Improvement in efficiency and profitability is attributed to close monitoring of performance by top management. Low profitability is as a result of problems related to overlooking right of monitory due to concentrated ownership which also impact the innovativeness. Beck and Fuchs (2004) established that domestic banks in developing countries are less profitable as compared to foreign-owned banks in foreign countries attributed to tax breaks.

2.3.6 Market Concentration

It originated from (SCP theory) which asserts that concentration of market facilitates the formation of collusions by organizations hence earning monopoly profits. Concentration acts as a barrier to entering to highly concentrated markets with domestic banks which implies a negative impact on profits while there is a positive correlation to profitability in highly concentrated foreign markets.

Atemnkeng and Nzongang and (2006) argue that efficiency in the financial systems is highly attributed to profits sought from high levels of market share concentration because of low levels of competition.(Gilbert, 1984) Established that high concentrations in the banks result in low levels of rates attributed to deposits which affect increasing levels of profits in the long run. Besides stiff competition that may be contributed to by high levels of bank concentration (Boone &Weigand 2000).

2.4 Empirical Review

Globally, Hou and Dickinson (2007), studied on impact of NPLs on microeconomics, a case study of banks. The study aimed to ascertain how non-performing loans affect commercial banks. An empirical methodology was used in evaluating the impact of these loans. Data was collected from secondary data from bank's balance sheet to determine whether the bank's lending behavior is affected adversely by non-performing loans (NPLs) .

Kolapoet al. (2012) investigated five Nigerian banks to determine the effect of credit risk on their performance using 2000-2010 data. Fixe effect model was employed in the study. The findings indicated that performance was affected by loans which do not perform well, In addition there a positive correlation between total loans to advance plus deposit and performance.

Azeem and Amara (2013) investigated the effect of profitability on NPAs in Pakistani Banks. Secondary data collected from sixteen Pakistani banks in a period between 2006 to 2012 was used. The sample size was made up of 16 public and private banks of various sizes. Findings of the study established that negative correlation exists between profitability and non-performing loans at a rate of 0.00527% decrease as per model one Besides the results further established that Model two ascertained a decrease in profitability by 0.0037% is attributed to non-performing loans increase by 1000. In conclusion, there was no any significant correlation between stock returns and non-

performing loans. Besides the profitability of banks in Pakistan and other lending institutions was adversely affected by NPL. The main limitation of the study was the fact that data availability was a problem.

Shingjergji (2013) investigated the effect of banks' specific factors on NPL of Albanian banks. This study used secondary data collected from a period of years between 2002-2012. The findings indicated there was little or no correlation between the adequacy ratio and NPL. Kaaya and Pastory conducted a study in the year 2013 on the impact of credit on the financial performance of banks (measured by ROA) through regulating the influence of deposits and bank size. This research utilized 11 Tanzanian Banks as the sample. The study indicated that loan losses have a negative effect on banks performance. As per the conclusion performance of banks is increased through effective risk management. In addition, Vatansever and Hepsen conducted another study in the same year (2013) investigating the possibilities of any significance of NPLs with macroeconomic indicators, factors at the global and bank level in Turkey for five years starting January 2007. Various macroeconomic as well as bank level and global factors were used in the study, Istanbul stock exchange 100 Index, variables of industrial production index, inefficiency ratio of all banks were the only one found significant.

Mausya (2009) in his study on the impacts of NPL on the performance of financial establishments in Kenya, the research study findings ascertained that raising the level of NPL have a negative impact on the performance of commercial banks. Understaffing, under-qualified staff were the major factors leading to NPL. The study used a sample of 136 banks. A single regression equation approach was used in the analysis of NPLs effects on banking stability. Findings indicate that raising levels of NPL impact the functionality of financial institutions.

Kithinji (2011) investigated the implications of credit risk management and economic viability of Kenyan financial establishments. Total loans and Profits were used to measure NPL. The study used regression model in analyzing used to investigate the correlation between the amount of credit, NPLs, and profits. The findings indicated that amount of credit and NPL have little impact on the profits of commercial banks. Macharia (2012) found that the bulk of bank performance is not influenced by leading and NPL. This is through his study on the correlation between the financial performance and the level of nonperforming Loans of Kenyan commercial banks.

Mombo (2013) studied how the financial performance of deposit taking microfinance establishments is affected by the NPAs. Secondary data was used. The study established that high percentage of variability in the value of non-performing loans is by deposit-taking microfinance institutions. Nonperforming loans, loan repayment rate and operating cost influence the financial performance of institutions and they have a more significant effect than the loan repayment rate that the financial organization achieves.

Mugwe (2013) investigated the correlation between firm-specific factors and financial performance of the Kenyan banking industry. The study objectives were to ascertain the correlation between bank-specific factors on the performance of various financial institutions in Kenya. The secondary data collected from the databases of a sample of 43 banks ranging from the year 2008 to 2012 was used in the study. Multiple Regressions method was used in data analysis. The findings indicated that bank financial performance was caused by banks specific factors. Bank specific factors variables, i.e., Capital Adequacy, Liquidity, Management efficiency and asset affect the performance of a firm financially.

