EFFECT OF ASSETS QUALITY ON THE FINANCIAL PERFORMANCE OF THE COMMERCIAL BANKS LISTED IN THE NAIROBI SECURITIES EXCHANGE

BY

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DECLARATION

I hereby declare that this research proposal is my original work and to the best of my knowledge has not been presented for an assessment or accepted for an academic award in any university or institution of higher learning.

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

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DEDICATION

This work is dedicated to my wife Mrs. Evelyn Adhiambo, daughters; Mitchelle Praize and Danylynn Mikki, and my late mother Claris Auma.

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ABBREVIATIONS

CAMELS - Capital adequacy, Asset quality, Management, Earnings, Liquidity, and Sensitivity

CAPM - Capital Asset Model Pricing

CBK - Central Bank of Kenya

EPS - Earnings per Share

LLR - Loan Loss Ratio

NSE - Nairobi Securities Exchanges

OLS - Ordinary Least Squares

ROA - Return on Assets

RBV - Resource Based Value

ROE - Return on Earnings

SACCOS - Savings and Credit Co-Operative Society

STATA - Statistics and Data Analysis

TTR - Total Investment to Total Assets Ratio

ABSTRACT

The objective of the study was to establish the influence of asset quality on the financial performance of commercial banks listed at NSE in Kenya. The study utilized descriptive research technique whereby secondary data was extracted from 12 commercial banks annual financial reports between the years 2017 and 2020, the banking survey and the CBK annual reports. Data analysis was performed by use of SPSS vs 26 software. The findings of the descriptive statistics show that Loan Loss Ratio had a higher Mean (M=2.13) followed by Total Investment to Total Assets Ratio (M= 1.63). Regression analysis using Pearson correlation constant beta coefficient for LLR = 0.248, while p = 0.023 and TTR beta coefficient value of -0.106 with $p > 0.05$. The results established that asset quality had a significant effect on the financial performance of banks listed at NSE. The computed linear relationship between the independent variables (asset quality) and the dependent variables (financial performance) indicated that only 11% of the changes in the financial performance could easily be explained by the independent variables. The study recommends application of policies that should minimize credit risks as the nature of asset quality provides specific variables that eventually influence the overall financial performance of the banks.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

A bank is a financial institution that provides services towards management of assets as well as liabilities (Lucky & Nwosi, 2015). Banks trade on money identified as the stock of the banking sector with the objective of making profits, growing assets as well as serving wide customer base. The performance of commercial banks focuses on the adoption of different indicators that presents a clear reflection of the bank's position and strength of achieving the desired objectives.

The evaluation of bank performance is done to determine their operational results as well as overall financial position that entails measure of asset quality, efficiency, liquidity, nature of management amongst others. Asset quality is one of the aspects of bank management that encompass evaluation of the assets for the purposes of facilitating the measurement of the nature and size of credit risk that relates to the bank's operations. Asset quality is a function of the nature of a bank's management because the presence of high performing assets is a clear indicator of excellent bank management and guarantees the meeting of performance indicators (Lucky & Nwosi, 2015).

This study utilizes the modern portfolio theory and the dynamic capabilities theory.

Banking operations face different forms of risks in the course of operations such as credit risks, interest rate risks, market risk, and operation risks amongst others (Lucky & Nwosi, 2015).

The modern portfolio theory's application in this case provides the required assessment of asset's risk and their return, therefore, considers the degree of their contribution as it relates to the bank's overall risk and return. The credit risk had special concerns in the wake of past global financial crisis of 2007-2008. The global crisis resulted into slowdown of commercial activities that severely impacted debt servicing by creditors eventually, leading to deterioration of quality of bank assets that ultimately affected the performance. This requires that banks should strive to achieve higher levels of capital adequacy that would provide for bad loans and also ensuring keeping as low as possible the non-performing assets.

Dynamic capabilities theory as applicable in the study helps in defining the creation of new opportunities within the bank's business platform including conversion of organizational resources into tangible as well as intangible assets (Abata, 2014).

Banks act as the major stimuli that facilitate economic progress (Lucky & Nwosi, 2015). In this case, the Central Bank of Kenya (CBK) regulates the banking industry in Kenya through issuance and provision of amendments such as guidelines on risk management. Such process help in strengthening the banks' financial system and operations within the industry. Despite such regulations, a number of banks have closed down or been placed under receivership owing to fraudulent activities attributable to weak control measures. For instance Imperial Bank and Chase bank amongst others in 2016 (CBK, 2016). The study focuses on the 12 listed commercial banks in Kenya (Appendix 1). These commercial Banks play a key economic development role in a country because they largely control significant percentage of the supply of money in circulation. Therefore, considering the

essentiality of asset quality in bank's operations, this research study intends to analyze the nature of impact that asset quality has on the overall performance of commercial banks listed at NSE.

Asset quality represents one of the aspect of bank management that comprises of the firm asset evaluation for the purposes of facilitating measures that pertains to level as well as size of credit risk that relates to bank's operations (Oduro, Asiedu, & Gadzo, 2019). The process is associated to the left-hand side of the bank's balance sheet where the quality of loans that provides banks earnings is recorded.

The term asset quality shares the same meaning with loan quality with the management of the concept serving very key purposes for the banking sector. There are core principles that influence the effectiveness of banking supervision (Abata, 2014). These principles are identified as twenty-five core principles with approximately seven designed towards addressing that various issues that relates to credit risk management (Basle Committee on Banking Supervision). Such perspective provides the general concern on asset quality as pertains to financial supervisory authorities within nations of the world.

The nature of deterioration in bank asset quality influences the banking operations and ultimately financial performance that entails general soundness of the financial system. The various banking institutions operating on a country's frail banking system should be wary concerning asset quality management for the purposes of warranting development of a sound banking sector (Abata, 2014).

The Kenyan banking industry recorded a strong capitalization levels as a function of retained earnings as well as further capital provision. However, the asset quality revealed a decreasing value as a result of the levels of liquidity risk leading to an increase in the gross net profit ratios. From the perspective of systematic concept, majority of the commercial banks operating within the new markets tend to incur a huge negative short-term liquidity gap. This is attributable to the nature of the short-term deposits that results from the volatile interest rates and the lack of extensive savings culture as well as low financial intermediation. Despite all the reasons as provided, the trend that defines the mismatch over time including the size thereof is crucial. The reason is that an increase in the order of the mismatch is a clear indicator of a potential problem in funding (CBK, 2012).

The concept of financial performance in this study refers to the ability of the commercial banks to extract value from the newly generated resources over a period of time (Abata, 2014). This entails such activities as enhancement of shareholders' wealth together with making profits as the main objectives.

The financial performance simply shows how a bank uses its assets to generate revenues to meet the costs and eventually to retain part of the revenues generated. It is also a measure of the overall financial health of a bank over a certain period.

A number of scholars use different indicators for the reasons of measuring financial performance. For instance, study by Olatunji et al. (2014) applies the use of Net profit of the various commercial banks as means of measuring their level of financial performance.

