

**EFFECT OF PRUDENTIAL GUIDELINES ON FINANCIAL PERFORMANCE OF
LISTED COMMERCIAL BANKS IN KENYA**

By

ROSEMARY WAKARINDI

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DECLARATION

I, the undersigned, declare that this is my original work and has not been previously presented for the award of any degree in any other university.

Signature.....Date.....

Rosemary Wakarindi

APPROVAL

This project report has been submitted for examination with my approval as a university supervisor.

Signature.....Date.....

Mr. Joseph Barasa

Lecturer, Department of Finance and Accounting
School of Business, University of Nairobi.

DEDICATION

To

My loving dad,

Simon Maina

(You have always encouraged me and stood by me all times)

My caring mum,

Helen Nyambura

(In my lowest moments you always lift me up)

ACKNOWLEDGEMENT

My heartfelt appreciation goes to Supervisor, Mr. Barasa for his immense guidance and criticisms while developing this project. I would also want to appreciate my family for their contribution and emotional support throughout the programme.

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ABSTRACT

The financial performance of banks crucial towards the stability of the financial sectors which has a potential effect on economic growth. Commercial banks offer a variety of financial services which includes: savings accounts, current accounts, investment services, insurance and offering credit to borrowers. The Central Bank of Kenya issued guidelines which have been termed as the prudential guidelines which provide a framework for risk management. The general objective of this study was to examine the effect of prudential guidelines on financial performance of listed commercial banks in Kenya. The specific objectives were; to determine the effect of capital adequacy on financial performance of listed commercial banks in Kenya, to establish the effect credit risk on financial performance of listed commercial banks in Kenya, to find out the effect of liquidity on financial performance of listed commercial banks in Kenya and to examine the moderating effect of bank size on financial performance of listed commercial banks in Kenya. This study was based on three theories; Public interest theory of regulation, Capture theory of regulation and liquidity preference theory. This study took up a descriptive research design. The population of this study was all the 11 listed commercial banks at the Nairobi Securities Exchange in Kenya. Secondary data was collected from the annual audited reports of listed commercial banks from 2013 to 2017 which was a period of five years. The data was collected for each individual bank and this means that the study was a panel data analysis. A multiple regression analysis was done in order to establish the relationship between prudential guidelines and performance of listed commercial banks in Kenya. Data analysis was done using STATA and presented in frequency tables and graphs. The study found out that liquidity had a negative and significant effect on financial performance of listed commercial banks in Kenya. Further, capital adequacy had a positive but non-significant effect on financial performance of listed commercial banks in Kenya. Credit risk was found to have a negative and significant effect on financial performance of commercial banks in Kenya. Lastly, firm size was found have a positive and significant effect on the financial performance of commercial banks in Kenya. The study therefore recommends that commercial banks should adhere to the capital adequacy guideline as capital adequacy was found to affect performance of banks positively. Equally, banks need to manage liquidity, credit risk prudently since they influence performance of the entities significantly.

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LIST OF ABBREVIATIONS

CBK	Central Bank of Kenya
EBIT	Earnings before Interest Taxes
KCB	Kenya Commercial Bank
MENA	Middle East and North Africa
NSE	Nairobi Securities Exchange
PG	Prudential Guidelines
ROA	Return on Assets
ROE	Return on Equity
ROI	Return on Investments

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Commercial banks contribute greatly towards the growth of the economy of countries and therefore they cannot be overlooked. This is because these banks are vital platforms that promote business in the country through offering savings and investments financial services. It is true to suffice that in any given country, there are those with excess of funds and they can wish to loan to those with deficits. However, these two units can only meet when they have information on each other needs. This circumstance is difficult and this is how banks and other financial institutions come into place. According to Yihze, Michael, Wenxuan and Weiwei (2016) sustained profitability of banks in China is important because banks serves a number of stakeholders. Therefore, the profitability of banks is a crucial towards the stability of the financial sectors which has a potential effect on economic growth. Commercial banks offer a variety of financial services which includes: savings accounts, current accounts, investment services, insurance and offering credit to borrowers. Sami and Mohamed (2011) note that a well-developed system if commercial banks improves entrepreneurship activities in a country which in turn improves the standards of living.

This study was based on three theories: Public Interest Theory of Regulation, Capture Theory of Regulation and Liquidity Preference Theory. The Public Interest Theory of regulations posits that regulations are meant to protect the interests of the public. This theory posits that when private investors are left alone, they may exorbitantly exploit the consumers and it is for this reason that regulations are made. Capture Theory of Regulation was developed by Stigler (1971) and posits that at times the state department that is mandated to regulate gets captured in the industry and starts pursuing economic benefits that are specific to it. This

theory is important because it provides an understanding of regulations and why they may fail to achieve the expected objectives.

The theory of Liquidity Preference was coined by Keynes (1964) with the goal of explaining why units prefer assets that can easily be converted into cash unlike other categories of assets. According to Keynes (1964) there are three motives that make people prefer cash over other assets. This theory is important because it provides information on liquidity of firms.

According to Amel-Zadeh, Barth and Landsman (2017) in the United States, regulations of banks were found to lead to stability of the financial system. In particular, banks were required to report on intended purchase and or sale of assets before doing so. This then would ensure that the Federal Bank could make decisions on whether to grant permission to proceed with purchase or sale without negatively affecting the financial systems. Millow, Kebede and Sujata (2015) notes that in Ethiopia, regulations of banks promote transparency which leads to improved performance of the industry. It is important to note that regulations seek to promote the undertaking of certain behavior or to refrain from certain actions. In this respect, regulations offer hindrances towards actions or inactions that could destabilize individual banks and whose entire effect may destabilize the entire financial system. Due to inability of all banks to manage risks, regulations become vital in bank's supervision in Nigeria (Onoalapo, 2012).

In Turkey, Macit (2011) indicates that due to rise in risks in the banking industry, regulations have helped banks in risk management. This implies that regulations are meant to ensure that risks are identified and mitigation measures set in place. For instance, credit risk

management, which is the main risk that commercial banks has been mitigated by ensuring that borrowers are credit worthy as revealed by their Credit Reference Bureau scores. Equally, Odigimbe (2012) notes that prudential guidelines are tools that foster the establishment of the best risk management practices among banks in Nigeria. It can therefore be noted that it is due to existence of risks in the internal and external business environment that prudential guidelines have been established.

In Rwanda, Vianney (2013) indicates that regulations ensured that the financial system in the country was stable. This is because, the legal stipulations with respect to bank specific aspects ensured that banks had a comprehensive risk management framework. Therefore regulations are meant to foster compliance with set stipulations in order to enhance prudent risk management. In China, Zhang, Cai, Dickson and Kutan (2016) notes that bank regulation ensures that the rate of non-performing loans is reduced among the banks and this improves their financial standings. Further, they argue that through efficient regulatory framework, the moral hazard is greatly checked and this enhances trust among the stakeholders in the industry.

1.1.1 Prudential Guidelines Issued by the Central Bank of Kenya

Supervision of Commercial banks is crucial since they deal with the public and also the depositors' fund need to be protected. In Kenya, Commercial banks regulations and supervision is done by the Central Bank of Kenya (CBK) which also issue licenses to banks. In carrying out these duties, the CBK issued guidelines which have been termed as the prudential guidelines which provide a framework for risk management. The Central Bank of Kenya issues these regulations in line with the Banking Act, Cap.488 which allows it to impose the necessary requirements and restrictions that are fundamental in establishing a

stable financial system that ensures that depositors are protected, banks' failures are mitigated due to existence of system risks, eliminate misuse of banks services and protect public trust in the banking sector (CBK, 2018). The prudential guidelines came into place in the year 2013. These guidelines are 22 in number whose purpose is to provide information on those seeking license to operate banks and ensure continued adherence to the law for existing banks in Kenya (CBK, 2013). Tomak (2013) idealizes that in order to improve profitability of commercial banks, it is important that top management align operations in order to mitigate risks that are inherent in the banking sector.

According to Ueda and Valencia (2014) sectoral regulations particularly in the financial sectors are important in that they ensure that the sector is stable and continues to promote economic growth in a country. Perhaps, it is for this reason that the regulator in Kenya noted that due to changing structural setups in the country, there was a need to make specific laws in order to closely monitor banks operations (CBK, 2012). Initially, the prudential guidelines that were proposed were 13 but they were subsequently added to the current number. According to the CBK(2013) the prudential guidelines are Licensing of New Institutions(CBK/PG/01), Corporate Governance CBK/PG/02), Capital Adequacy CBK/PG/03), Risk Classification of Assets and Provisioning CBK/PG/04), Liquidity Management CBK/PG/05), Foreign Exchange Exposure Limits CBK/PG/06), Prohibited Business CBK/PG/07),, Proceeds of Crime and Money Laundering (Prevention) CBK/PG/08), Appointment, Duties and Responsibilities of External Auditors CBK/PG/09), Publication of Financial Statements and Other Disclosures CBK/PG/10), Opening of New Place of Business, Closing Existing Place of Business or Changing Location of Place of Business CBK/PG/11), Mergers, Amalgamations, Transfers of Assets and Liabilities CBK/PG/12), Enforcement of Banking Laws and Regulations CBK/PG/13).