2.5 Conceptual framework.

There is a connection between profitability of commercial banks and non-performing loans basing on some empirical studies. However, according to the variables in this study, it is expected that profitability of commercial banks will be influenced by the non-performing loans.

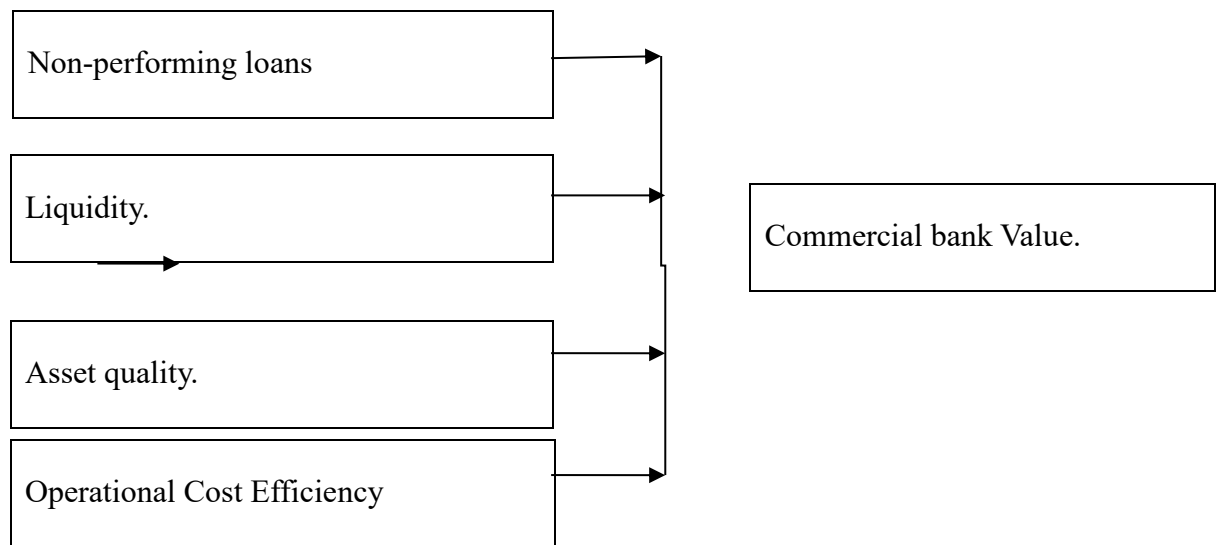


Figure 2.1: Conceptual Framework

Source: Author (2017)

2.6 Literature Review Summary

The above studies, demonstrate how NPL affects the financial performance of commercial banks. Asymmetry of information theory, agency theory, and modern portfolio theory are the three major theories which anchored this study. According to various researches done on the effect of NPL on the achievements of Kenya's banking sector, the results indicate a mixed take on this. Some argue that there is a positive effect while others imply a negative impact of NPL on the financial performance of Kenyan commercial banks.

The few available studies on the impact of NPL and banks' financial performance failed to consider other probable factors including operational efficiency, liquidity and capital as controlling variables influencing the value of commercial banks. Past studies also gave little attention to market efficiency theory. For Local studies in Kenya, they did not consider CAMEL factors variables in their research and missed the agreement with

the earlier international researches that determined that NPL influences financial performance of banks.

The objective of this research paper was to investigate on effects of NPLs on the business profitability of Kenyan financial institutions since there exist a gap in knowledge on this aspect. The study population comprised of listed 11 commercial banks in Kenya for five years. The study was based on market efficiency theory, credit default theory, Asymmetric information theory and agency theory. The factors at bank level affecting stock value and utilized as controlling variables in this research include; liquidity, Capital Adequacy and Operational efficiency.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter addressed the following sections, research design, population, sample size, data collection, and type of data to be collected, method to be used on data collection, data analysis and lastly the ethical considerations.

3.2 Research Design

According to Orodho (2003), a research study design is an outline or a plan that is normally used to produce answers to question that arise from the research. Kombo and Tromph (2006) define it as a structure that describes descriptive survey. A descriptive research design was used which involves describing happening affecting variables in consideration. The design was used to detect the effect of NPAs on stocks value of Kenyan banks. This study was carried out between the years of 2012 to 2016. Commercial bank value measured by stock price was considered as a dependent variable, whereas NPLs were treated as independent variables. CAMEL factors influencing commercial bank performance including; liquidity, capital adequacy, and operational costs efficiency are the controlling variables that have been considered in the analysis.

3.3 Target Population

For target population, it includes all elements to which the researcher would like to make inferences (Cooper & Schindler, 2006). The target population for this study included all banks listed on Nairobi stock exchange. As at 30th June 2016, only 11 banks out of the 42 banks in Kenya were listed (CBK, 2016).

3.4 Data Collection

The study made use of secondary data. It comprised of stock value; non-performing loans (measured using NPLs ratio and computed as $\text{Total NPLs} / \text{total loans and advances}$); capital adequacy measured as $(\text{Core Capital} / \text{Total Risk Weighted Assets})$; liquidity ratio (measured as ratio of liquid assets to total liabilities and computed as $\text{quick assets} / \text{total liabilities}$); asset quality (Calculated by loan loss reserves by net loans, i.e. $\text{Loan loss} / \text{Total loans}$) of the commercial banks from the year 2012 to 2016. The sources from which the data was obtained include the NSE reports, reports from the CBK, audited and published accounts of Kenya's financial institutions, and the

Kenya National Bureau of statistics.