Further, the study conducted by Wamungo et al. (2014) on the existing relations between capital structure and the general performance of the non-financial listed firms used Return on Assets (ROA) together with Return on Earnings (ROE) as the prime indicators of the general firm's performance. However, the current business environment seems challenging and dynamic, therefore, demanding that banks undergo various restructuring that conforms to the upgraded industry operations (CBK, 2015).

The various operations as well as policies that commercial banks operate are measured through monetary value and determines the level of financial performance. Such apparatus are also applicable in measuring the financial health of any organization within a specific period of time and also helps in comparing performance across industries. Abatta (2014) notes that the financial performance of organizations could be measured by use of return on investment (ROI) as per the given organization, use of return on Assets (ROA) and returns on earnings (ROE) amongst other measures. It is important to note that institutions realize positive financial performance in the event that they eliminate waste across the entire system as well as processes (Lucky & Nwosi, 2015).

The ROE measures returns the company generate in comparison to the amount of shareholders' equity invested. The ROE clearly indicates the shareholders expectations as a return to their investment efforts. Businesses with higher return on equity are considered more likely to generate cash internally. ROE is a reflection of effective management as well as utilization of the shareholders' funds. The computation of NIM is done by measuring the existing difference between interest income generated by the bank and the

amount of interest spent. A higher net interest margin shows higher bank's profitability, hence stability (Abata, 2014).

A bank's ranking in the banking industry is significantly influenced by asset quality, which presents a key factor when considering rating and management evaluation (Abata, 2014). The opinion is shared by Oduro, Asiedu, & Gadzo (2019) who opined that good quality assets is one of the essential features that determine best community banks.

The existence of bad assets prompts the downgrading of a bank rating and makes it difficult for earned depositors to trust such banks, therefore, can only attract higher deposit rates. Consequently, such a scenario leads to the conclusion that asset quality will influence operating costs of banks as well as interest costs that ultimately determines performance (Oduro et al., 2019).

Credit risk is amongst the major factors that affect the financial health of a commercial bank, the extent of this factor depends on the level of quality of assets held by the commercial bank.

Non-performing loans are identified as having an inverse relationship with commercial bank's profitability and performance (Khalid, 2012). Therefore, suggestions that it is essential for banks to practice wise credit risk management as well as safeguarding banks assets including providing protection to investor interests.

Aboagye and Otieku (2010) argues that continuous bank operations requires availability of enough money obtained through lending and fiduciary activities capable of covering their

operational as well as financial costs and at the same time ploughing back retained earnings to finance future operations. Such perspective enhances survival, growth as well as profitability. This is because the insufficiency of bank's asset quality increases its bad debts losses, therefore, expending more resources when it comes to collection of non-performing loans (Abata, 2014).

1.1.1 Listed Commercial Banks

In the Kenyan context, the various listed firms share certain characteristics owing to their professional management including size with high turnover as well as asset values in comparison to unlisted firms (Ayot, 2013). The aspect of performance refers to the function of the ability of an organization to gain as well as manage the various resources in several different ways that enables development of a competitive advantage. Notably, the various listed firms usually contribute in different ways to the economy of the nation. For instance, these firms provide employment opportunities, pay corporate taxes as required by the government and also contribute to the research and development that ultimately increases innovation.

The historical perspective of the commercial banking in Kenya could be traced from the conception of the business associations in East Africa that was in operation towards the end of the nineteenth century (Sashoo, 2012). The various adjustments as exhibited within the financial institutions in Kenya sector as from the historical times is a clear reflection on the extent to which political power influenced changes of the monetary operations from province into an autonomous country (Heyer & King, 2015). The revolution within the

banking sector in 1960s ushered in the Cooperative Bank of Kenya in 1968. Later the banking environment changed with trade controls being lifted in the year 1995 (Kaberia, 2012). Notably, the changes within the budgetary operations in Kenya ushered the banking business to different commercial banks that also initiated the historical fall of some of the commercial banks.

Currently, the Kenya's banking sector is considered as the fourth largest within the sub-Saharan Africa, trailing such countries as South Africa, Nigeria and Mauritius (Mulwa, 2018). The banking industry in Kenya currently comprises of forty-two commercial banks out of which twelve (Appendix I) are listed at the Nairobi Securities Exchanges (NSE) (KPMG, 2015). It is against this backdrop that this study focuses on the existing relations between asset quality and financial performance on different commercial banks listed at NSE. Similarly, Olatunji et al. (2014) also studied the influence of investment in fixed assets on the level of profitability of commercial banks in Nigeria. The results of the study revealed that the investments in fixed assets correlates to positive impact on the banking sector's profitability in Nigeria.

1.2 Research Problem

Significant percentage of the commercial banks' income comes from loans and advances as compared to other assets. The quality of the bank assets determines the general status of the bank, which is primarily influenced by the nature of credit administration program as well as the quality of loan's portfolio. The financial performance of the commercial banks

is measured by use of long-term investment, corporate assets including financial soundness (Wamungo et al., 2014).

The aspect of understanding the bank's asset quality and their influence on the financial performance of NSE-listed commercial banks deems crucial to the bank's management. Evidence shows that the Kenya's banking sector experiences some level of negligible growth as well as weak financial performance (Cytonn Investments, 2015). For instance, the reports on industry estimates indicate some level of underperformance within the banking industry in Kenya. The performance is attributable to poor level of financial performance amongst the banks within the year's span. While different studies on the impact of asset quality on bank's financial performance have been done in developed economies, there exists a limited empirical evidence for the various emerging economies such as Kenya. The aspect on deterioration in the quality of bank asset affects the general operation as well as financial performance including the general soundness of the financial system within the banking industry (NSE Reports, 2017).

According to CBK reports (2020), the Kenyan banking sector registered a strong capitalization levels amidst retained earnings including capital injection. Despite the aforementioned action, the asset quality recorded a decline owing to the increasing levels of liquidity risks resulting from increase in gross net ratios. Further, the growth of the deposits was at much slower rates including levels of gross loans and advances. This was in comparison to the expectations as per the five-year average growth rate of 14.6 percent. This occurred despite the attempts by the commercial banking sector to revive the banks'

financial performance by use of asset acquisition strategies. Despite this fact, most of the commercial banks embarked on asset quality, however, the existing data reveals that the income from these banks investments has been on the decline.

Notably, the existing data from the Central Bank of Kenya (2017) reveals that the aspect of Return on Equity declined to 20.6% in September 2017 from 22.3 % in June 2016. Similarly, Return on Assets (ROA) also declined by 0.2% from June 2016.

The statistics above shows the role that assets play in the banking sector. Further, some level of inconsistencies exists within the existing literature, because a number of these studies provide no effect of asset quality on the financial performance especially in the set-up of developing economies.

Majority of the available studies were conducted in developed economies; such finding may not necessarily apply to Kenyan context due to disparity in advancement of the respective economies and their banking systems. Different regions are subject to varying nature on regulations and indicators of performance that makes it difficult when it comes to comparison. This is because some studies used ROA while others ROE. This present a knowledge gap as to whether the aspect of asset quality in banking sector improves the financial performance of NSE-listed commercial banks in Kenya, hence the need for this study. The study will answer the question; to what extent does asset quality affects financial performance of NSE-listed commercial banks?

