

**THE EFFECT OF ASSET QUALITY ON VALUE OF
COMMERCIAL BANKS LISTED AT THE NAIROBI SECURITIES
EXCHANGE**

BY:

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D61/68322/2013

**A RESEARCH PROJECT SUBMITTED IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD
OF THE DEGREE OF MASTER OF BUSINESS
ADMINISTRATION, SCHOOL OF BUSINESS, UNIVERSITY OF
NAIROBI**

NOVEMBER, 2018

DECLARATION

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

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This research project has been submitted for examination with our approval as the University Supervisors.

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ACKNOWLEDGEMENT

Foremost, I give thanks to God for His grace to complete this project work.

I wish to acknowledge all lecturers and facilitators of the School of Business for the various roles each one of them played towards the successful completion of this project.

Special thanks go to my supervisors, Mr. Ronald Chogii and Dr. Kennedy Okiro for the extensive and intellectual comments and directions towards the success of this work.

I also thank my family for their support and prayers in the course of my studies.

Thank you all and may God richly bless you.

DEDICATION

I dedicate this project to Mr. Wilson Arisa's family.

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LIST OF ABBREVIATIONS

ALLL	Allowance for Loan and Lease Losses
ANOVA	Analysis of Variance
CBK	Central Bank of Kenya
GDP	Gross Domestic Product
KDIC	Kenya Deposit Insurance Corporation
MFB	Micro- Finance Banks
NPL	Non- Performing Loans
NSE	Nairobi Securities Exchange
SPSS	Statistical Package for Social Sciences

ABSTRACT

Low quality assets can reasonably be expected to enter default. All the losses arising from asset quality are summed up in the final financial performance of an entity. Carrying low quality assets on the statement of financial position places three distinct burdens on lenders. The non-payment of interest or principal reduces cash flow for the lender, which can disrupt budgets and decrease earnings. Loan loss provisions, which are funds set aside to cover potential losses, reduce the capital available to provide subsequent loans. Once the actual losses from defaulted loans are determined, they are written off against earnings which consequently sum up in the final firm value. This study sought to determine the effect of asset quality on value of commercial banks listed at the NSE. The study's population was all the 11 commercial banks listed at the NSE. Asset quality in this study was the dependent variable and was measured by the ratio of performing loans to total loans and advances. The control variables were capital adequacy, bank size, management efficiency, capital structure, age of the bank and interest rate spread. Value of the firm was the dependent variable which the study sought to explain and it was measured by the ratio of market value of equity to book value of equity. Secondary data was collected for a period of 5 years (January 2013 to December 2017) on an annual basis. The study employed a descriptive cross-sectional research design and a multiple linear regression model was used to analyze the association between the variables. Data analysis was undertaken using the Statistical Package for Social Sciences version 2.1. The results of the study produced R-square value of 0.508 which means that 50.8 percent of the variation in the listed commercial banks' value can be explained by the seven selected independent variables while 49.2 percent in the variation of value of quoted commercial banks at the NSE was associated with other factors not covered in this research. The study also found that the independent variables had a strong correlation with financial performance ($R=0.713$). ANOVA results show that the F statistic was significant at 5% level with a $p=0.000$. Therefore the model was fit to explain the relationship between the selected variables. The results further revealed that bank size, management efficiency and interest rate spread produced statistically significant values for this study. The study found that asset quality, capital adequacy, age of the banks and capital structure are statistically insignificant determinants of the value of commercial banks listed at the NSE. This study recommends that measures should be put in place to enhance bank size and management efficiency among commercial banks as this will improve their value.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Asset quality has been one single largest cause of irritation to the banking industry across the globe (Sontakke & Tiwari, 2013). Non-performing loans eat into the expected interest income of commercial banks and therefore affect the net income of the organizations. Various research and literatures show, there has been a significant increase in problem of non-performing loans facing banks both in emerging and matured economies (Tendia et al., 2012). Value of banks is highly dependent on interest income as it is the major source of income compared to non-interest income generating activities. Comparing the statement of income of different banks in Kenya and around the world over years, interest income is the substantial profit generating item. Therefore, asset quality has great impact on a high percentage of income generating variable.

This study will be guided by the Stakeholder Theory, Adverse selection theory and the Moral Hazard theory. These theories explain how credit risk, information symmetry and prudence, affect lending decisions and determine the levels of asset quality of banks. Bad and doubtful debts have been a concept of study for several years, to establish their cause, drivers, treatment in financial books and the possible remedies. Different studies have had different findings, though most show that, asset quality and value of firms have a negative relationship.

The Banking industry in Kenya is governed by the Banking Act, Central Bank of Kenya Act, and the Companies Act and the various regulations issued by CBK. The CBK found under the Finance Ministry, is responsible for the formulation and

implementation of monetary policies and fostering solvency, liquidity and effective functioning of the financial system (CBK, 2013). The recent banking crisis in Kenya where three banks collapsed in a period of less than a year has highlighted the importance of stability in the banking sector. While the main factor attributed to the collapse was mostly fraud and corporate governance previous banking crisis in the history of our country can be traced back to problem loans (Waweru, 2009). This research paper therefore aims to investigate the quality of assets in the banking industry in Kenya and how it affects performance.

1.1.1 Asset Quality

Asset quality is a measure of the total risk tied to assets owned by an individual or a corporate body (Adeyemo & Bamire, 2005). This terminology is common in the banking industry to determine the value at of assets at risk and points to how much provisions banks have to make for loan losses. The asset quality comprises credit risk related to the loan and investment portfolio and includes real estate, other assets and off balance sheet items such as bank guarantees and letters of credit (Tabari, Ahmadi & Emami, 2013).

Levine (2008) argues that an asset has a strong influence in determining performance of any commercial bank since it leads to an increase in because it increases interest income and a reduction the cost burden of managing bad debts at the same time. by law, banks are expected to keep aside cash deductible as an expense so as to cushion the bank against bad debts and other loan defaults. The higher the NPS ratio to the gross/net asset, the lower the asset quality. This therefore implies a negative trade-off between asset quality and the bank's financial performance (Ombaba, 2013).

The quality of current and potential credit risks reflects the asset quality ratings indicate the quality and this is highly intertwined with the loan investment portfolios, real estates and off-balance sheet transactions. This also reflects the bank's ability to identify and manage credit risks. According to Abata (2014), asset quality evaluation should be emphasised on how adequate the Allowance for Loan and Lease Losses (ALLL) are, the intensity of exposure to counter party, the issuer or borrower defaults under actual or implied contract agreements. However there are other factors and risks to consider which actually stand to affect the bank's assets value or marketability, including, operating, market, reputation, strategic or compliance risks.