3.5 Data Analysis

Sorting of data collected and organizing was done before subjecting it for analysis using the Statistical packages for social sciences (SPSS). In addition, the collected and organized data was analyzed using Partial Correlation Analysis, ANOVA, and Univariate and Multivariate analysis of Multi-Factor.

3.5.1 Diagnostic Test

The secondary data collected was subjected to normality test to ensure that it's normally distributed. To ensure that the data within the given period of time has some correlation, that is a relationship between current variable and the past variables, lagging test was done (autocorrelation test). Another method of ensuring that data used is reliable is multi-collinearity test was conducted. This ensured that there was no very high relationship among the independent variables.

3.5.2. Data Analysis and Presentation

Data analysis is a process of verifying, cleaning, renovate and modelling data with an aim of settling to a useful information, which enable one to have a conclusion and which gives a platform to make a decision (Creswell, 2009). For a clear understanding of data one need to analyze it. Quantitative data was generated in this study. A multi-linear regression guided by Kaaya and Pastory (2013) which he used to analyze effects of credit risk on performance of Tanzanian banks' by regulating and managing the implications of deposits and bank size was used. Commercial bank value measured by shares value was treated as dependent variable while NPLs computed as non-performing loans divided by the sum of loans and advances, took position of independent variable whereas controlling variables were identified as liquidity, efficiency , capital adequacy and operational costs. The derived multi-linear regression equation is as follows;

$$Y = \alpha + \beta_1X_1+ \beta_2X_2+ \beta_3X_3+ \beta_4X_4+ E$$

Where:

Y= Commercial bank value / measured using stock price

α = Constant

β = Beta Coefficient of the variable i which measures the responsiveness X to a unit

change of Y

X1= Nonperforming Loans, measured using Nonperforming loans ratio. Computed as total non-performing Loans over Total Loans and advances (Total non-performing Loans / Total loans and advances).

X2-X4: Control Variables.

Where:

X2- Capital Adequacy. Measured as (Core Capital / Total Risk Weighted Assets)

X3- Asset quality = Calculated by loan loss reserves by net loans (Loan loss/ Total loans).

X4- Liquidity ratio – Measured as Ratio of Liquid Assets to Total Liabilities. Computed as (Quick Assets/ Total liabilities)

E = error term

CHAPTER FOUR: ANALYSIS OF RESULTS FROM DATA AND DISCUSSION

4.1 Introduction

In this chapter, gives a presentation, analysis, and interpretation of the results and findings. The purpose of this research study is to investigate the effects that NPLs have on the value of commercial banks listed in the NSE. The organized data obtained from the research questionnaire was cleaned, sorted and coded before the analysis. The coded data were entered into the SPSS software and output obtained about the research objectives which were: to study the effects of the relationship between the non-performing loans and value of commercial bank listed in the NSE.

The data was gathered from secondary sources. These data were fed into SPSS version 21.0. The data were analyzed using descriptive and inferential techniques. After that, the data obtained was used to compute the proxies used to study the effects of NPLs on the value of banks listed in the NSE.

4.2 Diagnostic Test

Diagnostic tests help in identifying the conformity of the data interpretation to the normal assumptions of any statistical analysis. Taking linear regression analysis as an example, the basic assumption is that the predictors' residuals are usually distributed and that the predictors are not collinear. This, therefore, necessitates for diagnostic tests for the same

Table 4.1: Test for Normality

Model Dimension	Eigen Value	Condition Index	variance proportions				
			(Constant)	NPLs	Asset Quality	Capital Adequacy	Liquidity
1	2.84	1	0.04	0.06	0.03	0.00	0.00
2	0.979	1.73	0.02	0.03	0	0	0.81
3	0.612	2.23	0.61	0.11	0.28	0	0.03
4	0.401	2.74	0.35	0.21	0.41	0.01	0.08
5	0.014	15.32	0.022	0.08	0.28	0.98	0.09

From Table 4.1 above, while finding out whether the variables are normally distributed, there is a conventional significance that the variables are normally distributed.

The variance inflation factor (VIF) in an ordinary least squares regression analysis quantifies the severity of collinearity. This works as a diagnostic test for the determination of multicollinearity. From table 4.2 below, the values of VIF are less than 5, implying that very little multicollinearity was exhibited by the variables.

Table 4.2: Collinearity Test

Model		Collinearity Statistics	
		Tolerance	VIF
1	NPLs	0.934	1.081
	Asset quality	0.911	1.069
	Capital Adequacy	0.898	1.066
	Liquidity	0.927	1.072
	Average OE	0.967	1.045

4.3 Background Information.

Secondary data generated was used for this analysis using references from NSE reports, the CBK reports; commercial banks published audited accounts in Kenya and the Kenya National Bureau of statistics. This was done using the desk search technique and subsequently, published reports, documents from NSE reports, the CBK reports, and commercial banks published audited accounts and data from NSE was used to compute the stock value for the listed banks.