Those that were later added include: Business Continuity Management CBK/PG/14), Agent Banking CBK/PG/15), Outsourcing CBK/PG/16), Representative Offices CBK/PG/17), Voluntary Liquidation CBK/PG/18), Consolidated Supervision CBK/PG/19), Stress Testing CBK/PG/20), Prompt Corrective Action CBK/PG/21) and Consumer Protection CBK/PG/22). This study assessed the effect of prudential guidelines CBK/PG/03 (Capital Adequacy) and CBK/PG/05 (Liquidity Management). In this regard the study examined the effect of credit risk management, liquidity risk management and capital requirement on financial returns of listed commercial banks in Kenya. This study has selected these prudential guidelines because of the near past occurrence where a number of commercial banks have been put under receivership owing to liquidity problems and other malpractices (CBK, 2016).

1.1.2 Financial Performance of Commercial Banks

Performance entails the outcome of a certain activity or a process. According to Khrawish, (2011) performance measurement is an integral activity of organisations because it is important to tell whether the resources are used efficiently. As such, performance measurement seeks to compare inputs and outputs of activities. Commercial banks deal with wide stakeholders and thus their performance is of interest to many parties. There are various measures of reporting performance which may include financial measures and non-financial measures. Financial measures entail assessment of returns in monetary terms. Financial measures include profits and profitability ratios. Profitability ratios are indicators of how much returns are made and how efficient. For instance, Return on Assets (ROA) indicates the returns that assets earn. On the other hand, non-financial measures are those that are qualitative in nature and they may include; customer satisfaction, market share, product development, brand image and firm's innovativeness (Sangmi & Tabassum 2010). This study

expressed financial performance in terms of financial performance indicating that quantitative measures were adopted.

According to Archer and Karim (2012) there are different measures of profitability of commercial banks. The authors indicate that most common measures are expressed in terms of ratio. The most common ratios of profitability are ROA and ROE (Onaolapo, 2012). ROA expresses the amount of income a given value of assets generates while Return on Equity (ROE) measures the total amount of income shareholders equity generates. It is important to note that equity is the shareholders stake in a firm. As a result, ROE measures the amount income reinvested profits generate for the firm.

In contrast ROA equates income to total assets of the company. Al-Karim and Alam (2013) indicates the both ROA and ROE are essential ratios in measuring efficiency and profitability of banks. Profitability of banks is an important strategic goal that top management of banks should seek. The main income earner for banks is through issuance of loans for interest. However, the banks should maintain adequate reserves in order to repay account holders deposits when called up. According to Amin (2014) failure or inability to repay customers deposits leads to financial distress which cause havoc and may lead to failure of commercial banks.

1.1.3 Prudential Guidelines and Financial Performance

As noted by Al-Tamimi et al., (2015) commercial banks' financial performance is an important determinant of stability of the entire financial sector. For this reason, the Central Banks issue restrictions and requirements that seek to ensure that there is stability and public

trust in the banking system. Coleman (2013) notes that through prudent regulatory stipulations, banks can reduce conflict of interest and enhance governance which at the least improve financial standing of banks. This is because, regulations seeks to set the “dos” and “don’ts” in a certain sector. It is for this reason that the regulatory framework is expected to be straightforward in its application. Ruziqa (2013) views that effective risk management as a good tool of enhancing profitability of commercial banks. Regulatory framework establishes a risk management for the banks. According to the CBK (2013), the prudential guidelines are meant to ensure that the financial system is at the minimum characterized by consistency, transparency and fairness to both the banks and the customers. However, these guidelines do not necessarily lead to improved performance since they may be hindrance to innovations, product and market expansion Muiruri (2015).

Regulations seeks to ensure that performance of banks is enhanced through reduction of nonperforming loans, unfair dealings and treatment to customers and works as a check to moral hazard (Zhang *et al.* 2015). This indicates that there is a potential benefit of regulations on performance of banks. In particular where NPL are reduced through credit risk management guidelines, the profitability of commercial banks is enhanced. This implies that the main assets of financial institutions are banks and where defaults rate is high, performance is low. Equally, the bank has its main liability being customer’s deposits and therefore it is important that liquidity is upheld. Regulations seek to protect all stakeholders’ interests (Abiola & Olausi 2014).

1.1.4 Listed Commercial Banks in Kenya

Trading of securities in Kenya takes place at the Nairobi Securities Exchange (NSE) which was started in 1954 under the Societal Act in order to facilitate listing of equity and debt

securities. The NSE under the current laws is regulated by the Capital Markets Authority under the Capital Market Authority Act of 1989. NSE has its core business being offering of a platform where equity and debt owners can transact and for this reasons it is an important structural set up for enhancing savings and investments in Kenya. Banks in Kenya are governed by the CBK under the Banking Act, CBK Act and Companies Act. Equally, there are sectoral regulations that are followed by commercial banks, for instance those from Kenya Bankers Associations. According to Cytonn (2017) the balance sheet of banks increased from Kshs.3.26 trillion to KShs.3.37 which is an increase of 3.4 % in 2014 and 2015 respectively indicating that the sector is growing.

The listed commercial banks in Kenya are involved provision of financial services which includes accepting deposits, offering credit to borrowers, safe custody of valuables, money transfers services and currency exchange facilities.

According to Ongore and Kusa (2013) due to the various expectations of the different stakeholders, banks profitability is paramount importance. It is vital to note that commercial banks improve the investments in a country through granting loan facilities to borrowers. Equally, commercial banks should be in a position to service their obligations as and when called up to do. Ajayi and Atanda (2012) view profitability of commercial banks as the potential to make the best return out of a given level of resources. In this respect, profitability is an equation that seeks to relate input and output for entities.

1.2 Research Problem

For a country to economically develop, the stability of its financial sector is of paramount importance. This is because financial institutions are involved in mobilizations of savings and

investments. Commercial banks thrive in a competitive industry and thus they should have a robust risk management framework which ensures that risks are identified and managed. According to Ajayi and Atanda (2012) performance of commercial banks is important due to their role towards economic growth. Theoretically it is expected that regulations ought to improve performance of commercial banks. This is because regulations ensure that the best practices are adopted by banks (Baugatef & Mgadmi, 2016).

Guidelines on credit risk management seek to ensure that non-performing loans are eliminated thus fostering performance of commercial banks. Appropriate risk mitigation strategies with respect to capital adequacy and credit risk as contained in prudential guidelines should improve performance of banks. (Naceur & Omran). However, banks do not always experience good performance. In Kenya, Imperial Bank Limited, Dubai Bank and CharterHouse Bank Limited are under statutory management (CBK, 2018). In year ending 2017, Standard Chartered Bank and Family Bank issued profit warnings.

In Kenya, the performance of commercial banks has been assessed. According to Ongore and Kusa (2013) who sought to establish the effect of micro and macro factors on performance of banks in Kenya, found out that both board decisions and management decisions greatly and in a beneficial way impacted on financial performance of banks while liquidity had non-significant effect on performance of banks. Using primary data Sauda, Mutegi and Muriuki(2017) studied the effect of firm's governance, management of credit risk and liquidity on banks' performance. It was revealed that all variables affected bank's performance in Kenya in a significant way. Mwega (2014) assessed the effect of regulations in the banking sector and revealed that core capital had a significant effect on performance of commercial banks.

It appears that only a few studies have been undertaken effect of prudential guidelines on performance of commercial banks in Kenya. Equally, those studies undertaken have not considered the exact combination of variables that this study has. Studies done have considered data in aggregate as contained by the CBK regulatory reports.

In this respect, this research sought to find out the contribution of the prudential guidelines on financial performance of banks that are listed at the Nairobi Securities Exchange in Kenya. In addition, the study was a panel data analysis. This study sought to answer the research question: what is the effect of effect of prudential guidelines on financial performance of commercial banks listed at the NSE?

1.3 Research Objective

This study sought to find out the effect of prudential guidelines on financial performance of commercial banks listed at the NSE.

1.4 Value of the Study

This study may be of value to several parties. This include the Central Bank of Kenya CBK which has issued prudential guidelines in order to ensure that certain restrictions and requirements are adhered by commercial banks. The findings may be useful to the CBK in evaluating the outcome of the guidelines. Further, the study can be used a basis for policy formulation in the banking industry.