1.1.2 Market Value

Value can be defined as the quality of solidifying a wanted need, valued, or advantageous; the desired amount of cash to acquire a product; or what ought to be given, done, or felt to acquire something (Oladele, 2013). The value of a company can also be described the value monetary rights. The business value is based on the continuous concern anticipation in the current value of all the predictable future cash flows to be produced by the assets, reduced at the corporation's weighted regular cost of wealth (Chowdhury & Chowdhury, 2010). Pandey (2005) argues that the value of the company is the total values of all its monetary securities. The money streams received by the required claims should add up to the entire cash flow that assets produce. In a diverse situation where the company's profits vary, the challenge of exploiting becomes more complex. Value can be predicated on the dividends streams that the stockholder will received during the lifespan of a firm and further discounted (Parkinson & Waweru, 2010).

Companies exist in the market to make worth for their stockholders. Creation of value can be described as the upsurge in the monetary worth of stockholders, as measured by proportion of marketplace value of stocks to the book value of stocks, produced by the presentation of a company. Creation of value takes place if the company produces more affluence for their bondholders that it could have not been easy to produce for themselves. To create worth, as a result, the organization needs to distinguish how to recognize, choose, as well as divide the marketplaces in which to contest; describe the kind of worth to be suggested on the market; as well as create and circulate such value (Oladele, 2013).

Firms' value plays a vital role in an investment criterion. Firm's value can be measured through different means such as net sales, paid-up-capital, total assets, capital employed and so on (Sharma, 2011). Firm's value is anticipated to reflect the value of both intangible and tangible assets. The common tool adopted in the measurement of the value of the firm is Tobin's Q. Tobin Q is usually a percentage of a market value of a firm to a firm's assets replacement cost (Taslim, 2013). Tobin Q measures firm value on the basis of book as opposed to market based measures. Under q proposition, a firm is said to create more value if investment returns are greater than investment cost (Taslim, 2013).

1.1.3 Asset Quality and Market Value

From an accounting perspective, the concept of "prudence" requires that assets should be reviewed and revalued to reflect their realistic value because the value of certain assets is a function of some future events and or developments. To comply with the "matching" principle the costs of such assets have to be allocated to the periods that will benefit from such assets (Sohaimi, 2013). The expenditures for these assets are

matched against the revenues that the assets help to produce through provisions. From this view, adequate provisions should be made, if it occurs that the entity may not be able to collect all the amounts due as per the contract, thus recognizing impairment. Financial institutions should thus save some funds that are charged to the income statement as provisional expenses, to safeguard against any losses that it may incur in future (Guru, Staunton & Balashanmugam, 2002).

Sangmi and Nazir (2010) states that asset quality determines the overall status of a bank and this is primarily affected by credit administration program and the loan's portfolio quality. The greatest risks faced by banks are those are those related to delinquent loans, hence the recommended proxies for an assets quality of an asset non-performing loan ratios (Dang 2011). Low non-performing loans is an indication that a bank's loan portfolio is healthy. Most banks therefore make efforts to maintain the loans at as the lowest possible level.

Ombaba (2013) noted that "asset quality is a strong determinant of financial institution value because it influences the interest incomes while at the same time reduces the cost burden of bad debts management. The higher the non-performing assets to the gross / net assets book, the lower the asset quality and vice versa and therefore it means that the trade-off between asset quality and firm value is expected to be negative". Ales and Bosworth (1998) argues that loss of principal and interest, costs of recovery and the opportunity cost of time taken to recover defaulted loans weakens an entity's financial viability. Low firm value of an institution will affect the attraction of the institution to would be investors which may lead it to insolvency and eventual collapse (Amalendu & Sri, 2011).

1.1.4 Commercial Banks Listed at Nairobi Securities Exchange

According to CBK's directory, there are forty-two commercial banks in the country some of which are internationally based. The headquarters of these banks are in Nairobi and they serve both retail and corporate customers. The banks in the country perform the following function: creation of money, community savings, ensure smooth support of payment mechanisms, ensure smooth flow of international transactions, storage of valuable goods and provision of credit services. The Central Banks of Kenya which falls under Treasury docket, is accountable for the formulation and execution of monetary policy and foster of liquidity and proper operations of Kenyan commercial banks. This policy formulation and implementation also include financial performance and financial risk management of the commercial banks (CBK, 2015). Out of the 42 banks, 30 are owned by locals and 12 by foreigners while 11 are listed on the Nairobi Securities Exchange (CBK, 2017).

Asset quality on Kenyan banks has been fluctuating over years, majorly based on prevailing country economic conditions and inflation. Non-performing loans in Kenya were highest in year 2003 standing at 34.9% of total loans and lowest in 2011 standing at 4.43%. From 2011 to 2017, the number has been going up by a marginal percentage of around 8% p.a. (The World Bank report, December 2017).

On 29th July 2016, the national assembly of Kenya passed a bill to cap interest rates in the country to a maximum of 4% above the Central bank rate (CBR). The president of the Republic of Kenya assented to the bill in August 2016 and all Banks adhered to the bill from September 2016. This will see a significant decline in interest income for banks which is a major source of earning. This will therefore have effect on financial

performance and consequently on value of banks. However, it is expected to improve the quality of assets since the loans are affordable.

1.2 Research Problem

Low quality assets can reasonably be expected to enter default. “Once a loan is considered low quality, the lender has the right to attempt to recover the principle. Asset quality can be attributed to management efficiency in terms of evaluating borrowers and determination of quality/riskiness of loans extended”. All the losses arising from asset quality are summed up to the final financial performance of an entity. “Carrying low quality assets on the balance sheet place three distinct burdens on lenders. The non-payment of interest or principal reduces cash flow for the lender, which can disrupt budgets and decrease earnings. Loan loss provisions, which are set aside to cover potential losses, reduce the capital available to provide subsequent loans”. Once the actual losses from defaulted loans are determined, they are written off against earnings which consequently sum up in the final firm value (Umar & Sun, 2016).

In Kenya, the level of asset quality had been going up from an all-time low; year 2003 till 2011, but from then, they have been going down gently onwards. This has called for banks’ operations changes to reduce effects on value of firms. In 2015 for example, standard Chartered Kenya issued profit warning due to NPLs that totaled to Ksh14.69 billion, and actually reported a 39% decline in profits. National Bank of Kenya reported a 3 billion Loss in 2015 financial reports due to NPLs of Ksh11.76 billion; Chase Bank Kenya was put under receivership as a result of absurd lending to its directors and high provisions for the debts. Its bad debts had tripled in that year to Ksh11.87 billion. Bank of Africa reported Ksh1.02 billion losses in the same financial

year as its NPLs quadrupled to Ksh 9.7 billion. These are a sample of Kenyan banks that have seen their operations greatly affected by asset quality.