Cooper and Schindler (2011) explain in the evaluation of secondary data qualitative technique is a useful tool. Mugenda and Mugenda (2012) opine that quantitative records can also be considered to be a subcategory of documents and as such records include figures, reports, and budgets. This implies the incorporation of valuable statistical data in the study. The data was organized; coded and analyzed using SPSS and regression analysis was considered best for providing a means of establishing quantitative associations between variables.

4.3.1 Stock Value

Stock value is the motivating force and the principal reward in the investment process. The stock value is derived from the present value of total expected cash flows to be earned in future by the stock. It's the change of investor's wealth due to an investment that is expected to earn income or save cost. The earning could be due to revenues, dividends, interest or due to movement of prices (Mehri, 2015). The study used the formula applied by Predescu and Stancu (2011) to determine the value of stock returns which are also statistical and conform to normal distribution.

$$SV = [(P_1 - P_0) / P_0] + D_1 / P_0$$

Where, SV denotes the continuously compounded individual bank stock value. P_0 is initial day of the financial year, P_1 is the stock price at the close of the financial year/period and D_1 represented dividend per share at the end of the financial year.

4.3.2 Non -Performing Loans

Non-Performing Loans represent a credit or a loan whose interest or payment are overdue. In commercial banking, many loans are pronounced to be non-performing after being in default for more than 90 days, but this can depend on the contract term between the lender and the borrower. In this study, NPLs are calculated as a ratio of total non-performing loans divided by the total loans and advances (total non-performing loans / Total loans and advances).

$$\text{NPL Ratio} = \text{Total Non-Performing Loans} / \text{Total Loans and Advances}$$

4.3.3 Capital Adequacy

The capital adequacy ratio shows the measure of the capital of a bank which has been pegged to protect depositors and to enhance the efficiency of financial systems as well as promoting bank stability. All banks are required to conform to the international standard requirement on minimum capital adequacy ratios. This is to protect depositors by reducing any loss of their money in case a bank becomes insolvent. It also helps to make the financial system efficient and also promote its stability. The ratio of core capital to total risk-weighted assets or a ratio of core capital to total deposit liabilities is the measure of the capital adequacy. In this study, the measure of CAR used will involve division of the core capital by the total risk-weighted assets calculated as shown

below.

Core capital to Total Risk Weighted Assets = Core Capital

Total Risk Weighted Assets

Quality

Asset quality is an aspect of bank management which involves the examination of the assets of a bank to establish the level and size of credit risk associated with its operation. It measures the soundness and profitability of banking institutions and focuses on the quality of loans. In this study, asset quality is calculated as a ration of loan loss reserves to net loans.

Asset quality = Loan loss/ Total loans

4.3.5 Liquidity

This is the ability of a company to convert its assets into cash within a short time and at the minimum costs possible and without losing their value. Therefore, for a high level of liquidity of its required to hold reasonable quick asset share to enable them to meet their short-term liabilities. In this study, liquidity was synonymous with the current ratio which is the ratio of current assets to current liabilities.

Current ratio = Current assets / current liability

4.4 Descriptive Analysis of Results

The independent and dependent variables utilized in the study were subjected to the SPSS for a descriptive analysis. The listed commercial banks in the NSE included. Barclays Bank of Kenya, Stanbic Bank, Equity Bank, Co-operative Bank of Kenya, Diamond Trust Bank, Housing Finance, Investment & Mortgages Bank, Kenya Commercial Bank, NIC Bank, National Bank of Kenya and Standard Chartered Bank. The stock value was the dependent variable in this study whereas the independent variables were non-performing loans, capital adequacy, and asset quality and liquidity ratio. The information analyzed is for the past five years (between years 2012 to 2016) making the N for this study to be 5.

4.4.1 Stock Value

The study was interested in establishing the stock value as a measure of the dependent variable for this study. The stock value was realized as a result of compounded individual bank stock value/stock price of the initial day of the financial year, the stock price at the end of the financial year/period and dividend per share at the end of the financial year.

Table 4.3: Stock Value of the Listed Banks

Aspects	Dividend	Share Price (P ₀)	Share Price (P ₁)	SV
2012	4.40	36.88	49.48	0.46
2013	5.60	49.50	85.30	0.84
2014	10.90	85.30	102.70	0.33
2015	3.30	102.70	69.20	-0.29
2016	3.60	69.20	71.40	0.08
Mean	5.56	68.72	75.62	0.28
Standard Deviation	2.79	23.72	17.72	0.38
Minimum	3.30	36.88	49.48	-0.29
Maximum	10.9	102.70	102.70	0.84

The means portray an increase in the stock value for the first year and after that a decrease for all the 11 commercial banks listed at the Nairobi Securities exchange with the lowest being 0.29 negative in the year 2015 and the highest being 0.84 in 2013. Additionally, the scores of standard deviations indicate variation in stock value for the various listed banks statistically. These findings support the semi-strong form of an efficient market hypothesis. The prices respond to public information very fast thus conform to efficient market hypothesis thus give true and fair market prices and eliminate the possibility of abnormal.