This study reports on the effect of prudential guidelines with respect to financial performance. In this respect, Kenya commercial banks top management can use the findings

of this study as a basis of decision making with regard to the guidelines whose effect was tested.

This study also forms a basis for which future researchers and scholars can undertake researches on the impact of regulations on firm's performance. The study provides insightful discussion that can be an aid to other scholars in coming up with a gap that this research did not fill due to its scope. Equally, this study improves the knowledge of what is known on regulations and financial performance in Kenya and in the entire world at large.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter of the study includes a theoretical review, determinants of financial performance, empirical literature review, conceptual framework and summary of literature review.

2.2 Theories of the Study

A good research had a theoretical underpinning. Theories are fundamental postulate that seek to explain certain phenomenon. This study was based on three theories; Public interest theory of regulation, Capture theory of regulation and liquidity preference theory.

2.2.1 Public Interest Theory of Regulation

This theory was developed in the 1960s with the aim of providing justification for government regulations. According to Hantke (2012) public interest theory of regulation aims at explaining why the government regulates some sectors in the economy. This theory posits that when private investors are left alone, they may exorbitantly exploit the consumers and it is for this reason that regulations are made. In this respect, regulations are meant to protect the consumers from over exploitations by private businesses. Further, the theory notes that the safety of the general public is crucial to the economy and therefore they should be kept safe from harmful products and other vices that may be perpetrated by business. The theory views that regulations are tools for ensuring that the business exists in order to benefit the public and not only to profit from the customers.

According to Joskow and Noll (1989) this theory views that there exists market failures and imperfections and thus making is necessary for government to regulate the allocation of resources in a way that they can be used for the common good of all citizens. Therefore, regulatory bodies are involved in making mandatory stipulations that must be adhered by businesses at all times in order to enhance performance.

It has been noted that the regulator does not have self-interest but seeks what is the best for the entire public. It is for this reason that the government regulations are viewed as mechanisms of improving the social status of the entire public. Equally, Joskow and Noll (1989) idealizes that regulations are made out of rational decisions in order not to harm both the business and the public too. However, the theory has been criticised as to demotivate private firms from innovations and market developments.

This public interest theory of regulations is pertinent to this study because it explains why the government regulates business through its state departments. The Central Bank of Kenya issues prudential guidelines which are technically regulations (since they are mandatory) in order to control how banks conduct their businesses. The theory notes that regulations are meant to ensure that the public interest is upheld at all times. This is the reason why the CBK strictly follows up on adherence to these guidelines. The theory therefore is in line with all the research objectives that are being sought after by this study.

2.2.2 Capture Theory of Regulation

Capture theory of regulation was first explained by Stigler (1971) and posits that at times the state department that is mandated to regulate gets captured in the industry and starts pursuing economic benefits that are specific to it. This means that regulatory agencies can get

entangled in the web of regulations and miss the objectives of regulations as proposed by the public interest theory. In other words, the regulatory agency may be inclined to formulating policies and stipulations that are beneficial to a specific group of parties as opposed to the general public. For instance, where regulations are made by a commission, large firms may compromise the objective of the commissioners in order to make policies that favor them. In so doing, regulations leads to unfavorable results to some sectors or portion of the general public.

The theory notes that regulations are meant to protect the public good and the agency are predisposed to undue influence by the very entities they are meant to regulate (Levine & Forrence, 1990). It is for this reason that Becker (1983) advocates for control of entities by few powerful individuals in order to enhance efficiency of regulations. According to Gary Adams, Sharon Hayes, Stuart Weierter and John Boyd (2007) the state department that does regulatory duties interacts with those entities they are meant to regulate and this exposes themselves to being the victims of regulations. This means that there is a likelihood of regulatory agencies may fail to achieve tangible goals of protecting the public and when this happen, the public is exposed to harm. However, there has been criticism to this theory.

Posner (1974) the theory is not independent of the public interest theory because it underpins that protection of the public good is under the hands of the government through regulations. Equally, the theory does not expressly explain how entities can capture regulatory agencies and when this happens, what is the remedy for such an occurrence. In spite of this shortcoming, the theory succeeds in explaining that regulations may be of detriment to the entire industry due to “fights” between the regulatory agencies and entities (Laffont & Tirole 1991).

This theory suits this study in that it explains on why regulations may fail to achieve the desired targets. In connection to this study, the Central Bank of Kenya issues prudential guidelines to protect the consumers of financial services in the country. However, the commercial banks may lobby for removal of restrictions and in turn compromise the original intention of the regulations. For instance, commercial banks in Kenya are in pursuit of removal of the interest capping law imposed by the CBK. Further, this theory depicts that regulations are meant to achieve some desired outcomes. Understandably, therefore, this theory connects perfectly with all the variables of the study.

2.2.3 Liquidity Preference Theory

The theory of Liquidity Preference was coined by Keynes (1964) with the goal of explaining why units prefers those assets that are easily convertible into cash unlike other categories of assets. Keynes defined liquidity as the easiness of conversion of an asset into cash without loss of value and is reasonable time. Thus, liquidity is a feature that characterizes assets with respect to their ease of conversions. According to Keynes (1964) there are three motives that make people prefer cash over other assets. First, transaction motive ensures that people have cash that can be used in purchase basics. Secondly, there is precautionary motive which means that people keep cash in order to cover for unforeseen eventualities and thirdly speculative motive which explains that people keep cash in order to speculate for prices of commodities to fall where they would be able to purchase easily.

According to Choudhry (2011) firms tend to have a portfolio of current assets and non-current assets depending on their liquidity needs. Liquidity has been defined as the ability of

firms to settle financial obligations as and when they fall due. In the light of this statement, firms with a huge value of short term liabilities will tend to keep liquid assets in order to service the liabilities when they fall due. This theory posits that those investors that like long term assets gets a premium rate of return due to holding such assets for a long term. It is for this reason that the time interest yield is always sloping upward. It is important to note that long term assets are those that held for more than a year while short term investments are owned for less than a year. Further, liquidity preference is the circumstance of liking to hold assets in form of money.

This study is particularly related to the objective that aims at assessing how liquidity affects financial performance of banks in Kenya. The theory identifies liquidity as a decision that economic units must consider in order to ensure that they are in a position to pay for current consumptions and service liabilities for individuals and firms respectively.

The Central Bank of Kenya has issued prudential guidelines, CBK/PG/05 (liquidity management) in order to ensure that banks are liquid at all times. However, it should be noted that too much liquidity may result into loss of income from the interest that would have been earned if the investments of the banks were long term in nature.

2.3 Determinants of Financial Performance

2.3.1 Capital Adequacy

Banks have several stakeholders whose interests should be protected in order to ensure stability for the individual and the sector at large. To this end, banks should have adequate capital to act as cushion in terms of financial distress. The need to adhere to capital

regulation is to ensure that customers are attended without cause of panic when there is turbulence in the financial sector. Banks are supposed to have minimum capita before they are issued with licence and should be renewed every year (CBK, 2013).

Sharma and Gounder (2012) also echo this idea that capital may be utilised in projects that are not highly profitability depending on the risk appetite of the management. It is true to suffice that a firm can have less capital but channel it too risky but profitable ventures and this would result into a high Return on Assets. Thus it can be noted that in the event that capital is expensed into economically feasible project, it can enhance performance of banks. Saona (2011) established that capital ownership does not have effect on performance of banks in the United States. The reason being that capital only translates to income when the right economic decisions are made by the management.

2.3.2 Credit Risk

According to Davydenko (2010), credit risk has an effect on performance of banks. This is because where the rate of nonperforming loans is high, the banks loses interest income due to the loan repayment defaults. The fact that banks main income earner is loans expose them to credit risks.

Credit risk may be defined as the probability that the loanees will not be able to honor the periodic repayment installments. Sharma and Gounder (2012) indicated that in Fiji, credit risk largely affected deposit taking financial institutions. This was attributed to the observation that lack of proper credit risk management led to a high rate of loan defaults among the borrowers. It can therefore be noted that credit risk can be a major risk if not attended.

Uzhegova (2010) views that diversification is an important factor towards banks performance as it ensures that overdependence of interest income thus reducing the negative effect of credit risk. This is because where interest income is low; banks can still get income from other sources unrelated to their core business of credit offering. This proposition explains the Kenyan case well, since after the introduction of the interest capping law, most banks reported reduced earnings. This therefore means that most Kenyan banks rely on loans for income. For this reason, it is important for banks to diversify their revenue streams in order to hedge against the volatile interest rates.

2.3.3 Liquidity

Liquidity is an important aspect of regulations of financial institutions. This is because liquidity ensures that depositors can access their money when they need to. However, liquid assets rarely earn high incomes. For this reason, this a critical decision that managers of banks must make. Ilhomovich (2009) maintains that liquidity is critical because when banks cannot meet customer calls when needed. Therefore, it is imperative that the decision is made critically with respect to regulation requirements.