Research and studies have been done globally by various researchers and scholars including; Blanco and Gimeno (2010) for South African banks, Calice (2012) on Tunisian Banking sector, Kolapo (2012) for the Nigerian Banks, Asantey and Tengey (2014) for Ghana Banking industry, Cucinelli (2015) on Italian Banks, Umar and Sun (2016) on Chinese bank among others, all to determine the extent of asset quality effect on value of commercial banks. The major finding is that low quality assets negates the profitability of financial institutions and therefore affecting their value as well as having other far reaching implications

Locally, Nzoka (2015) conducted a research to try and form the effect of asset quality on banks' performance in Kenya. Mwendwa (2015) researched on commercial banks asset quality and the relationship with profitability in Kenya. Anjili (2014) examined the factors affecting management of asset and liability of commercial banks in Kenya related to financial performance. Kithinji (2011) did a study on credit risk management and profitability of commercial banks in Kenya. The study findings were that no relationship exists between profits, credit volumes and the nonperforming loans level. Macharia (2012) study the relationship between the level of nonperforming loans and the financial performance of the commercial banks in Kenya. From the foregoing, it is evident that although there are local studies done on asset quality, most of these studies have focused on the effect of asset quality on financial performance or profitability leaving a gap on the effect of asset quality on value of firms and that is the gap the current study leveraged on by answering the

research question; what is the effect of asset quality on value of commercial banks listed at the NSE?

1.3 Objective of the Study

To determine the effect of asset quality on value of commercial banks listed at the Nairobi Securities Exchange

1.4 Value of the Study

The study's findings are a source of future reference by researchers, students and scholars who seek to undertake correlated or similar studies. The study will also benefit researchers and scholars in the identification of other fields of research by citing related topics that require further studies and empirical studies to determine study gaps.

The findings are hoped to be of benefit to the various managers who are tasked with the management of listed banks and other commercial banks in Kenya as this study provides useful information and recommendations to assist them in making more informed management decisions leading to shareholders' wealth maximization. The study increases the pool of knowledge available to assist both existing and future firms to improve their returns and ensure sustainability.

To government and organizations such as the Central Bank of Kenya, in the formulation and implementation of policies and regulations governing monetary policies and asset quality to ensure a stable banking sector so as to promote economic growth and reduce its spiral effects on the economy. This will contribute to the advancement of monetary development and improvement the economy.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The chapter reviews theories that form the foundation of this study. In addition, previous empirical studies that have been carried before on this research topic and related areas are also discussed. The other sections of this chapter include determinants of firm value, conceptual framework showing the relationship between study variables and a literature review summary.

2.2 Theoretical Framework

This presents review of the relevant theories that explains the relationship between asset quality and value of firms. The theories that relate to this study are; the Stakeholder Theory, Adverse Selection and the Moral Hazard Theory.

2.2.1 The Stakeholder Theory

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

“In various industries, consumer trust and particularly high-tech services, and the specifically involved companies being able to maintain offering of such services in the future, can substantially contribute to company value. The value of these implicit claims is however highly sensitive to probable costs of financial distress and/or bankruptcy. This is because management practices on corporate risks can front the lowering of these expected costs, raising the company value (Klimczak, 2005). The stakeholder theory therefore provides a diversified insight into feasible rationale for risks management such as bad debt. The theory has however not been tested directly yet. A hypothesis investigating financial distress only provides indirect evidence (Judge, 2006). Stakeholder theory is relevant to the study as it highlights such effects as insider lending and directors’ fraudulent and absurd acquisition of loans. For example, the case of Chase bank Kenya 2016, where one director of the bank borrowed Ksh7.9 billion without security”.

2.2.2 Adverse Selection Theory

According to Pagano and Jappelli (1993), it is important for banks to share information as it minimizes adverse selection and improves the banks loans applicant’s data. The theory explains asymmetric information concept, showing how it is not easy to differentiate between borrowers who are creditworthy and those who are not (Richard 2011), which can lead to adverse selection and moral hazard issues. According to the theory, in a market setting, the person who has that possesses extra information on actual thing to be transacted; herein the lender, has a bigger hand for optimal negotiation for favourable terms in the transaction compared to the one with lesser information herein, the borrower (Auronen, 2003).

Therefore, one with less information concerning the e sameactual item in lieu of transaction is most likely to make either right or wrong decision pertaining to the transaction. Adverse selection has led to a lot of high in non-performing loans. (Bester, 1994; Bofondi and Gobbi, 2003). The theory is relevant to the study since it relates to how highly a firm can charge interest rates that are non-favourable to borrowers concealed as lending risk. This contributes to NPLs because of the burden of payment by clients.

2.2.3 Moral Hazard Theory

From economic definition, moral hazard occurs when a party involves itself in a risky undertaking with the knowledge that it is protected from the risk and that the other part will bear the cost. (Holmstrom, 2014). It is brought about by information asymmetry between the involved parties. On a lending perspective, the moral hazard problem implies that, unless there are imminent future consequences, a borrower has the spur to default credit applications. In financial markets/ banking sector, a risk exists of a chance that a borrower may engage in undesirable activities that are undesirable to a lender they increase his chances of defaulting on loans. This is so likely because, the borrower is aware his mistakes will be paid for by someone else (Down, 2012).

During a lending contract, lenders have do not have sufficient information to assess and believe the level of wealth which borrowers will have accumulated by the due date that the debt should be repaid, as opposed to the time of application. When the lenders have no ability to assess the level of wealth of the borrowers, it will be tempting for the latter to default on the borrowing. To reduce this, lenders cover the risk by increasing the rates, which in the final analysis causes the market break down

(Alary & Goller, 2001). In economics therefore, the incentive that a borrower has to act in a riskier and non-favourable way to the lender is described as moral hazard.

2.3 Determinants of Market Value

There are a number of determinants of value in companies. These factors usually cut across almost all the sectors in the economy. They include asset quality, company's liquidity position, management efficiency, financial leverage, firm size and macro-economic variables.

2.3.1 Asset Quality

Asset quality shows a bank's asset risk situation and financial strength. Asset quality forecasts the degree of credit risk and among the dynamics which affects the health status of a bank. The value of assets controlled by a specific bank relies on the amount of credit risk, and the assets quality controlled through the bank also relies on liability to particular risks, tendencies on NPLs, and the cost-effectiveness of the debtors to the bank (Athanasoglou et al., 2008). Preferably, this ratio ought to be at a minimum. If the lending books are vulnerable to risk in a smoothly operated bank, this would be reflected by advanced interest margins. On the other hand, if the ratio decreases it entails that the risk is not being appropriately recompensed by margins.