1.3 Objective of the Study

The study specifically focuses on the assessment of the influence of asset quality on the financial performance of the commercial banks listed at the NSE in Kenya.

1.4 Value of the Study

The findings of this study may have implications on policy, practice as well as be useful in building theory. The results may prove useful to financial institutions as well as other institutions in the crucial role of providing information to employees on the effective maintenance of asset quality and how it contributes to attainment of organization's overall objective on financial performance.

The recommendations from this study may be useful to policy makers such as CBK in the formulation of appropriate policies and regulations that will help improve the activities within the banking sector. The banking managers within the sector may use this knowledge towards establishment of sustainable goals that would survive the competitive banking industry. The empirical tests from this study would equally be useful to academicians in providing the much needed link between theory and practice on the asset quality and financial performance.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In this chapter, there is presentation of the discussion on theoretical framework, empirical review of past literature as well as the conceptual framework. There is elaborate critique of the existing literature including chapter summary.

2.2 Theoretical Review

2.2.1 Modern Portfolio Theory

This theory was the creation of Harry Markowitz in the year 1952, the theory represents a mathematical framework applicable in assembly of various assets that enables the maximization of the expected return for a given level of risk. The significant concept behind the theory is that the assessment of asset's risk as well as return should consider the degree of their contribution as it relates to a group's overall risk and return. The approach of the portfolio theory provides the most relevant concept appropriate in providing explanation on the relationship of the quality of asset management and financial performance. This relatively plays a crucial role on the studies that focus on bank performance (Cochrane, 2014).

This theory representing asset diversification provides for the fact that the maximum limit of each asset within the wealth holder's portfolio results from various decisions based on banking policies supported by a number of factors. These factors may be represented by the vector of rates of return on all assets as provided in the compounded risks that relates

to the ownership of each financial assets as well as the size of the portfolio. This implies that selection diversification of the portfolio together with the desired selection composition of commercial banks results from the management decisions from the respective banks. Moreover, the bank's ability to maximize on profitability is a function of the feasible set of assets which is a determinant of the management as well as the unit costs as incurred by the bank for the production of each asset unit (Belete, 2013)

The theory as discussed is a proponent of proper asset rebalancing for the purposes of necessary changes. This is done by the application of purchasing the various underperforming assets for the reasons of retaining allocation of asset mix.

According to this theory, the bank's capability of maintaining sufficient returns or attaining profitability largely depends on the feasible combinations of assets. Such a process usually results into quality assets, eventually the high performance as targeted by the selected combinations of assets is realized (Cochrane, 2014).

Further, the concept of making poor choices on the combination of assets results into low profits that may lead to financial distress. The theory deems relevant to the current study since it is applicable in banking sector for the purposes of diversification of loan portfolios. Such leads to optimization of the unsystematic credit risks. The chances of occurrence of a sudden decrease within the credit portfolio in a particular industry should be a concern to those responsible. Therefore, banks should maintain proper selection as well as balance to assets for the purposes of avoiding financial distress. Despite the positives of the theory,

there are also some limitations such as its characteristic of not allowing both more as well as less risk-averse investors to discover their optimal portfolio, which is an issue surmounted by the capital asset model pricing (CAPM).

2.2.2 Dynamic Capability Theory

Chowdhury and Quaddus (2017) referred to the dynamic capabilities theory in their study on dynamic capabilities and strategic management as a concept that was an extension of the Resource Based Value (RBV) theory focusing on the dynamic environment approach. The extension entails increase in international competition, shorter product life-cycles as well as rapid technological advancements (Winter, 2013).

The dynamic capability serves the role of safeguarding between organizational resources and the various changes within the business environment. This is made possible in the event that a firm is guaranteed the chance of making necessary adjustments to its resource base for the reasons of achieving profitability. Such is made possible through exploitation of competitive advantage.

The dynamic capability theory focuses majorly on the organization's ability to attain a renewed competitive advantage. The organizations revamp their resources as well as competencies for the purposes of achieving analogy with the shift in business environment (Sainsbury, 2020). Notably, the concept of dynamic capabilities helps in the creation of new opportunities within the business platform alongside the conversion of organizational resources into tangible as well as intangible assets including its various capabilities

(Sainsbury, 2020). The aspect of value-creation helps in the exploitation of such opportunities by the development of efficient and effective products as well as services.

Moreover, existence of dynamic capabilities serves as a reflection on the organization's capacity for the purposes of creating, extending, as well as modifying the existing resource base. Such capabilities are key in facilitating the required change as well as the renewal of current processes, thus promoting innovation towards achieving conformity to the environment.

The core dynamic capabilities include the aspect of reconfiguring, leveraging, knowledge creation, integration, sensing as well as seizure of the domain in question (Sainsbury, 2020). In this study, reconfiguration refers to the level of transformation as well as recombination of assets as well as resources (Bowman & Ambrosini, 2015).

The concept of learning represents one of the core higher-order capabilities that has a subset comprising of reconfiguration, leveraging, as well as learning which represents regenerative enabling the acquisition of adequate knowledge by the firm for the purposes of facilitating the creation as well as modification of firm’s capability alongside the resource base (Zahra & George, 2012). Such level of capabilities enables the firm to modify and develop, therefore, influencing the rejuvenating capabilities of the firm. On the other hand renewing capabilities comprises of knowledge creation, sensing and seizing, and integration, thus enabling the firm to create as well as modify various changes within its current operational capability and resource base for better performance.

The aspect of redefining organizational abilities focuses on the level of efficiency that correlates to the requirements of the surroundings with focus to the organizations sensing abilities as well as seeking available opportunities. Such an ability, alongside the capability of generating new knowledge, provides the firm with opportunities of creating new products together with product categories as per the fluctuations in demand and in line with consumer requirements (Verona & Ravasi, 2012).

Relative growth within a firm is a function of dynamic capabilities within the firm's scope of operations. Consequently, the bank's dynamic capabilities ensure occurrence of change in accordance with the modified capabilities in operations and management of resources. Such an ability in turn, encourages innovativeness, which is a necessity whenever firms compete successfully within the banking industry in boosting their performance.

2.3 Factors Determining Financial Performance of Commercial Banks Listed at NSE

There are various specific factors that significantly impacts on the overall commercial banks' financial performance as well as profitability. These include but not limited to capital adequacy and efficient management.

2.3.1 Capital adequacy

Capital is the amount of funds available for the purposes of supporting various banking operations. The aspect of having adequate capital help minimize occurrence of bank's

distress (Dang, 2011). Capital presents one of the factors that impacts on the level of a bank's financial performance. Capital adequacy is required by a bank for the purposes of sustaining the banks amidst various risks such as credit, operational as well as market risks. The presence of adequate capital provides the bank with ability to manage potential losses that eventually protect the bank's debtors. The capital adequacy ratio (CAR) is used to measure sufficiency of capital that is an indication of internal strength of the bank to manage through losses amidst financial crisis period (Dang, 2011). This affects directly the level of commercial bank's performance in Kenya.