4.4.2 Non -Performing Loans Ratio

The study further establishes a level of non-performing loans of listed commercial banks at the NSE. This was computed as a ratio of total NPLs to total loans and advances. The annual averages of the NPLs, total gross loans, and NPL ratio are as depicted in table 4.4:

Table 4.4: Level of Non-Performing Loans

Year	NPLs	Total Gross Loan	NPLs/ Total Gross Loan %
2012	75,198.00	3,029,425.00	2.482
2013	96,502.00	2,328,071.00	4.145
2014	99,029.00	2,667,168.00	3.713
2015	94,100.00	2,249,351.00	4.183
2016	144,789.00	2,175,272.00	6.656
Mean	101,923.60	2,489,857.40	4.236
Std. Dev	23024.69	317979.37	1.360
Min	75,198.00	2,175,272.00	2.480
Max	144,789.00	3,029,425.00	6.660

According to the results in Table 4.4, the level of NPLs was highest in the year 2016 at 144,789 while the lowest was in the year 2012 at 75,198 showing a mean of 101,923.60 and a standard deviation of 23024.69. Over the same period, the highest total gross loan was observed in the year 2012 and stood at 3,029,425 while the lowest total gross loan was recorded in the year 2016 at 2,175,272 with a mean score of 2,489,857.4 and a deviation of 317979.37. The study further calculated the ratio of NPLs to Total Gross Loan and established that year 2016 had the highest ratio at 6.656 while the year 2012 had the lowest ratio at 2.482. The mean of the ratios was 4.236, and the deviation was 1.360. From these results, the bad loan problems entail nonperforming stock component (old debt) and a flow component (new lending) that may become non-performing.

4.4.3 Commercial Banks Capital adequacy

The researcher sought to investigate trends in capital adequacy in commercial banks of Kenya from 2012 to 2016. The table 4.5 below illustrates the results.

Table 4.5: Banks' Capital adequacy from the year 2012 to 2016

	2012	2013	2014	2015	2016
Mean	0.1908	0.2328	0.2062	0.1895	0.1701
Median	0.1776	0.2380	0.2100	0.1890	0.1770
Standard Deviation	0.0435	0.0512	0.0271	0.0259	0.0249
Range	0.1350	0.1398	0.0930	0.0810	0.0700
Minimum	0.1430	0.1612	0.1480	0.1390	0.1400
Maximum	0.2780	0.3010	0.2410	0.2200	0.2100

The finding shows that the year 2013 had the highest value of capital adequacy denoted

by a mean of 0.2328 while the lowest value for capital adequacy was recorded in the year 2015 as shown by a mean value of 0.1895. In addition, the values for standard deviation depict variability in the capital adequacy for the five years period with the highest deviation being 0.0512 in the year 2013 and the lowest 0.0249 in the year 2016. Findings revealed that a significant decrease in capital adequacy was experienced during the five years period. From these results, it is evident that capital adequacy announcements lead to underperformance of stocks in the market as they had negative cumulative abnormal return values, especially in the post-announcement dates.

4.4.4 Commercial Banks Asset quality

The researcher sought to investigate trends in Asset quality in commercial banks of Kenya from 2012 to 2016. The results are displayed in table 4.6 below.

Table 4.6: Banks Asset quality from 2012 to 2016

	2012	2013	2014	2015	2016
Mean	0.2644	0.0403	0.2898	0.0376	0.0568
Median	0.0137	0.0215	0.0337	0.0220	0.0509
Standard Deviation	0.7189	0.0521	0.7608	0.0313	0.0487
Range	2.1772	0.1574	2.4450	0.0884	0.1129
Minimum	0.0028	0.0066	0.0050	0.0016	0.0071
Maximum	2.1800	0.1640	2.4500	0.0900	0.1200

It is noted that in the year 2014, the highest value for Asset quality was recorded with a mean of 0.2898 and year 2015 had the lowest value for asset quality as with a mean value of 0.0376. In addition, the values for standard deviation depict variability in the asset quality within the period of five years which recorded the highest deviation of 0.7608 in the year 2013 and the lowest of 0.0313 for the year 2015. The results illustrated that there had been a decrease in asset quality from the year 2012 to 2013, this was followed by an increase in 2013. Asset quality then decreased in 2015 then increased in 2016.

4.4.5 Descriptive Analysis of Liquidity

The study collected data on current assets and current liabilities of commercial banks

listed in the NSE to compute the liquidity (or current ration). The researcher sought to investigate trends in liquidity in commercial banks of Kenya from 2012 to 2016. The Table 4.7 below displays the results.