“The assets of a bank comprises of loans portfolio, current asset, fixed asset, and other investments. Asset quality in most cases improves with age and size of a bank (Athanasoglou et al., 2005). Loans are the major assets that generate income to banks. The quality of a loan portfolio therefore highly determines the value of a bank. Good quality Assets reduces losses relating to NPLs, considering the fact that, the highest risk facing banks is the losses arising from delinquent loans” (Dang, 2011).

2.3.2 Liquidity

Liquidity is defined as the degree in which an entity is able to honor the unpaid debts in the next twelve months through cash or cash equivalents for example assets that are short term can be quickly converted into cash. Liquidity results from the managers' ability to fulfill their commitments that fall due to policy holders as well as other creditors without having to increase profits from activities such as underwriting and investment and as well as their ability to liquidate financial assets (Adam & Buckle, 2003).

According to Liargovas and Skandalis (2008), liquid assets can be used by firms for purposes of financing their activities and investments in instances where the external finance is not forthcoming. Firms with higher liquidity are able to deal with unexpected or unforeseen contingencies as well as cope with its obligations that fall due when the levels of earnings are low. Almajali et al., (2012) noted that the liquidity of a firm may have significantly influence the insurance companies' performance; he therefore recommended the insurance companies to seek to increase their current assets while decreasing their current liabilities. However, Jovanic (1982) noted that an abundance of liquidity may at times result to more harm. He therefore concludes that liquidity has an ambiguous effect on the firms' value.

2.3.3 Management Efficiency

Management efficiency is a major internal factor that qualitatively measures and ascertains the financial performance of a firm. The ability of the management to efficiently utilize the resources of the firm, their ability to maximize revenue and their ability to reduce the cost of operation of the firm are some of the ways of assessing the management quality (Athanasoglou, Sophocles &Matthaois, 2009).

Management efficiency is a qualitative measure and determinant of financial performance and it can be assessed by looking at the quality of the staff, the effectiveness and efficiency of the internal controls, the discipline within the organization and the effectiveness of the management systems. The quality of the management has an influence on the level of operating expenses which affects the bottom line of a company hence management efficiency significantly influences the commercial banks' financial performance (Kusa & Ongore, 2013).

2.3.4 Capital Structure

Capital structure is also another important determinant of value of a firm. The ratio of debt and equity financing is termed as the capital structure. For the proper functioning of any enterprise, a substantial amount of resources is required. This can either be capital, land or labor needed for the financing of firms' activities. These resources can either be outsourced or generated within the firm. Both the firm's capital structure and the cost associated with a particular financing instrument greatly influence the firms' decision while choosing the source of finance (Su & Vo, 2010).

The sources of finance manifest themselves either in monetary or non-monetary forms. Excessive debt financing increases the chances of a firm going bankrupt although there are also some monitoring and tax benefits by a firm from debt financing (Su & Vo, 2010). The conflicts between the agency is also reduced through debt financing as it helps to reduce the firm's cash flow. A firm needs to generate an ideal capital structure which makes the best use of the firm's resources and thus increase the income of an organization since inadequate equity financing greatly increases the owners' control (Abu-Rub, 2012).

2.3.5 Firm Size

The level of economies of scale enjoyed by is determined by its firm size. A larger firm size is associated with lower average production scales and more efficiency in operational activities as a result of economies of scale. Thus means that higher return on asset is generated by large firms. Larger firms could however lead to the loss their control over operational and strategic activities by the management which leads to a decline in the firm's efficiency (Mule et al., 2015).

Large firms have greater market power and more diversified and are likely to undergo more organizational slack when business is at boom. The firm size or enterprise also determines the investments of cash flow to investment. In measuring the size of the firm size, the sum of the firm's employees, amount of property and volume of sales are the main elements that are usually measured (Salman & Yazdanfar, 2012).

2.3.6 Age of the Firm

According to Sorensen and Stuart (2000), company's age may have an effect on firms' value. They further noted that older firms may have organizational inertia which tends to make them inflexible which may result to their inability to appreciate the changes that occur in changing environment. However, Liargovas and Skandalis (2008), noted that older firms may have more skills because they have been in operation longer thus have more experience having enjoyed the benefits that come from learning and aren't easily prone to the liabilities that result from newness, therefore they tend to have performance that is superior as compared to newer firms.

According to Loderer and Waelchli (2009), the relationship that exists between the age of a company and profitability is positive. However, it has also been observed that a firm's performance may at times decline as companies grow older due to the fact

that old age may lead to knowledge, abilities and skills being obsolete thereby resulting to decay in organizations. According to Agarwal and Gort (2002), this may explain why some older companies are usually taken over.

2.3.7 Macro-economic Factors

A number of studies have been undertaken to determine the effect of macroeconomic factors on value of companies. The factors include but not limited to monetary aggregates, rate of interest, investment level in the economy, consumer price index, producer price index, GDP growth, inflation, financial depth and the degree of market efficiency. Kwon and Song (2011) carried out a research on mergers in the Korean market. He found out that the global financial crisis has a significant negative effect on the cumulative abnormal returns of the acquiring company when a merger announcement is made. He also stated that it may be possible that investors are more averse to large cash outflows during a period of crisis. Flannery and Protopapadakis (2002) pointed out that inflation and money supply are well documented as the two macro-economic factors that have a significant effect on firm value.

2.4 Empirical Review

Studies have been conducted both locally and internationally to support the relationship between asset quality and commercial banks performance but these most of these studies have not focused on firm value.

2.4.1 Global Studies

Khalid (2012) studied the effects of assets quality on profit potential of private banks found in India by use of Return on Asset as profitability index for the period 2006 – 2011. The research used various models of regression to analyze correlation between banks asset quality and operating performance. The research found out that a negative

relationship exists between banking operating performance after control of impacts on operating scale and bad asset ratio, idle fund ratio and traditional banking business concentration.

Sushil and Bivab (2013) did a study on the determinants of asset quality and their effect on financial performance commercial banks in Nepal. The results of the regression analysis conducted revealed that bank size, non-performing loans, capital adequacy, and liquidity premium paid by borrowers had negative and statistically significant effect on a bank's asset quality. Capital adequacy, bank size and gross domestic product were identified to have negative effect on financial performance, while, asset quality positively influenced financial performance.