There has not been a consensus about the liquidity levels. However, holding too much liquidity may compromise investments. The CBK (2013) indicates that when the liquidity requirement affects performance of banks and the industry at whole. Perhaps, this is because the financial sectors run on public trust and where such is compromised, the stability of the sector is at stake.

The CBK (2013) indicates that the minimum liquidity to be held should be at 20 %. Obamuyi (2013) views that liquidity of a bank fosters public trust and thus can potentially enhance performance.

2.3.4 Bank Size

The size of the banks can potentially affect financial performance. This is because large banks can invest more and earn more income than the smaller banks. According to Khrawish (2011) banks performance is affected by the bank size, calculated as a ratio of total assets over total liabilities, exchange rates margin and net interest margin. The author noted that in Jordan, banks that had more assets had better performance since they could generate income from the assets as opposed to those banks whose income was interest income from loans. It was also noted that both internal and external factors affect performance of banks. For this reason, banks need to critically make proper decisions and within the law in order to enhance their performance.

Onuonga (2014) notes that bank size can be an indication of the ability of the banks to venture. Therefore, ownership of assets is crucial since assets are those resources that earn income. In this respect, theoretically banks with more assets are expected to exhibit higher financial performance. In addition, a large bank is capable of operating efficiently, this is attributed by economies of scale. Large banks also have capacity to recruit experienced management who can be helpful in making investment decisions thus enhancing financial performance of firms. More importantly the size of the bank may determine the capacity of banks to grant loans thus affecting interest income (Khrawish, 2010).

2.4 Empirical Review

Empirical literature review entails a background check of previous studies both at global and local cases in order to identify a gap that needs to be filled. In other words, it is only through undertaking empirical review that a researcher is able to ascertain that his or her work is not a duplication of other people's works.

In Pakistan, a study that sought to establish the determinants of profitability among banks was done by Saira, Jamil, Khalid and Abdul (2011). The study was an analysis of bank specific factors. The study had a sample size of ten commercial banks and utilised secondary data that was collected for five years from 2004 to 2008. The study adopted ordinary least square in reporting its findings on the effect that bank assets, loan portfolio, equity and deposits had on profitability. The study revealed that there was a negative effect of total assets on the likelihood of making profits of commercial banks in the Middle East country. However, loans, equity and deposits had a positive impact on profitability of banks. The study also established that assets, equity and loans had statistically significant relationship with Return on Assets. Interestingly, the study established that larger banks exhibited lower profitability than the smaller banks. This study is crucial because it provides insights on factors that determine profitability of banks. However, the study was done outside Africa which may be a different economic zone from that of Africa.

Chechet and Olayiwola (2014) did a study with the aim of examining the effect of debt to equity ratio (capital structure) on likelihood of making profits of Quoted Nigerian firms. The study adopted a panel data analysis where seventy firms were selected to represent the target population. Data was collected for a period of ten years, that is, 2000 to 2009. The study adopted used the Hausman test in order to test for fixed and random effects in estimation. It

was found out that share capital had a positive impact on bank's profits. More so, the impact was significant. In as much this study provides good information on firm specific factors, it did not pick a specific industry in its analysis. Therefore, there is a need to undertake more studies in specific industry and identify whether capital has an effect on financial performance of banks. This study thus sought to ascertain the effect of prudential guidelines on financial of performance of listed commercial banks in Kenya.

Naceur and Omran (2010) did a survey of banks with the aim of evaluating how bank regulations, competition and financial reforms affected performance of selected commercial banks in the Middle East and North Africa (MENA). The study sought to find out the effect of bank capital, credit risk, net interest margin, cost efficiency and profitability of the banks. Data was collected for a time frame of seventeen years from 1989 to 2005. A multiple regression analysis was used in ascertaining the relationship between the variables and financial performance of banks. It was revealed that there was positive relationship of bank capital and credit risk on performance of banks. Further, the study revealed that inflation and net interest margins affected bank's performance lowly. However, it was noted that supervision of banks led to operational efficiencies and earnings capacity of banks.

Oluwafemi et al. (2014) evaluated the factors that influenced profitability of banks in Nigeria. The study adopted panel data analysis method and cross-sectional data gathered a sample of banks. ROA and ROI were used as a yard stick to measure profitability. Upon data analysis the results revealed that capital adequacy, liquidity ratio and management efficiency were the most significant determinants of commercial banks profitability.

Baugatef and Mgadmi (2016) carried out a study on the effect of prudential regulations on banks' share capital ownership and risk appetite, the case of Middle East and North Africa countries. The study adopted a panel data analysis using descriptive statistics where 24 banks were considered for data collection. Data was collected for a period of eight years that is, from year 2004 to 2012. It was concluded that prudential guidelines significantly affected banks performance.

In particular, it was established that large capitalization improved performance of banks since it had a positive effect of risk taking incentives. Further, the study recommended that banks should keep more capital which acts as a cushion against negative externalities. More so it was found that there was a negative impact on bank size on risks. The study was not taken in East Africa and did not consider the exact variables that this study seeks to assess.

Onuonga (2014) undertook a study with the aim of finding out the determinants of profitability among the top six banks in Kenya. The study sought to examine whether government initiated banking reforms had a tangible outcome with respect to banks profitability. The study examined the effect of capital requirement, loans amount, amount of deposits and asset quality and asset ownership on Return on Assets. The study adopted a multiple regression analysis and secondary data was collected among the six top banks by assets ownership in Kenya. Data was collected for a period of six years from 2008 to 2013. A panel data analysis was undertaken so as to decide whether to use fixed effects or random effects estimations. The study revealed that the size of the bank, capital possession, nature of ownership, operating costs and product diversification positively impacted on the profits. Further, it was found out that capital ownership, bank size, diversification and operation costs

had a positive effect on profitability. This study did not examine the effect of credit risk and also the moderating effect of bank size on performance of banks.

Ongore and Kusa (2013) assessed the effect of internal factors and macroeconomic factors on performance of banks in Kenya. A panel data analysis was done where thirty seven banks were considered its sample selection. Data was collected for a period of ten years between 2001 and 2010 where a regression model was adopted in order to ascertain the extent of influence among the variables. The study revealed that both board decisions and management decisions significantly and positively affected banks' performance while liquidity was found to have no significant effect on performance of banks. It is important to note that capital adequacy, liquidity and credit risk decisions are vested to the management of the banks. In as much as this study is important, the study was not conclusive as it did not examine the decisions and how they impacted on performance of banks.

Another study was done by Olweny and Siphon (2011) with the intention of assessing the impact of banking sectoral factors on commercial banks' profitability in Kenya. The study sought to assess the effect of asset quality, liquidity efficiency, capital adequacy and diversification strategies on financial performance of banks in Kenya. In ascertaining the overall significance a multiple regression model was done. The study revealed that 94.8 % of variations in profitability were explained by the variables. It was further found out that capital adequacy, liquidity and diversification had a positive effect on profitability of banks. On the contrary, asset quality and credit risk had a negative effect on profitability of both large and small commercial banks. The study considered all banks whilst this study considered the listed banks at the NSE. Further, the study was undertaken a while back and therefore another

study needs to be undertaken with specific consideration to the Central Bank of Kenya prudential guidelines.

2.5 Conceptual Framework

It is important to conceptualize the research variables in a way that the potential relationship can be seen at a glance. The conceptual framework is a diagram that depicts the likely effect of independent variables on dependent variable. The study has two types of variables: independent variables and dependent variable. Independent variables are defined as variables that do not depend on other while dependent variable that depends on another variable or variables. The independent variables were capital adequacy, credit risk management, liquidity management, and bank's size. The dependent variable was financial performance of banks.