2.3.2 Efficiency in Management

The nature of management of bank's assets and processes directly influences their level of financial performance. The management efficiency comprises various financial rations that include but not limited to total growth of assets as well as earning growth rate. The quality of management also focuses on ability to manage bank's operating expenses. In this case, quality of management within commercial banks determines operating costs which eventually influence the ultimate financial performance (Athanasoglou et al., 2008).

2.4 Empirical Review

Vigneswara (2015) in their study concerning the various quality determinants of the bank's asset and profitability, case study of India. They incorporated the use of panel data techniques that was collected between the years 1997 and 2009. In this study, the results revealed an inference that appeared contrary to the established as well as the expected outcome. In the research study, there was clear revelation on the fact that the nature or size

of asset had no significant impact on the profitability levels of existing commercial banks. In this scenario, the study population were the commercial banks, the geographical scope being India, and time scope was eleven years between 1997 and 2009.

The empirical study conducted by Akhtar and Hayati (2016) on Islamic banking system as applicable in Pakistan, assessed the influence of the quality of assets, structure of the income as well as macroeconomic factors on insolvency risk in Islamic banking system of Pakistan over twelve years period. The determination of the insolvency risk within the Islamic banking system in Pakistan required the use of various variables that are bank-specific and also macroeconomic variables. The analysis process was conducted through the application of OLS estimation whereby the results revealed the existence of significant differences in the relationship between capital asset ratio as well as asset quality.

Adeolu (2014) found asset quality to be significant and positively affected performance of banks. The study data applicable in this case was retrieved from the annual institution reports and records of the six biggest banks as listed at the Nigeria Stock Exchange in light of market capitalization. The data used covered from the year 1999 to 2013. To quantify bank's performance and asset quality, the bank utilized proportions since it is an undeniable means for assessing the organizations' level of performance.

The works of Lucky and Nwosi (2015) evaluated the influence of asset quality on the productivity of the fifteen commercial banks in Nigeria for over twenty years. The study adopted a CAMELS criterion for asset quality assessment was utilized to survey the

association with the financial performance of Nigerian commercial banks. The resulting conclusion was that a significant relationship exists between asset quality and productivity. The conclusion was that there is critical connection between resource quality and gainfulness of the commercial banks. The findings were that the effects of asset quality towards performance of commercial banks in Kenya were significant (Cheruiyot, 2016), while it was significant and positive to performance in Nigerian banks (Adeolu, 2014).

Finally, Lucky and Nwosi (2015) confirms a positive correlation between asset quality and productivity of commercial banks in Nigeria. Although most of the previous studies were conducted among players in the banking sector, the insurance companies are a key partner in financial sector management and therefore the need to hypothesize that Asset Quality has no influence of sustainability of insurance companies in Kenya.

The works of Barus, Muturi, and Kibati (2017) focused on the influence of asset quality on the financial results of savings and credit societies in Kenya. The process of the research study applied the use of explanatory research design. The data was retrieved from a target population of eighty-three government registered SACCOS (Savings and Credit Co-operative Society). The various SACCOS forming the sample as per the study were those in operation between the years of 2011 and 2015. The data collection was done through census for both primary and secondary data. Further, the multiple linear regression models were utilized for the data analysis through regression analysis. The results concluded that asset quality had profound influence on the level of performance on finances of these institutions in Kenya. The results were supported by the statistical values that revealed a

significant relationship showing the extent to which asset quality influenced the ultimate financial performance of these financial institutions. From the univariate regression results, there was also the revelation that asset quality had significant contributions to the financial issues of savings and credit societies in Kenya.

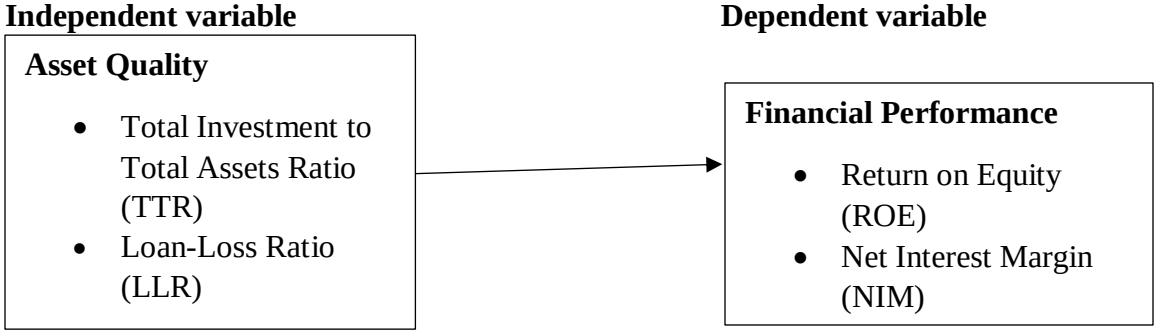
However, it is important to note that the basis under which the aforementioned studies were conducted focusing basically on firm's asset quality from other global markets and nations (Adeolu, 2014; Vigneswara 2015; Akhtar and Hayati 2016). The other study were focused on formation of SACCOS. Moreover, there were several studies that focused on banks sectorial factors but not specific to commercial banks listed at NSE (Barus, Muturi, and Kibati, 2017; Olweny and Mamba, 2011). However, the various researchers were in sync by identifying asset quality as one of the potential influencers to financial capability of any banking institution.

Cheruiyot (2016) assessed the extent to which quality of assets correlates to the financial results/profitability of commercial banks operating in Kenya. The technique employed in the study process was a descriptive research that allowed for description of all variable characteristics. The study focused on all the 43 commercial banks operating in the country (CBK, 2014). The author's conclusion was that quality of asset as well as profitability of commercial banks in Kenya had a significant and positive relationship. The effect of the loans that were not being repaid to net assets ratio was low; which meant that asset quality of commercial banks in Kenya was positive to profitability.

2.5 Conceptual Framework

Conceptual framework stands for a description of the phenomenon beneath study escorted via a visual or graphical depiction to common study variables. The conceptual framework makes it easier for the reader to quickly see the proposed relationship and hence it's application in this study. In the conceptualization of the influence of asset quality on the financial performance of commercial banks listed at NSE Kenya, the study assumes a relationship between asset quality and financial performance as indicated in the figure 2.1 below.

Figure 2.1: Conceptual framework



The concept of asset quality provides an important component of the commercial bank's credit profile in Kenya. In this case, poor asset quality provides one of the root causes of most failures in banks (Abata, 2014). The reason being, it evidently leads to insufficient liquidity or capital. The surrogates applicable for asset quality will include the Loan-Loss Ratio (LLR) and the Total Investments to Total Assets Ratio (TTR).

In this study, the Return on Equity (ROE) as well as Net Interest Margin (NIM) will be applicable as constructs for firm's performance (Abata, 2014). The ROE as a measure of performance shows the level of profit the company earns in comparison to the total amount of shareholder equity invested. The values are always shown on the balance sheet. The ROE clearly indicates the shareholders expectations as a return to their investment efforts. Businesses with higher return on equity are considered more likely to generate cash internally. ROE computation is a reflection of effective management as well as utilization of the shareholders' funds.