Table 4.7: Banks' Liquidity from 2011 to 2015

	2012	2013	2014	2015	2016
Mean	0.4225	0.4617	0.4557	0.4443	0.3479
Median	0.3570	0.3737	0.3560	0.3470	0.3100
Standard Deviation	0.2090	0.2401	0.2349	0.2683	0.0951
Range	0.6680	0.7440	0.7810	0.8854	0.2930
Minimum	0.2720	0.3000	0.3060	0.3076	0.2470
Maximum	0.9400	1.0440	1.0870	1.1930	0.5400

From the findings, highest liquidity value is recorded in the year 2013 denoted as 0.4617 while the year 2016 shows the lowest value for liquidity as shown by a mean value of 0.3479. Also, the values for standard deviation depict a variance in the liquidity during the five-year period with the highest deviations being 0.2683 and lowest 0.0951 in the years 2015 and 2016 respectively. The findings demonstrated that there existed a significant decrease in liquidity over the period of five years. To achieve reasonable financial liquidity maintenance of large slice of quick assets especially cash is required. This enables a company to meet its obligations without delays which may help them to enjoy some discounts thus reduced cost. It also helps them to achieve the greater trust of their financiers thus able to negotiate for a better term, and most of all, it diminishes the risk of insolvency. However, the maintained cash misses an opportunity to be invested thus earn income. Therefore there is an opportunity cost for the same. This works against the value of stock since it's delivered its value from the expected future cash flow. It is, therefore, advised to maintained reasonable current assets to be able to maximize the share capital wealth.

4.5 Inferential Statistics

The preferred analysis for inferential statistics is correlation and multiple linear regression analysis. It shows the relationships between the different variables considered in the study. Pearson and Spearman correlation coefficients were used to test for multicollinearity. The regression analysis was done using Ordinary Least Squares (OLS) method. F-statistic and t -statistic was used to carry out tests of

significance for the overall fit of the model and the independent variables respectively.

4.5.1 Correlation Analysis

This study used the Pearson correlation coefficient to establish the association between the variables. Karl Pearson correlation is used to establish the degree of association or relationship between the variables quantitatively, an index of relationship. The correlation analysis results are presented in Table 4.8.

Table 4.8: Karl Pearson Correlation Analysis

Indicators	Aspects	SV	Liquidity	Assets Quality	NPLs	Capital Adequacy
SV	Pearson Correlation	1	-.824	-.849	-.421	-.522
	Sig. (2-tailed)	.	.036	.049	.037	.029
Liquidity	Pearson Correlation	-.824	1	-.649	-.299	-.530
	Sig. (2-tailed)	.036	.	.023	.025	.036
Assets Quality	Pearson Correlation	-.849	-.649	1	-.553	-.480
	Sig. (2-tailed)	.049	.023	.	.033	.038
NPLs	Pearson Correlation	-.421	-.299	-.553	1	-.462
	Sig. (2-tailed)	.037	.025	.033	.	.031
Capital Adequacy	Pearson Correlation	-.522	-.530	-.480	-.462	1
	Sig. (2-tailed)	.029	.036	.038	.031	

The relationship significance is tested by a 2-tailed test at 95% level. Statistically, a probability value of less than 0.05 is an indication of significant correlation. Table 4.8 shows that there was a positive relationship between stock value and liquidity, assets quality, non-performing loans and capital adequacy. Accordingly, assets quality had the strongest negative correlation with stock value with a correlation figure of 0.824, followed by liquidity whose correlation with stock value was -0.824, then capital adequacy with a correlation value of -0.522 and finally non-performing loans with a correlation of -0.421.

4.5.2 Regression Analysis

The overall research objective was to determine the implications of NPLs on the value

of commercial banks in Kenya. This study could not be completed without conducting a regression analysis to determine the connection between the independent variables used herein including the capital adequacy, liquidity, management efficiency, asset quality, earnings' ability, and the dependent variable performance (measured by stock price). The data utilized linear regression analysis of this research was obtained for a period of five years. The regression results are presented in tables below.

4.5.3 Model Summary

Table 4.9 summarizes the findings of the regression analysis. R denotes the existing connection between dependent and independent variable. The R Square represents the coefficient of determination to demonstrate by how much dependent variable depends on independent variables and Adjusted R Square shows regression results reliability.

Table 4.9: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.792	0.627	0.303	0.125

a. Predictors: (Constant), Liquidity, Assets Quality, Non-Performing Loans and Capital Adequacy

The findings show that R which is the multiple correlation coefficients that show quality of the prediction of the dependent variable by the independent variable is 0.792. This is a good indication since it points to a strong correlation. The R-Square (coefficient of determination) illustrates that the four independent variables in the model explain 62.7% of the stock value of commercial banks. Consecutively, the Adjusted R-Squared demonstrates the evidence that after altering the model for inefficiencies the independent variables can explain 30.3% of the stock value of commercial banks listed in the NSE.

4.5.4 Regression Coefficients

Below table (4.10) represent the regression coefficients which relates the performance of the independent variables. The values show the implications of every single independent variable. Their significance values measure the performance effect of each independent variable to dependent variable and the effect on an attempt to distort these variables.