Figure 2.1 presents the conceptual framework

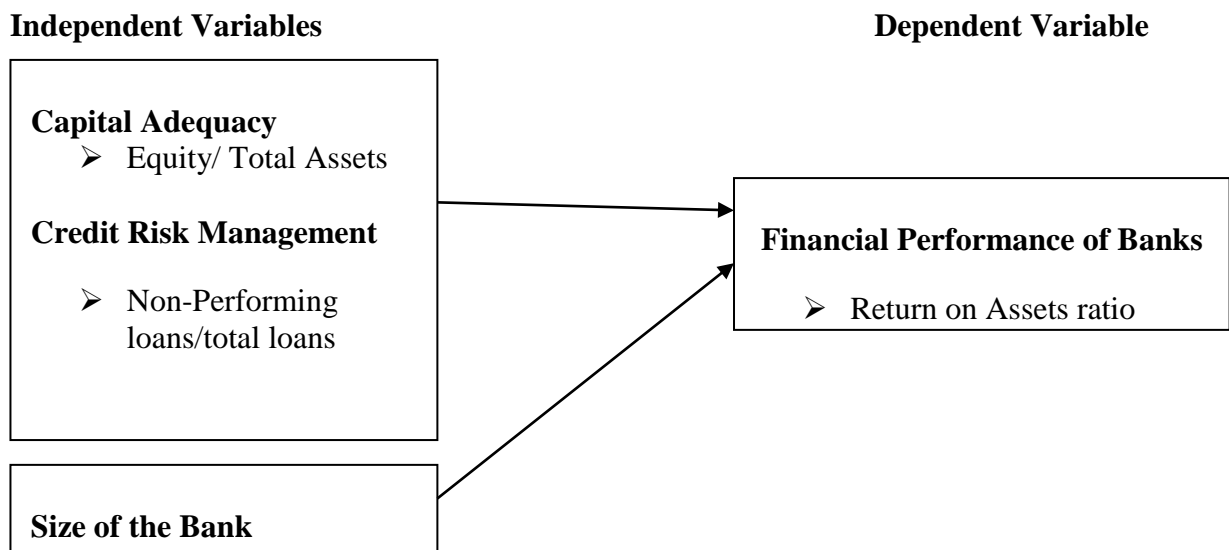


Figure 2:1 Conceptual framework

2.6 Summary of Literature Review

Chapter two has discussed the theories that underpin the study on effect of prudential guidelines on performance of listed commercial banks. The variables have also been conceptualised and empirical review undertaken. The empirical review has indicated that a few researches have been carried out in developing countries with the aim of assessing regulations of banks and their performance. Of those studies done, most concentrated on banks in general and some utilized primary data. Also, the studies have yield contradicting results and thus there is a need to undertake more studies in order to ascertain whether prudential guidelines have an effect on financial performance of commercial banks that are listed on the Nairobi Securities Exchange (NSE).

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the research design, target population, data analysis and operationalization of the variables.

3.2 Research Design

A research design sets out the plan that guides the various activities of a study. Cooper and Schindler (2014), view that an appropriate design is that which ensures that suitable method of data collection is set out and data analysis is done with respect to the study objectives.

This study followed the descriptive research design. The reason for using this design is that its basic theme is to collect data, analyse and make inference on whether variables influence each other or not. This means that its aim is to find out whether independent variables affect dependent variables. This means that the design is good when the researcher wants to make conclusion of variables relationships.

3.3 Population

The population of this study was all the 11 listed commercial banks at the Nairobi Securities Exchange in Kenya. Therefore, this study was a census.

3.4 Data Collection

The study used secondary data that which was obtained from annual audited and published reports of listed commercial banks from 2013 to 2017 which was a period of five years. The data was collected for each individual bank and this means that the data was a panel data analysis. Return on assets was expressed as the ratio of net income over total assets, capital

adequacy was computed as the ratio of Equity to Total Assets, credit risk was computed as the ratio on non-performing loans over gross loans, liquidity was computed in terms of current ratio, that is current assets over current liabilities and bank size was measured in terms of total assets of the bank.

3.5 Data Analysis

The study used a multiple regression analysis in order to find out the relationship among the variables. Data was analysed using STATA as it gives the model fit summary and the extent of influence of independent variables to dependent variables and allows a researcher to decide on whether to report using random effects model or fixed effect regression model. STATA also facilitates trend analysis of the variables graphically which provides good visual impression of the data.

3.5.1 Diagnostic Tests

The study carried out a number of diagnostic tests that evaluated the appropriateness of the regression model in establishing the relationship between the variables.

3.5.1.1 Test of Autocorrelation

Autocorrelation means that an independent variable depends on past values of the same variable due to the error term not being variant over time. Autocorrelation is a problem that arise when the error terms of regression model variables adopted by a study for successive periods are correlated and thus making the regression to fail. In the event that there is autocorrelation which is also known as serial correlation then the efficiency and adoption of the regression estimators are distorted and the regression model may not be adopted. However, according to Reyna (2007) regression model may still be permitted even if there is

presence of autocorrelation if the data to be collected is for a short period with respect to time period. The study used the Wooldridge test of autocorrelation.

3.5.1.2 Multicollinearity

According to Brooks (2008), Multi collinearity is a linear regression problem that arises if independent variables influence each other. This implies that in the event that one or more of the independent variables are exact combination of other independent variables, then fitting a model on such data is not feasible. In other words, multicollinearity is a measure of the absence of a correlation between two or more independent variables. This study adopted the Variance Inflation Factor (VIF) in order to detect possible presence of multicollinearity problems. The general rule of VIF measure is that the value should not be more than 10 with a tolerance of more than 0.1 (Sosa-Eacudero, 2009)

3.5.1.3 Measures of Normality

The measure of normality seeks to identify if there is normal distribution of data. This study used the Jarque-Berra's statistic of skewness and kurtosis to test normality. The rule of the thumb is that a normal statistics the measures of skewness and kurtosis are expected to be 0 and close to 3 respectively (Gujarati, 2007).

3.5.2 Analytical Model

The study had three independent variables namely: capital adequacy, credit risk, liquidity, solvency, tangibility of assets, debt to equity ratio, operating expenses, age of the bank, management efficiency and bank size while financial performance was expressed in terms of Return on Assets. The multiple regression model was developed as;

$$ROA_{it} = \beta_0 + \beta_1 CA_{it} + \beta_2 CR_{it} + \beta_3 LR_{it} + \beta_4 BS_{it} + \varepsilon_{it}$$

Where;

$ROA_{t=}$ = the financial performance (measured by Return on Assets) of listed commercial banks at t period.

β_0 = the constant to be estimated by the model

$\beta_1, \beta_2, \beta_3$ and β_4 = these are the statistics that shows the effect of the respective factors on performance of a bank

CA_t = Capital Adequacy of listed commercial bank at t period

CR_t = Credit risk of listed commercial bank at t period.

LR_t = Liquidity risk of listed commercial bank at t period

BS_t = Bank size of listed commercial bank at t period (Control variable)

$t = 2013.....2017$

i = individual bank

ε = inherent error in the model

3.5.2.1 Test of Significance

The F-Test (ANOVA) at 95 % was used to test the model appropriateness that was used to establish the extent to which the independent variables affect the dependent variables. The coefficient of determination R^2 and the adjusted R^2 was used to determine the strength at which the variation in the independent variables explains the variation in the dependent variable for each listed commercial bank in Kenya.

By definition R^2 is the coefficient of determination for the regression model. The adjusted R^2 is used to measure the effect of a new term that is introduced in the model. Thus, R^2 is

useful indicator of the percentage of variations in Return on Assets that is explained by changes in prudential guidelines measures. For instance an R^2 of 100 % would mean that all variations of ROA is perfectly explained by changes in the independent variables. However, in real life situations like this may not be possible since there are other factors that account for changes in ROA other than those under consideration in this study.

The study also performed a t-test in order to explain whether there is significance difference between means for two groups. This was done in respect of the independent variables where intervals were selected. For instance, the study computed a t-test among banks with certain level of capital adequacy and compare with that of banks with higher capital adequacy in order to categorically make conclusion on the variables and performance of banks.

3.6 Variables Measurement and Operationalization

The variables are operationalized as presented on Table 3.1

Table 3: 1 Variables Measurement and Operationalization

Variable Type	Variables	What it means	How Measure	to Measurement Scale
Independent variable	Capital Adequacy	This is the capital and reserves that is retained by the listed commercial bank	Equity/Total assets	Ratio
Independent variable	Credit Risk	This is the portion of the loans that borrowers may not be able to repay	Non-performing loans ratio	Ratio
Independent variable	Liquidity	This is the amount ability of the entity to pay liabilities as they fall due	Current assets over current liabilities	Ratio

Control variable	Bank size		This is the size of the bank which is measured by total assets	Natural logarithm of assets	Ratio
Dependent variable	Return Assets	on	This is the income generated by a certain level of assets	Earnings Before Tax and Interest/ assets	Ratio Total

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter contains data analysis and findings. It is organized into descriptive data analysis, panel data analysis (analytical model) and discussion of findings. The aim of the was to establish the effect of prudential guidelines on financial performance of commercial banks listed at the NSE. In order to achieve this aim, secondary data was from the audited financial statements of the bank from 2013 to 2017. This study adopted panel data analysis of the 11 listed commercial banks.

4.2 Data Analysis

Data analysis involves transforming raw data in order to make inferences about the interrelationship among variables that forms the basis of a given study. This study adopted a descriptive research design where secondary data was analysed using a multiple regression model. This section entails the presentation of the descriptive statistics about the variables of the study.