The computation of NIM is done by measuring the existing difference between interest income generated by the bank and the amount of interest spent. A higher net interest margin shows higher bank's profitability, hence stability (Abata, 2014).

2.6 Summary of Literature Review

The review of literature indicates that several research studies that were previously done on local as well as international arena concentrated on the various specific factors that influence profitability in banks. The theoretical review focuses on two theories: modern portfolio theory and dynamic capabilities theory that help define the variables and their appropriate application to the study. The factors determining financial performance amongst commercial banks discussed include capital adequacy and management efficiency then ultimately presentation of the conceptual framework showing both independent (asset quality) and dependent variable (financial performance) in diagrammatic format.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter presents the discussion on the methods adopted by the study for the purposes of obtaining the required data on how assets quality influences the financial performance of the NSE listed commercial banks. This section provides details on the research design, the population, data collection, validation of data and analysis.

3.1 Research Design

The study will adopt a descriptive research designs as the analytical model whereby there's a clear definition of the problem and the variables known (Sekaran & Bougie, 2016). This is because the model uses historical/secondary data from the commercial banks to ascertain occurrence of a past event. The descriptive research technique will help in the determination of the statistical relations between assets quality and financial performance of commercial banks listed at NSE.

The study will use ratios to measure the performance of banks as well as asset quality. This is because the ratios provides one of the verifiable means applicable in identifying activities surrounding the firms' operations.

3.2 Target population

A research population in this study is defined as a collection of individuals or objects that reveals similar characteristics (Sekaran & Bougie, 2016). Such qualities on traits is usually appoint of commonality to all individuals within the population. For the purpose of this

research, the study population will comprise of the twelve commercial banks in Kenya listed at NSE as at 30th June, 2021.The study will cover financial periods of between January 2017 and December 2020.

3.3 Sample Design

The secondary data will be singled out data from the financial reports depending on their relevance to the measures as applicable in the study design. These entail data that measure financial performance of the selected commercial banks (ROE and NIM) as well as data that establishes asset quality (Total Investment to Total Assets ratio and Loan Loss Ratio) as revealed by financial performance of the commercial banks for the period under study.

3.4 Data Collection

This study will use secondary data from the bank's statement of accounts on financial performance. The various benefits associated to secondary data are clear and is less costly (Hui Cheng and Phillips, 2014). The data collection will cover four-year period from 2017 to 2020. Sampling was not applicable since the study utilized secondary data.

The study used a document review guide for data collection of the various variables in this study, extracted from the published annual reports as well as financial statement of the commercial banks listed at NSE between the years 2017 to 2020. The reports included: financial records as per the income statement, statement of financial position, report from directors, cash flow statements as well as statements showing change in equity.

3.5 Data Analysis

The quantitative data was extracted from the identified financial institutions, and analyzed by use of regression equations. The analysis was done by use of statistical package SPSS v 26. In this case, the multiple regression techniques provided quantitative result that showed robust conclusion on the relationship between variables of the study.

Multiple regression analysis technique provided the capability for the prediction of unknown variable values from the known value of more than two variables (Cox, 2015). The regression statistical model was applicable in the determination of the effect that independent variables have on the dependent variable (Sekaran & Bougie, 2016).

The validity as well as the reliability of the data were ensured by using only published data from the financial statements (Sekaran & Bougie, 2016). Additionally, the validity and reliability of financial data were verified by the top management of each commercial bank before publishing of any information. This ensured that all the financial statements applicable reflected the honest view of the bank's financial position. The CBK supervisory reports were also applicable in the study because they are published by the regulator, such ensures that data applicable is of high quality.

The regression analysis was applicable in this research study for the purposes of assessing existing relationship between the independent and dependent variable by use of SPSS version 26 and the multiple regression analysis model applicable was as follows:

$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \ldots . + \varepsilon$

Where: Y_1 = is the Financial performance as the dependent variable (ROE and NIM)

The Independent variables will include the following:

X_1 LLR is the Loan Loss Ratio

X_2 TTR is the Total Investments to Total Assets Ratio

α = represents the constant which is the Y intercept

β_{1-2} = represents the regression coefficient or in other terms the change included in Y by each X

ϵ = represents the error term

Two diagnostics tests will be done for the purposes of testing regression assumptions; these will include use of Normality and Multicollinearity tests. In Normality test normally distributed data is considered in cases where the p value < 0.05. The Multicollinearity shows the nature of strength on the correlations between independent variables, there's multicollinearity in the case where Variance Inflation Factor (VIF) of one of the variables is ≥ 10.

Operationalization of variables

H_0- There is no relationship between asset quality and the financial performance commercial banks listed at NSE in Kenya.

$Y= \alpha+ \beta_1 X_1 + \varepsilon$

α =constant which is the intercept

X_1= represents the composite index of Asset quality

ε = Error term

Compute by SPSS the p value corresponding to β_1

If p value $\leq \frac{\alpha}{2}$ reject H_0

If $p \leq \alpha/2$, then there is a significant relationship

Table 3.1: Operationalization of variables

Variables		**Operationalization**
Dependent variable		
Return on Equity	ROE	Net Income after Taxes divided by Total Equity Capital
Net Interest Margin	NIM	Net interest income divided by the total earnings assets
Independent variables		
Asset Quality (AQ)	AQ1	Represented as the ratio of loan loss provision to total loans
	AQ2	The ratio of total loans to total assets

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter provides detailed statistical findings and presentation of the statistical values in form of tables and charts. There is also the discussion of the results based on the study objective.

4.2 Results

The results of this study were obtained from the secondary financial reports of the various commercial banks. The secondary data obtained was analyzed by use of SPSS software where p values, mean and standard deviation were generated to help answer the study objective.

4.3 Diagnostic tests

The two diagnostic tests were computed before conducting the regression analysis; in this case Multicollinearity and Normality test. In the test, Q-Q graph representing the normality test clearly indicated a normal distribution since the individual data was considered to have fair distribution around the mean (appendix iv). The Multicollinearity test (Table 4.6.1) which shows VIF value of 1.02, which is between 1 to 10, therefore, it can be concluded that Multicollinearity symptoms do not exist in the data. The results of the Multicollinearity test used both Variance Inflation Factor (VIF) as well as tolerance statistics as an indication of non-existing issues on multicollinearity, since all the values of Tolerance > 0.2 with all values of Variance Inflation Factor < 4.

The general results reveal that p = 0.001 < 0.05, thus the computed differences within simple variances are likely to have been based on data with equal variances.

Table 4.3.1: Normality test

Loan Loss Ratio	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Financial Performance	.447	14	.000	.633	14	.000
LLR	.253	21	.001	.886	21	.019
TTR	.250	9	.111	.842	9	.060

The Shapiro-Wilk is always applicable in dataset with less than 100 participants. In this case, not all the data was significant at 0.05 showing that the dataset was normally distributed. The Shapiro-Wilk test was also conducted as shown above, whereby the significant values were revealed to be > 0.05 (p = 0.060 > 0.05), therefore, the data indicated normality.