Ferrouhi (2014) conducted a study on bank asset quality and financial performance with key focus on the Moroccan banking industry. The objective of the research was to examine the association between asset quality and performance of Moroccan banks. The research used panel data regression of 4 Moroccan banks between the time frame 2001 and 2012. The study findings indicated that Moroccan banks' performance is mainly determined by 7 determinants, among them was the asset quality. The study was well conducted with reference to the financial ratios that determine bank performance, such a study could be replicated in other African countries or developed nations to ascertain any similarities and/or differences.

Vighneswara (2015) examining the India's profitability through uses of data panel techniques (1997-2009) and bank asset quality determinants, found out priority sector credit was not enough to have an effect on non-performing. This was the opposite of general opinion and similar is the case with local branches stating aversion of rural credit is a false opinion. Performance of the whole banking sector rather than a

specific bank is tied to bad debts. Additionally, capital adequacy and investment activity have a significant effect on profitability of banks, unlike assets size which has no effect.

2.4.2 Local Studies

Maaka (2013) studied the relationship between assets quality and financial performance of Kenyan commercial banks. The study used correlation design in which data was collected from financial statements from 33 Kenyan banks over a five-year period (2008- 2012). Multiple regression analysis was used and the study's findings indicated that the commercial banks' profitability in Kenya is negatively influenced by increases in asset quality. The sample included 14 banks, which control a huge proportion of the Kenyan banking system, thus reliable and representative of the Kenyan banking sector.

Kibuchi (2015) aimed at establishing the association between the asset quality and financial performance of Kenyan commercial banks. The study used descriptive research design. In addition, the study was cross-sectional where data was collected only once between the time frame 2010 and 2014 and a causal study executed in a non-contrived setup without interference of any researcher. The effect relationship between the study variables was established using the multiple regression analysis. The study found that there was positive correlation coefficient between return on assets and customer deposits, cash balance and size of firm though a weak positive correlation between return on assets and liquidity gap existed. It was concluded from the study that asset quality affects the performance of a bank and its reputation as well and possibly eroding the depositors' confidence if credit is not advanced in time.

Majakusi (2016) tried to determine the effects of asset quality on the performance of commercial banks. He used a descriptive research design. The sample period was from 2010 to 2014. This study used secondary data that was obtained from the CBK. A regression model was used in data analysis. The findings are that there were fluctuations in financial performance while asset quality and capital adequacy registered a steady growth. This shows that banks manage their assets well to satisfy customers' demands for cash. Moreover, commercial banks have the ability to absorb reasonable operational and functional losses without risking the institutions' stability. Furthermore, the management of the commercial banks had the ability to meet the need for additional cash. The study found that financial performance and asset quality are positively correlated. This relationship is also statistically significant.

Nyongesa (2016) sought to determine the association between asset quality and Kenyan commercial banks' financial performance. The descriptive research design was employed for the study. The target population constituted all commercial banks that were in operation between the time frame January 2011 and 31st December, 2015. The data was analyzed using descriptive statistics, correlation and regression analysis as these are conventionally approved tools for descriptive research designs. The findings revealed that roughly 24.5% of the differences in return on assets of commercial banks over the duration of the study were accounted for by variation in their capital adequacy, management efficiency, liquidity risk and asset quality. The study concludes that asset quality has a significant influence on the financial performance of Kenyan commercial banks.

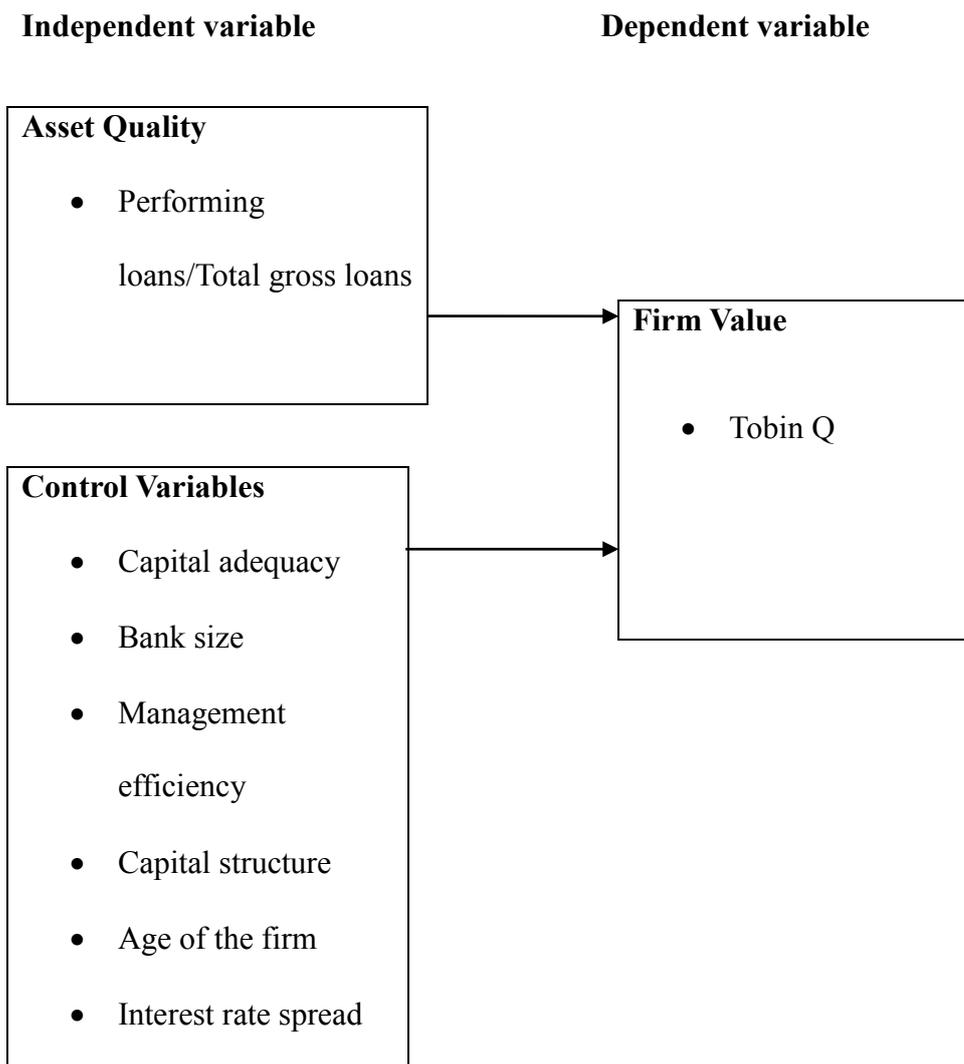
Otieno, Nyagol, and Onditi (2016) conducted an empirical study with an aim of analyzing the link between asset quality and financial performance of microfinance

banks (MFBs) in Kenya. Longitudinal research design using panel data between the time frame 2011 and 2015 was utilized. Target population comprised 12 licensed MFBs. The desired sample size of 6 MFBs for the study was derived using purposive sampling. Secondary data was retrieved from MFBs financial reports using document analysis guide. It was concluded from the study that a significant association between asset quality and performance and that asset quality positively influences MFBs' performance. The study was well executed as comprehensive data was incorporated in the study.