4.3 Descriptive Data Analysis

The study sought to ascertain the trend of the dependent variable and independent variables.

This was done through descriptive data analysis. These findings are presented on Table 4.1

Table 4: 1Descriptive Statistics

Variable	Obs	Mean	Std.Dev.	Min	Max
ROA	55	.037	.016	-.01	.07
Liquidity	55	1.817	2.415	.02	11.56

Capital adequacy	55	.183	.15	.07	.99
Credit Risk	55	.061	.083	0	.53
Log firm Size	55	19.165	.594	17.674	20.287

Table 4.1 shows that the mean ROA was 0.37 and the standard deviation was 0.016, the maximum ROA was 0.07 and the minimum ROA was -0.01. These findings indicate that the performance of listed commercial banks was not high. The mean liquidity was found to be 1.817 with a standard deviation of 2.415, the maximum liquidity was found to be 11.56 and the minimum liquidity was found to be 0.02. These results indicate that liquidity of listed banks was good as in all cases the current assets were more than the current liabilities.

On the side of capital adequacy, the mean was found to be 0.183 with a standard deviation of 0.15, the maximum capital adequacy ratio was 0.99 while the lowest was 0.07. These findings reveal that the banks maintained an adequate capital ratio. Credit risk mean was 0.061 with a standard deviation of 0.083, the best credit risk ratio was found to be 0.00 and the worst exposure was found to be 0.53. This finding indicate that credit risk was a major problem among the banks. The study had one control variable, which was firm size. It was revealed that the mean firm size was 19.17 with a standard deviation of 0.594; the maximum firm size was 20.29 with a minimum of 17.67. The results indicate that the size of the listed commercial banks was different.

4.3.1 Exploratory Data Analysis

The study adopted a panel data analysis and therefore it was of value to undertake exploratory data analysis. This was done through graphical representations. Figure 4.1 indicates the growth plot for each commercial bank. The figure indicates that the almost in all

banks, the trend was similar. In this respect, the data set was suitable for panel data analysis as there were no outliers for the Return on Assets of listed commercial banks in Kenya. Equally, the overlain growth plot shows that that the y-intercepts for the banks were different. More importantly the plots are useful in determining whether there exist significant variations between the banks. In addition, the choice on whether to use panel data or use pooled regression analysis is better evaluated using exploratory data analysis. The growth plots shown that the slopes for were non-significant across the five years for the banks. Panel data analysis is suitable where there are not many outliers in the data set. Therefore, the data set was deemed fit for use in panel data analysis. These findings are presented on Figure 4.1 and Figure 4.2

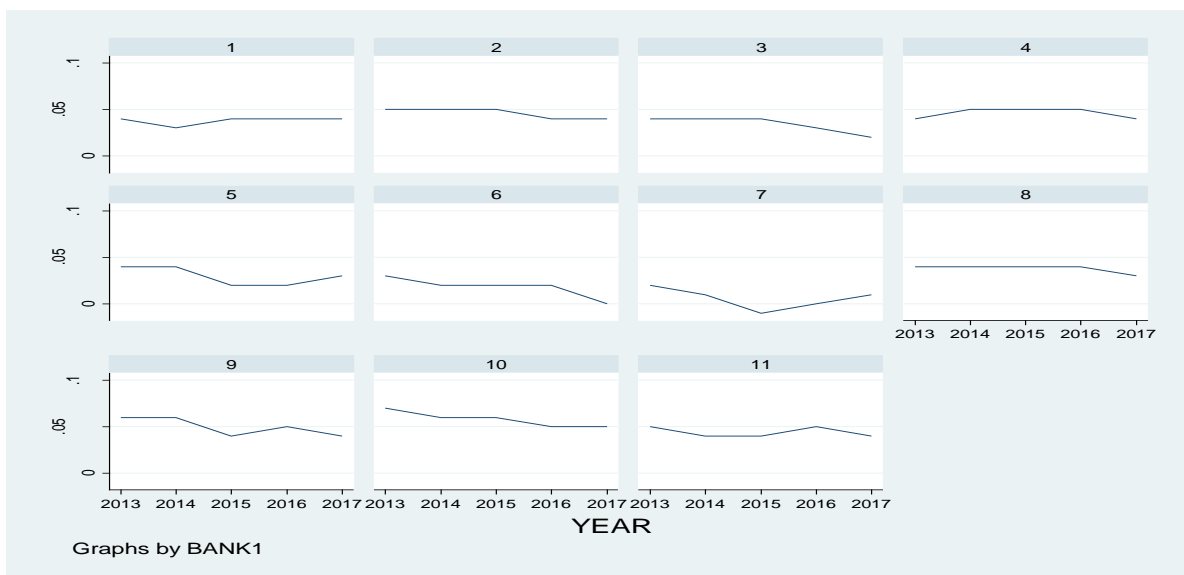


Figure 4: 1 Individual Bank's ROA Growth Plot

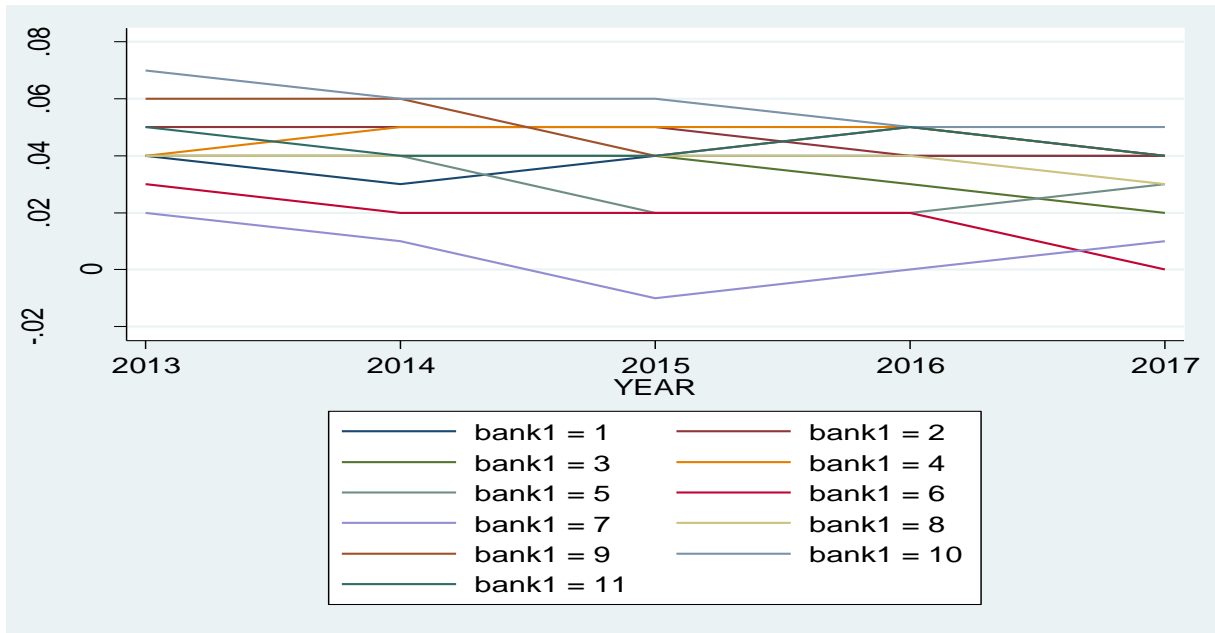


Figure 4: 2 Overlain Growth Plot for all listed banks

4.3.2 Correlation Matrix

A correlation matrix is tabular comparison of how variables relate to each other. The results of the correlation are tabulated on Table 4.2

Table 4: 2 Correlation Matrix

Variables	(1)	(2)	(3)	(4)
(1) Liquidity	1.000			
(2) Capital adequacy	0.387	1.000		
(3) Credit risk	0.075	-0.039	1.000	
(4) Log firm Size	0.477	0.420	-0.251	1.000

Table 4.2, show that liquidity had a positive correlation with capital adequacy at 0.387, a positive 0.075 correlaiton with credit risk and a positive 0.477 correlaiton with firm size.

Further, the study found out that capital adequacy had a negative correlation of -0.039 and a positive 0.420 correlation with firm size,. Additionally, credit risk had negative -0.251 correlation with firm size. These finding indicates that the predictor variables are not strongly correlated with each other because none of the correlation was found to be significant.

4.4 Analytical Model

This study adopted a multivariate regression model. The study sought to examine the effect of capital adequacy, liquidity and credit risk on financial performance of listed commercial banks. Before coefficients were obtained, there was a need to test the suitability of the data set through diagnostic tests.

4.4.1 Diagnostic Tests

The study adopted the following diagnostic tests: first order serial correlation, multicollinearity, heteroscedasticity and measures of normality.