Table 4.10: Coefficients (a)

Model	Standardized Coefficients Beta	T	Sig.
(Constant)	0.425		
Non-Performing loans	-0.248	1.378	0.012
Capital adequacy	-0.354	1.454	0.003
Asset quality	-0.461	1.554	0.004
Liquidity	-0.343	1.464	0.002

The SPSS generated output as presented in the table above shows that the coefficients provided the answer to the regression model which connects to the independent variables or rather the predictor variables and the dependent variables. As shown in Table 4.10, the regression model established becomes:

$$Y = 0.425 - 0.248X_1 - 0.354X_2 - 0.461X_3 - 0.343X_4$$

From the regression model obtained above, constant = 0.425, shows that if all the independent variables (non-performing loans, capital adequacy, asset quality and liquidity) all rated as zero, stock value would rate 0.425. While holding the other factors constant, a unit increase in non-performing loans of the listed banks would lead to a 0.248 decrease in stock value of banks listed at the NSE. A unit increase in capital adequacy while holding the other factors constant would lead to a decrease in stock value of banks listed at the NSE by a factor of 0.354. With all other factor remaining constant, changing one unit in asset quality would in turn result to a decrease of 0.461 in stock value of banks listed at the NSE.

A unit increase in liquidity while holding the other factors constant would lead to a decrease in stock value of banks listed at the NSE by a factor of 0.343. This implies that asset quality was the most influential on stock value of banks listed at the NSE. The analysis was undertaken at 5% significance level (p-value 0.05). The significance of the predictor variables in the model was assessed through comparing the obtained probability value and $\alpha = 0.05$. Any probability value less than α was significant otherwise it wasn't. All the predictor variables were significant in the model as their probability values were less than $\alpha = 0.05$.

4.5.5 Significance Level

Analysis of the variance (ANOVA) was used in this study in making simultaneous means comparisons; and as a result, test whether there exists a significant relation between the dependent and independent variables. ANOVA indicates a significant F statistics implying that the model was fit for the estimation. The table 4.11 below shows the ANOVA results which explain the reliability of the model developed in describing the connection between the study variables. The essence of the model was measured using a 2-tailed test at levels of 5%.

Table 4.11: ANOVA (b) Table

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	0.80406	9	0.08934	3.436	.015(a)
Residual	0.02600	1	0.026		
Total	0.83006	10			

- a. Predictors: (Constant), capital adequacy, Asset quality, management efficiency, earnings ability, liquidity
- b. Dependent Variable: Stock Value

From the table 4.11, the F statistic is 3.436 with a distribution F(9,1), and the probability of observing a value greater than or equal to 3.436 is less than 0.001 as given by the significance value of 0.015 which is less than the critical value at levels of 5% in a 2-tailed test. There is a revelation of statistical relevance of the regression model developed is statistically vital and the variation in the results is insignificant. This variation does not alter anything in case the study units (population) hence, the model can be reliable to explain the effect and specific factors on stock value of commercial banks listed in the NSE, Kenya. Berger & Young (1997), Kirui (2013), Batra (2003), Muasya (2009) and Michael et al (2006) supported the findings.

CHAPTER FIVE: SUMMARY, CONCLUSION, AND RECOMMENDATIONS

5.1 Introduction

This chapter contains a summary of findings, its conclusions, study recommendations and suggest further research in the area. The chapter is focused at establishing the

connection between NPLs and value of banks listed in the NSE. This chapter obtains the conclusions and recommendations from the analyzed data in chapter four.

5.2 Summary of Findings

This research study was about the impact of NPLs on the value of commercial banks listed at the NSE. The secondary data used in the study was spread over five years (2012 to 2016) covering a population of all the 11 commercial banks listed at the NSE. The main elements of the study were measured basing on nonperforming loans in relation to the stock value of commercial banks listed in the NSE. Applying multi-linear regression and using SPSS package for analysis, different dimensions of relationships were established between nonperforming loans and stock value of commercial banks listed at the NSE. The results further show that there is an adverse relation between the non-performing loans and stock value of Kenyan banks listed at the Nairobi Securities Exchange.

The study found that liquidity affects the stock value of commercial banks listed in the NSE. Regarding the provision of liquidity, banks receive money from depositors and invest those funds to borrowers while at the same time they are supposed to avail customer deposit on demand. Liquidity ratios measure the ability of the bank to perform its payment obligations by comparing the most liquid cash with its payment obligations. If the coverage of the latter by the bank is insufficient, then it implies that there are high chances bank will have difficulties meeting its short-term financial obligations.

The study further established that capital adequacy has a negative influence on the stock value of commercial banks listed in the NSE. Applying minimum capital adequacy ratios tend to promote efficiency and stability of the financial system by minimizing the chance of banks becoming insolvent. In case of insolvency, confidence in the financial system is lost causing financial problems even for other banks and cause a hitch to the smooth operation of financial markets.

The higher the NPLS, the lower the stock value (negative relationship): this depicts that non-performing loans have a negative effect on the stock value of commercial banks listed in the NSE. From the study, banks with higher NPLs had higher costs emanating from loan provisions and loan loss costs. The higher the costs, the greater the reduction in stock returns, which in turn trickles leads to lower stock value. The study established that the value representing asset quality, capital adequacy, and liquidity management

are negative in relation to the stock value of NSE listed commercial banks. This shows a negative relationship between these variables and stock value of commercial banks.

If asset quality is high, capital for investment choices and other requirements is available and liquidity then the stock value of commercial banks at the NSE is negative. The findings are in agreement with few other types of research done regarding NPLs and stock value showing that NPLs affect such basics as liquidity, lending trends, and volumes, capital adequacy ratio (based on total weighted risk), assets quality, among others, and these, in turn, affect running of the banks.