2.5 Conceptual Framework

The conceptual model developed below portrays this expected relationship between the study variables. The independent variable is quality of assets as measured by the ratio of performing loans to total loans. The control variables characterized here are bank size, capital adequacy, capital structure, management efficiency, age of the firm and interest rate spread. Value of the listed commercial banks at the NSE will be measured by Tobin Q.

Figure 2.1: Conceptual Model



Source: Researcher (2018)

2.6 Summary of the Literature Review

This chapter has focused on the theories that form the foundation for this study. The theories discussed here are namely; the Stakeholder Theory, Adverse Selection Theory and the Moral Hazard Theory. The chapter has also focused on some of the factors that are expected to determine firm value. There have been previous studies carried out either in this area and/or related areas and their findings have been discussed under empirical review. From the foregoing, it is evident that although there are local studies done on asset quality, most of these studies have focused on the

effect of asset quality on financial performance or profitability leaving a gap on the effect of asset quality on value of firms and that is the gap the current study will leverage on by answering the research question; what is the effect of asset quality on value of commercial banks listed at the NSE?

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

In order to determine the effect of asset quality on firm value, a research methodology is necessary to outline how the research was carried out. This chapter has four sections namely; research design, data collection, diagnostic tests and data analysis.

3.2 Research Design

A descriptive research design was used to investigate the effect of asset quality on value of listed commercial banks. Descriptive design was utilized as the researcher is interested in finding out the state of affairs as they exist (Khan, 2008). This research design is appropriate for the study as the researcher is familiar with the phenomenon under investigation but want to know more in terms of how the study variables relate. In addition, a descriptive research aims at providing a valid and accurate representation of the study variables and this helps in responding to the research question (Cooper & Schindler, 2008).

3.3 Population

According to Burns and Burns (2008), population refers to the characters of interest upon which the study seeks to draw deductions. The population of the study comprised of all the 11 commercial banks listed at the NSE from 1 January 2013 to 31 December 2017.

3.4 Data Collection

Data was exclusively collected from a secondary source. The secondary data was obtained from the banks financial reports and from the Capital Markets Authority as it

is a requirement for the listed commercial banks to submit their reports to the regulator. The data obtained covered five years on an annual basis from January 2013 to December 2017. The specific data collected was; gross loans, customer deposits, risk weighted assets, core capital, total assets, age of the firm, total debt, operating expenses, total revenue and performing loans.

3.5 Diagnostic Tests

The linearity test was obtained through the scatterplot testing or F-statistic in ANOVA. Stationarity test is a process where the statistical properties such as mean, variance and autocorrelation structure do not change with time. Stationarity was obtained from the run sequence plot. Normality is a test for the assumption that the residual of the response variable are normally distributed around the mean. This was determined by Shapiro-walk test or Kolmogorov-Smirnov test. Autocorrelation is the measurement of the similarity between a certain time series and a lagged value of the same time series over successive time intervals. It was tested using Durbin-Watson statistic (Khan, 2008).

Multicollinearity is said to occur when there is a nearly exact or exact linear relation among two or more of the independent variables. This was tested by the determinant of the correlation matrices, which varies from zero to one. Orthogonal independent variable is an indication that the determinant is one while it is zero if there is a complete linear dependence between them and as it approaches to zero then the multicollinearity becomes more intense. Variance Inflation Factors (VIF) and tolerance levels were also carried out to show the degree of multicollinearity (Burns & Burns, 2008).

3.6 Data Analysis

The data collected from the different sources was organized in a manner that can help address the research objective. Statistical software was utilized for data analysis purposes. Both descriptive and regression analyses were carried out. In descriptive statistics, the minimum, maximum, mean, standard deviation, skewness and kurtosis were computed for each variable. In inferential statistics, both regression and correlation analysis were carried out. Correlation analysis involved determining the extent of relationship between the study variables while regression analysis involved establishing the cause and effect between the independent and dependent variables. A multivariate regression analysis was employed to determine the association between the dependent variable (firm value) and independent variables: asset quality, capital adequacy, bank size, management efficiency, capital structure, age of the firm and interest rate spread.

3.6.1 Analytical Model

Using the collected data, the researcher conducted a regression analysis to establish the extent of the relationship between asset quality and firm value. The study applied the following regression model:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \varepsilon.$$

Where: Y = Firm value as measured by Tobin Q (Market value of equity/ Book value of equity)

β_0 = y intercept of the regression equation.

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7$ = are the slope of the regression

X_1 = Asset quality as measured by the ratio of performing loans to total gross loans

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

weighted assets

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

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

X_5 = Capital structure as measured by the ratio of total debt to total assets on an annual basis

X_6 = Age of the firm as measured by the number of years the bank has been in existence

X_7 = Interest rate spread as measured by the difference between lending rate and deposit rate on an annual basis

ε = error term

3.6.2 Tests of Significance

The researcher carried out parametric tests to establish the statistical significance of both the overall model and individual parameters. The F-test was used to determine the significance of the overall model and it was obtained from Analysis of Variance (ANOVA) while a t-test was used to establish statistical significance of individual variables.

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND INTERPRETATION

4.1 Introduction

The chapter focused on the analysis of data collected from the Central Bank of Kenya to establish the influence of asset quality on value of commercial banks listed at the NSE. Using descriptive statistics, correlation analysis and regression analysis, the results of the study were presented in table forms as shown in the following sections.

4.2 Response Rate

This study targeted all the 11 commercial banks listed at the NSE as at 31 December 2017. Data was obtained from 11 banks representing a response rate of 100%. From the respondents, the researcher was able to obtain secondary data on asset quality, bank size, capital structure, management efficiency, bank age, interest rate spread, capital adequacy and firm value of listed commercial banks at the NSE.

4.3 Diagnostic Tests

The researcher carried out diagnostic tests on the collected data. A test of Multicollinearity was undertaken to establish whether the predictor variables have a strong association with each other. Generally, variables should not be closely related as this would exaggerate the impact of predictor variables on the dependent variable. From the findings, all the variables had tolerance values higher than 0.2 and VIF values less than ten 10 implying that the predictor variables were not closely related.