4.4.2 First Order Serial Correlation

First order serial correlation is caused by the error term not being invariant across the time periods. First order serial correlation is also known as autocorrelation is a problem that arises when the error terms of regression model variables adopted by a study for successive periods are correlated and thus making the regression to fail. The study used the Wooldridge test of autocorrelation. The results are presented on Table 4.3

Table 4: 3 Serial Correlation Test

Wooldridge test for autocorrelation in panel data

H0: no first-order autocorrelation

$$F(1, 10) = 2.123$$

$$\text{Prob} > F = 0.1758$$

As shown on Table 4.3, P-value was 0.1758 which is more than 0.05 implying that data set did not have first order serial correlation. The general criteria are that data set does not have autocorrelation if the P-value is higher than 0.05.

4.4.3 Multicollinearity

Multi collinearity is a linear regression problem that arises if independent variables influence each other. This implies that in the event that one or more of the independent variables are exact combination of other independent variables, then fitting a model on such data is not feasible. This study used the VIF test to test for multicollinearity. The output is indicated on Table 4.4

Table 4: 4 Test of Multicollinearity

	VIF	1/VIF
Log firm Size	1.563	.64
liquidity	1.43	.699
Capital adequacy	1.282	.78
Credit risk	1.128	.886
Mean VIF	1.351	.

Table 4.4, shows that the mean VIF was 1.351, the VIF of firm size was 1.563 with tolerance of 0.64, the VIF of liquidity was 1.43 with tolerance of 0.699, capital adequacy had a VIF of 1.282 with tolerance of 0.78 and credit risk had a VIF of 1.128 with a tolerance statistic of 0.886. This result indicates that the predictor variables were not correlated with each other.

4.4.4 Testing for Heteroskedasticity

Heteroscedasticity is where there is a difference of variance across observations. This complicates data analysis because regression analysis is based on the assumption of equal variance across the various levels of independent data. The study used the Breusch-Pagan test in order to evaluate whether the data set heteroscedasticity problem. The results are presented on Table 4.5

Table 4: 5Breusch-Pagan Test for Heteroskedasticity

Breusch-Pagan / Cook-Weisberg test for Heteroscedasticity

Ho: Constant Variance

Variables: liquidity capital adequacy creditrisk LogfirmSize

chi2(4) = 2.56

Prob > chi2 = 0.6342

The study found P-value statistic of 0.6342 which was more than 0.05 indicating the data did not have heteroscedasticity problem. For this reason, the regression was done using the robust standard errors model.

4.4.5 Measures of Normality

The measure of normality seeks to identify if there is normal distribution of data. This study used the Jarque-Berra's statistic of skewness and kurtosis to test normality. The findings are tabulated on Table 4.6

Table 4: 6 Measures of Normality

Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	adj_chi2(2)	Prob>chi2
roa	55	0.0156	0.1809	6.92	0.0315
liquidity	55	0	0.0001	32.22	0
capitalade~y	55	0	0	60.05	0
Credit risk	55	0	0	52.07	0
LogfirmSize	55	0.2390	0.8404	1.49	0.4751

The findings show that for all the variables, skewness was within the range of -3 and 3 with kurtosis being with the range of -10 and 10. In this respect, the data set showed normal distribution.

4.4.6 Model Selection and Fitting

Panel data requires one to perform a model specification test in order to establish whether to use the Fixed Effect model or the Random Effects Model. The study used the Hausman model specification. The test enables the comparison of an efficient or inefficient estimator which is consistent with the null hypothesis. In this regard the Hausman test is suitable since it provides a good basis of accepting or rejecting the hypothesis. The Hausman test result is presented on Table 4.7

Table 4: 7 Hausman Test

	Coef.
Chi-square test value	85.93
P-value	0.000

The Hausman test results show a P-value of 0.000 which indicates that the Fixed Effects model was suitable for regression. It is important to note that there was a violation on the assumption of heteroscedasticity and thus the Prais Weinstein regression model.

4.4.7 Analytical Regression Model Coefficients

The study used the Prais Weinstein regression model with robust standard errors in order to correct the heteroscedasticity problem. This was done using the *xtpce* command on STATA.

The findings are presented on Table 4.8

Table 4: 8 Prais-Winsten regression, heteroskedastic panels corrected standard errors

ROA	Coef.	St.Err	t-value	p-value	Sig.
Liquidity	0.000	0.000	-1.31	0.191	
Capital adequacy	0.007	0.004	2.08	0.037	**
Credit risk	-0.051	0.036	-1.41	0.157	
_cons	0.042	0.003	15.45	0.000	***
Mean dependent var	0.037	SD dependent var			0.016
R-squared	0.801	Number of obs			55.000
Chi-square	7.963	Prob > chi2			0.047

The study found an R^2 of 0.801 which means that at the overall 80.1 % of the variations of ROA of listed commercial banks was affected by changes on liquidity, capital adequacy and credit risk. The study found chi square test of 0.047 which was slightly less than 0.05 indicating that the model was fairly significant in explain variations in ROA. A second regression model was obtained using firm size as the control variable. The findings are tabulated on Table 4.9

Table 4: 9Prais-Winsten regression with Firm Size

Roa	Coef.	St.Err	t-value	p-value	Sig.
Liquidity	-0.001	0.000	-2.92	0.011	**
Capital adequacy	0.003	0.004	0.63	0.622	
Credit risk	-0.053	0.034	-1.55	0.022	**
Log firm Size	0.013	0.004	3.44	0.002	***
_cons	-0.197	0.070	-2.82	0.010	**
Mean dependent var	0.037	SD dependent var			0.016
R-squared	0.778	Number of obs			54.000
Chi-square	18.280	Prob > chi2			0.0004

As shown on Table 4.9, the chi square test was 0.0004 which indicate that the model was significant in explaining the variations in dependent variables as a result of influence by the dependent variable. The R^2 was found to be 0.778 indicating that liquidity, capital adequacy, credit risk and firm size accounted for 77.8 % of the changes in ROA.

The study had developed the regression model as:

$$ROA_{it} = \beta_0 + \beta_1 CA_{it} + \beta_2 CR_{it} + \beta_3 LR_{it} + \beta_4 BS_{it} + \varepsilon_{it}$$

On fitting the coefficients, the model was established as follows;

$$ROA = -0.197 + 0.003CA - 0.053CR - 0.001LR + 0.013BS$$

Where:

-0.197 is the ROA in absence of the study variables

0.003 is the Increase in ROA in response to a unit increase in capital adequacy

-0.053 is the decrease in ROA in response to a unit increase on credit risk

-0.001 is the decrease in ROA in response to a unit increase in liquidity

0.013 is the increase in ROA in response to unit increase in bank size.

4.5 Discussion of Findings

The study the aim was assessing the effect of prudential guidelines on performance of listed commercial banks in Kenya. The regression model revealed that liquidity had negative effect on performance of listed commercial banks in Kenya as evidenced by the coefficient of -0.001. Further, the study found out that liquidity had statistically significant effect on financial performance of banks as exhibited by the P-value of 0.011. These findings are to the contrary of those of Naceur and Omran (2010) who did a survey of banks with the aim of evaluating how competition, financial reforms and bank regulations and on performance of selected commercial banks in the Middle East and North Africa (MENA) and found that credit risk had a positive effect on performance of banks. However, similar findings were found by Oluwafemi et al. (2014) assessed performance of commercial banks in Nigeria.

The study found out that credit risk had negative effect on financial performance of commercial banks in Kenya. This is as shown by the coefficient of -0.053. Equally, the study found out that the effect of credit risk on financial performance was statistically significant. This is contrary to the theoretical expectations in that credit risk management seeks to reduce

the number of non-performing loans. Credit risk seeks to set procedures and policies that are to be followed in credit processing. In the event that they are too tight, then loan uptake is low and thus lowering the interest income earned from loans. It is important to note that loans and advances to customers are the main income earning assets for commercial banks. Holding too much liquid assets lowers the interests that could be made if such assets were issued for long term operations for instance long term loans to customers.

The study found out that there is a positive effect of capital adequacy on financial performance of commercial banks in Kenya. The need to adhere to capital regulation is to ensure that customers are attended without cause of panic when there is turbulence in the financial sector. The study found that capital adequacy does not have significant effect on financial performance. These results agree with those of Saona (2011) who established that capital ownership does not have effect on performance of banks in the United States. A study done by Naceur and Omran (2010) in the Middle East also revealed that equity had a positive effect on financial performance of banks. Capital adequacy ensures that firms have reserves that act as cushion in terms of economic hardships. It is for this reason that theoretically it is expected that a firm with more equity ought to exhibit better financial performance.