5.3 Conclusion

The study concludes that NPLs have a great effect on stock value of commercial banks listed in the NSE. NPLs have also been of worry to banks in recent times, due to continued increase and negative effects on stock values of NSE listed commercial banks. The controlling variables introduced in the study also play a role in the stock value of commercial banks listed at the NSE of the firms.

The study concludes that capital adequacy, asset quality, and liquidity quotient determine how the stock values of commercial banks change over a given period. From the findings, capital adequacy announcements lead to underperformance of stocks in the market as they had negative cumulative anonymous return values, especially in the post-announcement dates. Deficiencies in any of the variables call for corrective measures or reduced budgets in achieving set objectives as opposed to when the variables are sufficient.

The study concludes that the most appropriate model for measuring the effects of NPLs on stock values using NPLs ratio as the independent variable and stock value as the dependent variable is the multi-linear regression model. As a result, this research, therefore, confirmed that nonperforming loans negatively affect stock value of the NSE listed banks.

5.4 Recommendations

From the earlier conceptual argument and context of the study, it is evident that NPLs have been an area of study, and their different dimensional effects on operations, financial performance and market competitiveness of commercial banks are dynamic. Basing on the study results, it is evident that NPLs have a significant negative effect on

the stock value of commercial banks listed at the NSE. It is therefore of importance for banks to work on appropriate measures to reduce the levels of NPLs. Great efforts should be made by banks management to manage NPLs which will consequently decrease the stock value of commercial banks listed at the NSE. This requires the organization of the structure of acquiring its operating capital which should be cost friendly, good advance customer selection which ensures that credit is advanced to the most productive sectors while applying the principle of prudence and improving competence. Findings of this study can give guidance to the bank managers to take actions that will result to the healthy functioning of banks thus have control stock value of commercial banks listed at the NSE indirectly.

The study recommends that investors should not solely use capital adequacy announcement to make investment decisions as that would not make them have above normal returns since the market digests the same information in almost a similar way. However, given that the listed banks experienced negative cumulative abnormal returns in the post-announcement period, the study suggests that the Government should consider the cumulative adverse effect on the bank's performance and the overall market performance. This will incorporate financial decisions from the firms before implementing such corporate actions.

The study recommends that since liquidity is one determinant of stock value, bank finance manager should pay attention to it. There exists a negative connection between the stock value and liquidity of commercial banks across the Kenyan republic, the research study recommends that the banking industry regulator, CBK, maintain the regulation over the minimum liquidity of commercial banks which is currently at 20% as this has an impact on the stock value of commercial banks and therefore the long and short-term stability of the entire systems. The study recommends that the banks listed at the NSE should have strategies for managing non-performing loans by having good measures of identifying, monitoring and controlling their risk. The strategy should include management policies, an effective information system for monitoring and reporting NPL ratio and internal control systems.

5.5 Limitations of the Study

Some of the limitations that this study faced include; the study was guided by four variables, which cannot conclusively elaborate the NPLs' effects on stock value of

eleven financial institutions listed at the NSE. The study did also not include all factors that affect stock value of commercial banks.

Another limitation is that the study did not cover a broad perspective and explore further on more implications of NPLs on stock value of Kenyan commercial banks. The study figured stock value only from a perspective of stock returns. The value of banking institutions can be defined by other variables. Accordingly, the study was faced with a limitation of establishing stock value as the most appropriate way of measuring value despite the limitations of literature available on this concept, especially in the Kenyan context.

Another limitation of the study was the use of secondary data only. The primary data could add substance to study with personal responses from bank's management stating the levels of NPLs effect on their stock value.

5.6 Suggestions for Further Research.

Out of the 42 banks in Kenya, this study covered the only 11 banks that are listed in the NSE in investigating the effects of non-performing loans in Kenya. It is worth noting that NPLs are a huge menace that affects the performance of the entire banking system and the financial institutions at large. Accordingly, the study recommends that another study covering the other commercial banks in Kenya would be a milestone in uncovering the impacts of NPAs on other aspects of performance of banking sector in Kenya. Such a study could concentrate on Tier I, Tier II or Tier III banks in Kenya. On the other hand, the same study could be replicated in the deposit-taking SACCOs to uncover the implications of NPLs on the financial performance of banks hence paving the way for policies that would alleviate the situation.

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APPENDIX 1: NSE LISTED COMMERCIAL BANKS IN KENYA

List of listed commercial banks in Kenya as at 31 December 2016 as per CBK Report, 2016

1. Barclays Bank of Kenya Ltd.
2. CFC Stanbic Bank Ltd.
3. Co-operative Bank of Kenya Ltd.

4. Diamond Trust Bank (K) Ltd.
5. Equity Bank Ltd.
6. Housing Finance
7. Investment & Mortgages Bank Ltd
8. Kenya Commercial Bank Ltd
9. National Bank of Kenya Ltd
10. NIC BANK
11. Standard Chartered Bank (K) Ltd

Source: CBK (2016)