4.4 Descriptive statistics

The descriptive statistics in this study provided the measure of mean and standard deviation values (Table 4.4.1) as relates to the effects of asset quality on the financial performance of commercial banks listed at NSE. In this study, the mean measured the central tendency that provided the average on set of values obtained from the data. The Standard deviation provided the extent to which a value deviated from the central tendency. The results from

the table 4.4.1 showed that the average for the four years between the years 2017 and 2020 the mean ratio of financial performance across the 12 commercial banks listed at NSE was 3.06 and standard deviation ration of 0.789.

Table 4.4.1: Measure of Mean and Standard deviation

Descriptive Statistics			
	Mean	Std. Deviation	N
Financial Performance	3.06	.789	48
LLR	2.13	1.064	48
TTR	1.63	.733	48

The examination of the means and standard deviation on financial performance shows a high mean value (M=3.06, SD = 0.789). The SD value that is close or equal 1 reveals that the information provided varied widely depending on the bank data. The loan loss ration mean was 2.13 and standard deviation of 1.064, while TTR mean was 1.63 and standard deviation 0.733

Table 4.4.2: Descriptive statistics

Descriptive									
						95% Confidence Interval for Mean			
		N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound	Minimum	Maximum
LLR	2017	12	18.61050	10.385870	2.998142	12.01163	25.20937	.450	43.510

	2018	12	20.21092	9.318097	2.689903	14.29048	26.13135	.341	33.400
	2019	12	26.26050	16.005691	4.620445	16.09097	36.43003	.246	51.650
	2020	12	26.50000	11.095514	3.202999	19.45025	33.54975	13.560	48.110
	Total	48	22.89548	12.127383	1.750437	19.37405	26.41690	.246	51.650
TTR	2017	12	4.3433	3.09989	.89486	2.3738	6.3129	.66	11.08
	2018	12	8.7683	7.45033	2.15073	4.0346	13.5020	1.43	24.10
	2019	12	6.4450	5.71718	1.65041	2.8125	10.0775	.51	18.06
	2020	12	8.0358	7.52761	2.17303	3.2530	12.8186	.62	23.24
	Total	48	6.8981	6.25255	.90248	5.0826	8.7137	.51	24.10
FP	2017	12	11.6750	4.96732	1.43394	8.5189	14.8311	6.48	20.82
	2018	12	8.3638	2.21567	.63961	6.9560	9.7715	5.10	11.83
	2019	12	9.1704	3.28489	.94827	7.0833	11.2575	4.38	15.24
	2020	12	9.2425	3.63407	1.04907	6.9335	11.5515	1.96	15.22
	Total	48	9.6129	3.75622	.54216	8.5222	10.7036	1.96	20.82

The table 4.4.2 above shows high mean values across the years for LLR across all the commercial banks sampled. The same applies to the value of the SD across the banks that revealed that the results were widely varied due to differences in the level of asset investments and quality.

4.5 Correlation Analysis

The achievement of the study objective required that multiple regression performs joint analysis on the influence of independent variables on the financial performance of the

banks under study. The values in table 4.4.1 below shows the resultant correlation between individual independent values and the financial performance by use of Pearson correlation coefficient value and p value significant at 0.05.

Table 4.5.1: The Pearson correlation and significant tests

Correlations				
		FP	LLR	TTR
Pearson Correlation	Financial Performance (FP)	1.000	.320	-.051
	LLR	.320	1.000	.143
	TTR	-.051	.143	1.000
Sig.	Financial Performance (FP)	.	.013	.366
	LLR	.013	.	.166
	TTR	.366	.166	.
N	Financial Performance (FP)	48	48	48
	LLR	48	48	48
	TTR	48	48	48

The Pearson correlation was performed for the purposes of determining the relationship between the explanatory variables (Table 4.5.1). The Pearson correlation coefficient (r) measures that nature of strength that exists between the variables under investigation. The

r- value establishes the extent to which each of the predictors, individually influences the dependent variable. From the study a correlation is considered significant in the event that the probability value ($p \leq 0.05$), therefore LLR is positively relates to financial performance ($p = 0.13$).

The Pearson correlation coefficient ($r = 0.320$) for LLR showing a strong positive correlation between LLR and the dependent variable (financial performance). Normality test was performed as a preliminary analysis for the purposes of ensuring no violations of the assumptions. The strong positive correlation between the two variables (LLR and FP) $r = 0.320$, $p = 0.013 < 0.05$ indicates association between the quality of loans advanced to customers and the ultimate influence on financial performance.

The Pearson Correlation coefficient (-.051) for commercial banks indicates a negative correlation between TTR and financial performance. In this case, the weak negative correlation between the two variables ($r = -.051$, $p > 0.05$), indicates that a decrease in income after tax and total assets value influence the bank's generation of value on investments. Therefore, TTR provides an important measure of the bank's profitability.

4.6 Regression Analysis and Hypothesis testing

The regression analysis provides the results of the study test showing the relationship between independent variable (asset quality) and the dependent variable (financial performance). In this study the model summary (R square) and analysis of variance (ANOVA) were utilized for the purposes of testing the hypothesis. The beta coefficients were also utilized for each independent variable. From the perspective of (Cox, 2015) any

value ≤ 0.05 is an indication of a stronger evidence on existing relationships between variables.

4.6.1 Model's Goodness of Fit

The model summary (table 4.6.1) provides the computed linear relationship that exists between the independent variables (predictors) and the dependent variable

Table 4.6.1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.334[a]	.112	.072	.76073	.112	2.826	2	45	.070	.639
a. Predictors: (Constant) TTR, LLR										
b. Dependent Variable: Financial Performance (FP)										

The existing relationship between asset quality and financial performance provided an R value of 0.334 and R^2 value of 0.112 (coefficient of determination) indicated that 11% of the changes within the financial performance could easily be explained by the independent variables of these commercial banks listed at NSE. The model did not fit well with the study since the predictors could only explain 11% of the differences in financial performance. Therefore, there exists other factors accounting for 89% that could help to further improve the model.

4.6.2 ANOVA Results

The ANOVA results (analysis of variance) as shown in table 4.6.2 indicated a lower regression sum square of 3.271 with a mean square of 1.635 and a high residual mean square of 26.072 having a mean square of 0.579. The F-test value of 2.826 at degree of freedom (2,45). The p-value = 0.010 < 0.05 indicating that the null hypothesis is rejected owing to statistically significant relationship between the independent and dependent variable, thus (F (2,45) = 2.826, and p = 0.010 < 0.05.

Table 4.6.2: ANOVA results

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.271	2	1.635	2.826	.010[b]
	Residual	26.042	45	.579		
	Total	29.313	47			
a. Dependent Variable: Financial Performance						
b. Predictors: (Constant), TTR, LLR						

The results indicated that the model was statistically significant at the 0.05 level of significance. This is a clear indication that the independent variables jointly have a statistically significant influence on the financial performance of the commercial banks listed at NSE.