The study found out that the size of the bank has a positive effect on financial performance of commercial banks in Kenya. This is as indicated by the 0.012 coefficient. Further, it was revealed that size of the bank had significant effect on financial performance of bank as indicated by the P-value of 0.002. Ownership of assets is crucial since assets are those resources that earn income. In this respect, theoretically a bank with more assets is expected to exhibit a higher financial performance. These findings agree with those of Khrawish

‘
(2010) who established that size of the bank had a positive effect on financial performance of banks in Pakistan.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter entails conclusions and recommendations on the effect of prudential guidelines on financial performance of listed commercial banks in Kenya. The conclusions are based on findings as presented on chapter four.

5.2 Summary of Findings

This study sought examined the effect of prudential guidelines on financial performance of commercial banks listed at NSE. The study assessed the effect of capital adequacy, liquidity, credit risk and firm size on ROA of the banks. With inclusion of firm size the model was found to be significant at 0.001 with an R^2 of 0.778 which meant that 77.8% of variations in ROA were influenced by changes in the dependent variables.

The study found out that liquidity has a negative effect on financial performance of commercial banks listed at NSE and had a significant determinant of financial performance of banks. Liquidity seeks to ensure that liabilities can be paid off when they fall due. This is a critical management decision since holding too much liquid assets have an opportunity cost. Liquid assets do not earn much income in comparison with long term assets.

The study found out that capital adequacy had positive effect on financial performance of listed commercial banks at the NSE. It was also noted that the relationship between capital adequacy was not statistically significant. Capital adequacy seeks to ensure that there are

enough reserves to act a buffer in case of negative externalities. More so, the reserves can be put into income earning activities which can improve performance of banks.

The study found out that credit risk had a negative effect on financial performance of listed commercial bank at the NSE. Credit risk provides a framework for ensuring that non-performing loans are reduced or at the best case eliminated. It is for this reason that very strict credit controls tend to scare away borrowers thus lowering interest earned from loans. It is true to suffice that when loan uptake reduces performance of banks is bound to drop. This is because loans are the main assets that generate income for the financial institutions.

The study found out that bank size has a positive and significant effect on financial performance of commercial banks listed at the NSE. Notably, commercial banks with more assets have better performance since they can generate income from the assets as opposed to those banks whose income is only interest income from customer advances and loans.

5.3 Conclusions

Based on the findings the study makes the following conclusions:

Prudential guidelines affect financial performance of listed commercial banks in Kenya. The study concludes that liquidity has a negative and significant effect on financial performance of commercial bank at the NSE. This means that increase in liquidity lowers financial performance. The study concludes that capital adequacy has a positive effect on financial performance of commercial banks at the NSE. The relationship between capital adequacy is however not statistically significant.

The study concludes that credit risk management has a negative effect on financial performance of listed commercial bank at the NSE. This means that too much credit control lead to loss of interest income perhaps due to reduced loan uptake. The study further concludes that firm size has a positive effect on financial performance of listed commercial banks at the NSE. This means that banks with more assets are bound to report higher profitability that banks with few asset.

5.4 Recommendations

Based on the conclusions, the study recommends that it is of important that commercial bank adhere to prudential guidelines as they were found to be impactful on financial performance. In particular, the study recommends that's banks should adhere capital adequacy guideline as it positively affects financial performance of commercial banks. It is important to note that those banks that have more equity are able to mitigate financial risks and thus able to survive industry shocks.

The study equally recommends that banks should establish an effective risk and compliance department because it was found out that credit risk and liquidity have negative and significant effect on financial performance of banks. For this reason, prudent risk management should be done in order to enhance performance of commercial banks.

5.5 Limitations of the Study

During data collection there were few challenges. The secondary data was collected from audited financial statements from the bank's websites whose validity was crosschecked with what the Central Bank of Kenya had as the regulator. Secondly, the study was limited to the

extent that financial performance of banks is affected by a variety of factors other than those considered in this study.

5.6 Suggestions for Further Research

The objective of this study was to find out the effect of prudential guidelines on financial performance of commercial banks listed at the NSE. The study found out that 77.8 % of variations in ROA were determined by changes in capital adequacy, liquidity, credit risk and bank size. The study recommends that another study be done using those banks that are not listed in order to provide more empirical evidence on the effect of prudential guidelines in Kenya. Another study can also be undertaken among the microfinance banks in order to provide more evidence on the determinants of financial performance of financial institutions.

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APPENDICES

Appendix .I: Listed Commercial Banks at the NSE

Number	Name of the Bank
1	Kenya Commercial Bank
2	Barclays Bank of Kenya
3	CFC Stanbic Holdings
4	I & M Bank Limited
5	Diamond Trust Bank
6	HF Group Limited
7	National Bank of Kenya
8	NIC group PLC
9	Standard Chartered Bank Limited,
10	Equity Group Holdings
11	Cooperative Bank of Kenya Limited

Appendix .II: Data Sheet

BANK	BANK	YEAR	ROA	Liquidity	Capital Adequacy	Credit Risk	Firm Size
KCB	1	2013	0.04	8.26	0.16	0.08	390,852,000
	1	2014	0.03	9.67	0.15	0.06	490,338,000
	1	2015	0.04	11.56	0.15	0.07	558,094,000
	1	2016	0.04	6.78	0.99	0.08	595,240,000
	1	2017	0.04	6.82	0.88	0.09	646,668,000
BBK	2	2013	0.05	0.91	0.16	0.01	206,739,000
	2	2014	0.05	0.69	0.17	0.01	225,841,000
	2	2015	0.05	0.72	0.16	0.01	240,877,000
	2	2016	0.04	0.48	0.16	0.02	259,718,000
	2	2017	0.04	0.39	0.16	0.02	271,572,000
CFC	3	2013	0.04	0.30	0.13	0.01	170,726,460
	3	2014	0.04	0.46	0.16	0.02	171,347,152
	3	2015	0.04	0.45	0.18	0.01	208,451,915
	3	2016	0.03	0.60	0.19	0.01	214,682,729
	3	2017	0.02	0.58	0.17	0.04	248,738,719
I&M	4	2013	0.04	0.64	0.17	0.00	141,364,216
	4	2014	0.05	1.09	0.15	0.00	154,163,487
	4	2015	0.05	0.48	0.16	0.00	164,822,609
	4	2016	0.05	0.65	0.19	0.00	164,116,122
	4	2017	0.04	0.55	0.19	0.00	183,952,517
DTB	5	2013	0.04	0.49	0.14	0.01	166,520,351
	5	2014	0.04	0.51	0.15	0.01	211,539,412
	5	2015	0.02	0.56	0.13	0.02	271,608,597
	5	2016	0.02	0.77	0.13	0.03	328,044,501
	5	2017	0.03	0.44	0.13	0.07	363,303,400
HFG	6	2013	0.03	2.09	0.12	0.09	47,389,377
	6	2014	0.02	0.93	0.11	0.09	60,961,680
	6	2015	0.02	2.02	0.15	0.08	71,659,434

	6	2016	0.02	0.70	0.16	0.11	71,930,140
	6	2017	0.00	0.46	0.17	0.15	67,541,116
NBK	7	2013	0.02	1.90	0.13	0.06	92,555,717
	7	2014	0.01	2.06	0.10	0.07	123,091,996
	7	2015	-0.01	1.89	0.09	0.09	125,440,316
	7	2016	0.00	1.41	0.10	0.31	115,292,392
	7	2017	0.01	1.57	0.07	0.53	109,873,141
NIC	8	2013	0.04	0.76	0.15	0.02	121,062,739
	8	2014	0.04	0.60	0.16	0.01	145,780,505
	8	2015	0.04	0.50	0.16	0.09	165,788,268
	8	2016	0.04	0.33	0.18	0.10	169,458,985
	8	2017	0.03	0.77	0.17	0.10	206,172,460
STANCHART	9	2013	0.06	0.36	0.16	0.02	220,391,180
	9	2014	0.06	0.52	0.18	0.07	222,495,824
	9	2015	0.04	0.48	0.18	0.14	233,965,447
	9	2016	0.05	0.66	0.18	0.08	250,274,108
	9	2017	0.04	1.01	0.16	0.09	285,724,441
EQUITY	10	2013	0.07	2.64	0.19	0.01	277,729,000
	10	2014	0.06	3.55	0.19	0.01	344,572,000
	10	2015	0.06	2.03	0.17	0.01	428,062,000
	10	2016	0.05	1.96	0.17	0.02	473,713,000
	10	2017	0.05	0.02	0.18	0.07	524,465,000
COOP	11	2013	0.05	3.23	0.15	0.04	228,874,484
	11	2014	0.04	3.47	0.15	0.04	282,689,097
	11	2015	0.04	1.68	0.15	0.04	342,518,187
	11	2016	0.05	1.43	0.17	0.04	351,286,250
	11	2017	0.04	4.06	0.18	0.07	386,857,657