Table 4.1: Multicollinearity Test for Tolerance and VIF

Variable	Collinearity Statistics	
	Tolerance	VIF
Asset quality	0.352	1.356
Capital adequacy	0.360	1.382
Interest rate spread	0.392	1.463
Capital structure	0.646	1.434
Bank age	0.398	1.982
Management efficiency	0.388	1.422
Bank size	0.376	1.398

Source: Research Findings (2018)

Shapiro-Walk test and Kolmogorov-Smirnov test was applied in testing for normality. The null hypothesis for the test was that the secondary data was not normal. If the p-value recorded was more than 0.05, the researcher would reject it. The results of the test are as shown in table 4.2. The findings revealed that all the variables were normally distributed.

Table 4.2: Normality Test

Value	Kolmogorov-Smirnov ^a			Shapiro-Walk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Asset quality	.178	55	.300	.881	55	.723
Capital adequacy	.173	55	.300	.918	55	.822
Interest rate spread	.176	55	.300	.892	55	.784
Capital structure	.173	55	.300	.918	55	.822
Capital adequacy	.175	55	.300	.874	55	.812
Management efficiency	.174	55	.300	.913	55	.789
Bank size	.176	55	.300	.892	55	.784
a. Lilliefors Significance Correction						

Source: Research Findings (2018)

Autocorrelation tests were run in order to check whether the error terms were serially related. Generally, data should be random and so there should be no patterns. A Durbin-Watson statistic of 1.762 indicated that the data was fit to be used in inferential statistics as it was within the acceptable range.

Table 4.3: Autocorrelation Test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.713 ^a	.508	.435	7.083506	1.762
a. Predictors: (Constant), Interest rate spread, Capital structure, Bank size, Management efficiency, Age of the firm, Capital adequacy, Asset quality					
b. Dependent Variable: Value					

Source: Research Findings (2018)

4.4 Descriptive Analysis

Descriptive statistics gives a presentation of the average, maximum and minimum values of variables applied together with their standard deviations in this study.

Table 4.4 shows the descriptive statistics for the variables applied in the study. An analysis of all the variables was obtained using SPSS software for the period of five years (2013 to 2017) for all the 11 banks quoted at the NSE that provided data for this study. The mean, standard deviation, minimum and maximum for all the variables selected for this study are as shown in the table below.

Table 4.4: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
VALUE	55	1.000	36.637	5.82036	9.425191
Asset quality	55	.202	.737	.38884	.123539
Capital adequacy	55	.078	.888	.48729	.235217
Bank size	55	7.000	8.703	8.19255	.363505
Management efficiency	55	.911	11.648	3.15140	2.273517
Age of the firm	55	1.386	4.394	3.41556	.891870
Capital structure	55	.116	.765	.49382	.194254
Interest rate spread	55	5.580	12.170	10.25764	1.624558
Valid N (listwise)	55				

Source: Research Findings (2018)

4.5 Correlation Analysis

The association between any two variables used in the study is established using correlation analysis. This relationship ranges between (-) strong negative correlation and (+) perfect positive correlation. Pearson correlation was employed to analyze the level of association between the listed commercial banks' value and the independent variables for this study (asset quality, capital adequacy, interest rate spread, capital structure, management efficiency, bank size and bank age).

The study found out that asset quality has a negative and statistically insignificant correlation with value of quoted commercial banks as shown by a p-value greater than 0.05. Capital adequacy, capital structure, age of the firm and bank size have a positive but statistically insignificant correlation with the commercial banks' value as shown by ($r = .029$, $p = .835$; $r = .110$, $p = .424$; $r = .176$, $p = .198$; $r = .133$, $p = .334$) respectively. The study also found out that a positive and significant correlation exists between management efficiency and interest rate spread with value as evidenced by ($r = .463$, $p = .000$), and ($r = .494$, $p = .000$) respectively.

Table 4.5: Correlation Analysis

		VALUE	Asset quality	Capital adequacy	Bank size	Management efficiency	Age of the firm	Capital structure	Interest rate spread
VALUE	Pearson Correlation	1							
	Sig. (2-tailed)								
Asset quality	Pearson Correlation	-.132	1						
	Sig. (2-tailed)	.337							
Capital adequacy	Pearson Correlation	.029	-.248	1					
	Sig. (2-tailed)	.835	.068						
Bank size	Pearson Correlation	.133	-.220	.078	1				
	Sig. (2-tailed)	.334	.107	.570					
Management efficiency	Pearson Correlation	.463**	-.205	-.119	.060	1			
	Sig. (2-tailed)	.000	.133	.385	.663				

Age of the firm	Pearson Correlation	.176	.194	.206	.138	-.061	1		
	Sig. (2-tailed)	.198	.157	.131	.314	.656			
Capital structure	Pearson Correlation	.110	-.439**	.308*	-.027	.281*	-.264	1	
	Sig. (2-tailed)	.424	.001	.022	.843	.037	.052		
Interest rate spread	Pearson Correlation	.494**	-.037	-.202	-.261	-.233	-.271*	.012	1
	Sig. (2-tailed)	.000	.788	.140	.054	.086	.046	.931	
**. Correlation is significant at the 0.01 level (2-tailed).									
*. Correlation is significant at the 0.05 level (2-tailed).									
c. Listwise N=55									

Source: Research Findings (2018)

4.6 Regression Analysis

Value was regressed against the seven predictor variables; asset quality, capital adequacy, interest rate spread, capital structure, management efficiency, bank size and bank age. The regression analysis was executed at a significance level of 5%. The critical value obtained from the F – table was measured against the one acquired from the regression analysis.

The study obtained the model summary statistics as shown in table 4.6 below.

Table 4.6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.713 ^a	.508	.435	7.083506	1.762
a. Predictors: (Constant), Interest rate spread, Capital structure, Bank size, Management efficiency, Age of the firm, Capital adequacy, Asset quality					
b. Dependent Variable: Value					

Source: Research Findings (2018)

Based on the outcome in table 4.6 above, the value of R square was 0.508, a discovery that 50.8percent of the deviations in quoted banks’ value is caused by changes in asset quality, capital adequacy, interest rate spread, capital structure, management efficiency, bank size and bank age. Other variables not included in the model justify for 49.2 percent of the variations in value of the Kenyan commercial banks. Also, the results revealed that there exists a strong relationship among the

selected independent variables and the value as shown by the correlation coefficient (R) equal to 0.713.