4.6.3 The Beta Coefficient values

The coefficient value shows how the predictors (Independent variables) individually influence the outcome variable. The independent variables in this study are LLR and TTR. The t-value and the p-values established the extent to which independent variable influences the dependent variable. The beta coefficient for LLR = 0.248, while p = 0.023, showing that LLR is statistically significant towards the determination of financial performance.

Table 4.6.3: Coefficient values

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.709	.329		8.242	.000		
	LLR	.248	.105	.334	2.350	.023	.980	1.021
	TTR	-.106	.153	-.098	-.692	.492	.980	1.021
a. Dependent Variable: Financial Performance								

The standardized as well as the unstandardized coefficients assisted in the development of the regression model. In this case, the multiple regression analysis model obtained was expressed as hereunder:

$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \ldots . + \varepsilon$

Where: Y_1 = is the Financial performance

X_1 LLR is the loan-loss ratio

X_2 TTR is the Total Investments to Total Assets Ratio

α = represents the constant which is the Y intercept. Thus, according to the results from table 4.6.1:

$Y = 2.709 + 0.248X_1 + -.106X_2 + \ldots + e$

The model clearly indicates that financial performance is dependent on asset quality. The results show that when all variables are kept constant, a one unit increase in the independent variables leads to an increase in the financial performance by a factor of 2.709, which is statistically significant at 0.05 significant levels.

A unit increase in loan loss ratio will eventually lead to an increase in the financial performance by a factor of 0.248, with the value being statistically significant at $p = 0.023$. Further, a unit decrease in TTR may lead to a decrease in financial performance by a factor of -0.106 with $p > 0.05$.

4.6.4 Hypothesis testing

The null hypothesis concept is useful as it can be tested to conclude whether or not a relationship exists between the two measured phenomena. It can inform the researcher or the users of the research whether the findings obtained and conclusion made are by chance or mere manipulation. In this study, the **H_0** (null hypothesis) states that there is no relationship between commercial bank's asset quality and its financial performance

In testing the above null hypothesis by use of regression analysis, the predictor LLR showed a p value of $p = 0.023 < 0.05$, an indication that LLR has statistically significant relationship to financial performance because $p < 0.05$, therefore the null hypothesis is rejected in this case, when considered individually as a measure of asset quality; the loan loss provision to total loans influences the financial performance of commercial banks listed at NSE. On the other hand, when considered as an individual predictor of financial performance, the p value for TTR; $p = 0.492 > 0.05$, indicating that TTR has no major statistically significant relationship to financial performance of commercial banks listed at NSE.

4.7 Discussion of Research Findings

The study focused on establishing the extent to which asset quality influences the financial performance of commercial banks listed at NSE. Descriptive statistics of the various study variables helped in data presentation, making interpretation easier. The inferential statistics was also applicable and very useful in providing necessary test of relationships as well as the study hypothesis.

The correlation and regression analysis were also used to test relationship between variables individually and jointly. There was computation of regression analysis concerning the outcome variable (financial performance) against individual independent variables (TTR and LLR). Subsequently, multiple regression was conducted to ascertain the joint effect of the independent variables on the overall financial performance.

The findings of the study clearly reveal that in the event that asset quality is regressed jointly against financial performance there is a significant relationship between the

variables. However, the weak explanatory relationship as exhibited by the R-squared is an indication that model applicable in computing the variables (asset quality and financial performance) did not fit the data. Despite the findings contradicting the results by Khalid (2012) who conducted a study that concluded a negative correlation between the asset quality and financial performance, the study by Adeolu (2014) supported the findings of this study. Similarly, the studies by (Cheruiyot, 2016; Lucky and Nwosi, 2015; Barus, Muturi, and Kibati, 2017) also revealed a positive relationship between asset quality and financial performance.

Further, the Dynamic Capability theory asserts that whenever organizations provide new and improved form of their resources especially assets, they create a possibility of achieving analogy with any form of shift in business environment. Such sentiment relates to the findings whereby asset quality has a statistically significant relationship to financial performance.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter contains the summary of the research results as per the statistical analysis using multi regression model in relation to the study objective. The conclusion of the findings, recommendations and areas for further studies are also provided in this chapter.

5.2 Summary

The objective of the research study focuses on determining the effects of asset quality on the overall financial performance of the commercial banks listed at NSE. The variables applicable in the research were asset quality as the independent variable and financial performance as the dependent variable. The study population comprised of 12 commercial banks in Kenya listed at NSE as at 30th June, 2021.The study covered the financial periods of between January 2017 and December 2020.

The secondary data was obtained from the audited and published financial reports of commercial banks and CBK annual reports to measure financial performance using ROE and NIM as indicators and also to establish asset quality parameters; TTR and LLR for the period under study.

The various benefits associated to secondary data are clear and is less costly (Hui Cheng and Phillips, 2014). Sampling was not applicable since the study utilized secondary data.

The statistical results were based on descriptive statistics with LLR having the highest mean followed by TTR. The findings show that the two variables jointly have a strong

significant impact on the financial performance. The Pearson's correlation revealed that LLR is a strong predictor with strong positive association in relation to financial performance of the banks while TTR had less significance effect.

In regression analysis the model summary indicated that the predictors had weak influence in explaining the existing variations within the financial performance. The ANOVA results showed that the variables when jointly considered, the null hypothesis is rejected since it had a statistically significant effect on commercial banks listed at NSE with $p < 0.05$. Therefore, the null hypothesis was rejected.

The multiple regression model provided that LLR and TTR have a joint statistical significance on the firms' financial performance. In this case, a unit increase in LLR improves the level of financial performance by 0.248 units. On the other hand, the model reveals that a unit decrease in the value of TTR leads to negative influence on the financial performance.

5.3 Conclusion

The conclusion of the study relates to the findings as per the objective of the study on establishment of the influence of asset quality on the financial performance of the commercial banks listed at the NSE in Kenya.

According to the study findings, asset quality with measures jointly regressed had a statistically significant effect on the financial performance. Such requires that the commercial banks should emphasize on quality management and development of quality

assets owing to their impact on performance, lack of which could result into negative financial performance. Further, the study can conclude that effective management of various expenses could easily reduce the occurrence of losses, therefore, see an increase in financial performance.

The study further concludes that better management of asset quality would ensure improvement in the level of financial performance. In this case, the use of LLR have a positive significant effect on financial performance on these commercial banks. This requires that the commercial banks should observe closely the influence of assets in terms of quality on financial performance to avoid negative listing at the NSE.

The hypothesis shows that LLR $p = 0.023 < 0.05$, in which case, it proved statistically significant. From such a perspective, managers of these commercial banks should endeavor to direct the bank's resources towards increasing quality of their assets. However, TTR showed a statistically insignificant value $p = 0.492 > 0.05$, therefore TTR had no major influence on the financial performance of the commercial banks.

In the study, the loan advances were considered as one of the major assets used in generating considerable income, therefore the level of quality exhibited by the loan portfolio determines the level of profitability. Subsequently, the commercial banks face high risks from losses incurred by the delinquent facilities. It is against this background that the application of the non-performing loan ratios provides adequate measures for asset

quality, therefore commercial banks should operate on low level amount of non-performing loans for the reasons of maintaining high financial performance

The study further concludes that the positive correlation between LLR and financial performance requires that the management considers maintaining performance levels that would ensure that the profitability is kept on the long-run.

5.4 Recommendations

This study recommends that the various practices as relate to finance should consider placing more consideration on asset quality in the process of formulating financial policies alongside standard operating procedures.

Based on the study findings, this study recommends that the services of these commercial banks should consider increasing their allocation of resources towards improvement of assets quality for the purposes of improving their financial performance.

Since asset quality has a statistically significant influence on the financial performance, there should be consideration when it comes to maintaining control of the budget as well as future financial success of various business institutions.

5.5 Limitations of the Study

The findings of the study only focused on 12 commercial banks listed at NSE making it challenging to generalize the results to other financial institutions in Kenya despite serving similar roles in banking sector.

The study was also limited in time since the data was only considered for a four-year period, a similar study can still be conducted covering more than four years for comparison purposes.

Further, owing to time as well as resource constraints the study was limited in covering other variables affecting financial performance of the commercial banks. Other variables also influence performance differently depending on the level of consumer demands within the sector.

5.6 Areas of Further Studies

There is a clear indication as per the results that asset quality as used in the study could only explain 11% of the existing variation in commercial banks financial performance. Therefore, the researcher recommends further studies on the remaining factors that accounts for 89% to explain further the remaining part of the variation in relation to the study objective.

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APPENDICES

APPENDIX I: LISTED COMMERCIAL BANKS AT NSE

1. ABSA Bank Kenya
2. BK Group
3. Diamond Trust Bank Kenya Ltd
4. Equity Group Holdings
5. HF Group
6. I&M Holdings
7. KCB Group
8. National Bank of Kenya Ltd
9. NCBA Group
10. Stanbic Holdings
11. Standard Chartered Bank Kenya Ltd
12. The Co-operative Bank of Kenya Ltd

APPENDIX II: SUMMARY OF DATA REPORT ON TOTAL ASSETS AND LOAN LOSS RESERVES

	Total Assets (Ksh)					Loan Loss Reserves (Ksh)			
	2017	**2018**	**2019**	**2020**		**2017**	**2018**	**2019**	**2020**
Diamond Trust Bank	363,372	377,739	386,231	425,086		11,055	8,041	7,248	12,523
BK Group	178400	119844	130400	120530		-6,248	-10,825	-11,019	-12,963
ABSA Kenya	271,754	325,548	374,995	380,401		16,439	-10,226	-11,020	-7,461
Equity	524,465	573,384	673,682	1,015,093		-7,449	-19,483	-22,735	-48,004
KCB	646,668	714,313	898,572	987,810		-15,206	-21,141	23,077	-38,218
Stanchart	285,724	285,404	302,138	325,605		-8,034	-9,208	-7,844	-9,196
Co-operative	386,858	413,671	457,093	537,076		-14,206	-20,141	23,077	-36,218
NCBA Bank	206,172	208,407	494,717	527,868		15,988	10,224	22,457	30,945
National Bank	112,388	110,184	115,247	111,951		-8,034	-9,208	-7,844	-9,196
StanBic	248,739	290,570	303,625	328,593		-5,264	-11,250	-14,171	-18,415
HF Group	67,541	60,588	56,455	55,445		-6,264	-9,250	-12,171	-17,415
I&M Holdings	240,111	288,522	315,291	358,100		-7,248	-11,825	-11,019	-12,963

Source: Published Banks' Annual Reports

APPENDIX III: REPORTS OF THE BANKS' RATIOS IN THE STUDY

Serial No.	Year	Bank	LLR	TTR	ROE	NIM
1	2017	Diamond Trust	32.86	5.72	10.25	31.38
2	2018	Diamond Trust	30.75	8.88	10.54	3.74
3	2019	Diamond Trust	25.91	5.66	7.26	1.5
4	2020	Diamond Trust	33.94	23.24	7.33	16.52
5	2017	BK Group	10.91	11.08	20.6	17.43
6	2018	BK Group	25.41	18.66	17.55	2.29
7	2019	BK Group	51.65	17.01	16.43	1.9
8	2020	BK Group	45.1	5.62	11.56	12.65
9	2017	ABSA Kenya	21.52	3.24	22.49	4.46
10	2018	ABSA Kenya	29.88	4.75	17.56	0.69
11	2019	ABSA Kenya	35.12	3.27	14.52	3.41
12	2020	ABSA Kenya	22.29	6.53	15.75	10.83
13	2017	Equity	14.67	0.92	19.57	0.73
14	2018	Equity	20.41	1.88	15.74	2.77
15	2019	Equity	11.34	18.06	8.89	21.59
16	2020	Equity	22.05	17.01	1.88	2.04
17	2017	KCB	43.51	2.26	19.58	5.24
18	2018	KCB	12.67	7.81	22.58	1.01
19	2019	KCB	47.77	9.62	15.68	2.71
20	2020	KCB	48.11	9.78	15.76	14.67
21	2017	Stan Chart	20.05	8.56	12.04	2.93
22	2018	Stan Chart	22.67	1.43	7.45	2.74
23	2019	Stan Chart	25.78	3.09	8.9	3.11
24	2020	Stan Chart	34.56	2.75	11.78	3.03
25	2017	Co-operative	22.33	5.01	22.96	11.99
26	2018	Co-operative	33.4	2.43	10.78	12.87
27	2019	Co-operative	13.55	4.05	10.77	0.86
28	2020	Co-operative	22.45	1.73	10.05	2.54
29	2017	NCBA	15.09	3.05	11.78	1.18
30	2018	NCBA	12.95	4.67	12.67	1.68
31	2019	NCBA	45.2	4.98	20.9	6.02
32	2020	NCBA	30.45	7.02	14.07	3.69
33	2017	National Bank	0.45	5.42	12.78	1.88

34	2018	National Bank	0.341	15.78	11.43	0.73
35	2019	National Bank	0.246	0.51	9.75	1.68
36	2020	National Bank	14.08	0.62	11.46	4.44
37	2017	Stanbic	9.036	0.66	12.48	5.07
38	2018	Stanbic	15.67	2.44	13.54	1.06
39	2019	Stanbic	12.44	1.87	12.53	9.62
40	2020	Stanbic	18.55	1.83	19.95	1.59
41	2017	HF Group	22.45	1.79	14.52	1.47
42	2018	HF Group	16.33	12.39	17.64	1.46
43	2019	HF Group	22.45	6.87	12.45	8.65
44	2020	HF Group	24.55	18.19	15.21	2.32
45	2017	I&M Holdings	21.34	4.41	16.07	1.32
46	2018	I&M Holdings	22.05	24.1	11.47	0.74
47	2019	I&M Holdings	23.67	2.35	11.43	9.53
48	2020	I&M Holdings	13.56	2.11	10.44	2.26

Source: Published Banks' Annual Reports

APPENDIX IV: Q-Q GRAPH REPRESENTING THE NORMALITY TEST