Table 4.7: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2438.774	7	348.396	6.943	.000 ^b
	Residual	2358.275	47	50.176		
	Total	4797.048	54			
a. Dependent Variable: Value						
b. Predictors: (Constant), Interest rate spread, Capital structure, Bank size, Management efficiency, Age of the firm, Capital adequacy, Asset quality						

Source: Research Findings (2018)

The significance value of 0.000 was less than 0.05 which implies that the overall model can be used to predict how asset quality, capital adequacy, interest rate spread, capital structure, management efficiency, bank size and bank age affects the Kenyan commercial banks' value.

Coefficients of determination were used as indicators of the direction of the association between the independent variables and the commercial banks' value. The p-value under sig. column was used as an indicator of the significance of the association between the dependent and the independent variables. At 95% confidence level, a p-value of less than 0.05 was interpreted as a measure of statistical significance. As such, a p-value above 0.05 indicates that the dependent variables

have a statistically insignificant association with the independent variables. The results are indicated in table 4.5.

Table 4.8: Model Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	108.564	28.531		3.805	.000
	Age of the firm	2.040	1.229	.193	1.660	.103
	Capital adequacy	6.910	4.904	.172	1.409	.165
	Asset quality	-17.963	9.364	-.235	-1.918	.061
	Bank size	9.004	2.876	.347	3.131	.003
	Management efficiency	1.255	.484	.303	2.593	.013
	Capital structure	1.074	6.224	.022	.173	.864
	Interest rate spread	2.933	.677	.505	4.332	.000
a. Dependent Variable: Value						

Source: Research Findings (2018)

From the above results, it is evident that bank size, management efficiency and interest rate spread produced positive and statistically significant values for this study (high t-values, $p < 0.05$). Asset quality produced negative and statistically insignificant values for this study while capital adequacy, age of the firm and capital structure

produced positive but statistically insignificant values for this study as shown by p values above 0.05.

The following regression equation was estimated:

$$Y = 108.564 + 9.004X_1 + 1.255X_2 + 2.933X_3$$

Where,

Y = Value

X₁ = Bank size

X₂ = Management efficiency

X₃ = Interest rate spread

On the estimated regression model above, the constant = 108.564 shows that if selected dependent variables (asset quality, capital adequacy, interest rate spread, capital structure, management efficiency, bank size and bank age) were rated zero, the commercial banks' value would be 108.564. A unit increase in management efficiency, bank size or interest rate spread will result in an increase in value as indicated by 1.255, 9.004 and 2.933 respectively while a unit rise in asset quality, capital adequacy, capital structure and age of the firm would not have a significant influence on firm value.

4.7 Discussion of Research Findings

The researcher sought to establish the association between asset quality and value of the Kenyan commercial banks listed at the NSE. Asset quality in this study was the dependent variable and was measured by the ratio of performing loans to total loans and advances. The control variables were capital adequacy, bank size, management efficiency, capital structure, age of the bank and interest rate spread. Value of the firm

was the dependent variable which the study sought to explain and it was measured by the ratio of market value of equity to book value of equity.

The Pearson correlation coefficients between the variables revealed that asset quality has a negative and statistically insignificant correlation with value of banks quoted at the NSE. Capital adequacy, bank size, age of the banks and capital structure were found to have a positive but statistically insignificant correlation with the commercial banks' value. The study also found out that a positive and significant correlation exists between management efficiency and interest rate spread with value of commercial banks in Kenya.

The model summary revealed that the independent variables; asset quality, capital adequacy, interest rate spread, capital structure, management efficiency, bank size and bank age explains 50.8% of changes in the dependent variable as depicted by R^2 value meaning this model doesn't include other factors that account for 49.2% of changes in the commercial banks' value. The model is fit at 95% level of confidence since the F-value is 6.943. This shows that the overall multiple regression model is statistically significant and is an adequate model for predicting and explaining the influence of the chosen independent variables on the Kenyan commercial banks' value.

The outcomes concur with Maaka (2013) who studied the relationship between assets quality and financial performance of Kenyan commercial banks. The study used correlation design in which data was collected from financial statements from 33 Kenyan banks over a five-year period (2008- 2012). Multiple regression analysis was used and the study's findings indicated that the commercial banks' profitability in Kenya is negatively influenced by increases in asset quality. The sample included 14

banks, which control a huge proportion of the Kenyan banking system, thus reliable and representative of the Kenyan banking sector.

The findings differ with Majakusi (2016) who tried to determine the effects of asset quality on the performance of commercial banks. He used a descriptive research design. The sample period was from 2010 to 2014. This study used secondary data that was obtained from the CBK. A regression model was used in data analysis. The findings were that there were fluctuations in financial performance while asset quality and capital adequacy registered a steady growth. This shows that banks manage their assets well to satisfy customers' demands for cash. Moreover, commercial banks have the ability to absorb reasonable operational and functional losses without risking the institutions' stability. Furthermore, the management of the commercial banks had the ability to meet the need for additional cash. The study found that financial performance and asset quality are positively correlated. This relationship is also statistically significant.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter shows the summary of research findings, the conclusions made from the results, and the recommendations for policy and practice to achieve the expected value of quoted commercial banks at the NSE. Major limitations encountered are also discussed in the chapter and suggestions for future researchers.

5.2 Summary of Findings

The researcher was seeking to establish the impact of asset quality on the Kenyan quoted bank's value. The independent variables for the study were asset quality, capital adequacy, interest rate spread, capital structure, management efficiency, bank size and bank age. A descriptive cross-sectional research design was employed in the study. Secondary data was obtained from CBK. The study used annual data for 11 commercial banks covering a period of five years from January 2013 to December 2017.

Based on the results of correlation analysis, asset quality was found to have a negative and statistically insignificant correlation with value of banks quoted at the NSE. Capital adequacy, bank size, age of the banks and capital structure were found to have a positive but statistically insignificant correlation with the commercial banks' value. The study also found out that a positive and significant correlation exists between management efficiency, bank size and interest rate spread with value of commercial banks in Kenya.

The co-efficient of determination R-square value was 0.508 which means that about 50.8percent of the variation in value of the Kenyan commercial banks can be elaborated by the seven selected independent variables while 49.2 percent in the variation of value was associated with other factors not covered in this research. The study also found a strong correlation between the independent variables and the commercial banks' value ($R=0.713$). ANOVA results indicate that the F statistic was at 5% significance level with a $p=0.000$. Therefore the model was fit in explaining the association between the selected variables.

The coefficient of determination shows that when all the predictor variables have zero value, the value of commercial banks will be 108.564. A unit increase in management efficiency, bank size or interest rate spread will result in an increase in value as indicated by 1.255, 9.004 and 2.933 respectively while a unit rise in asset quality, capital adequacy, capital structure and age of the firm would not have a significant influence on firm value.

5.3 Conclusion

It can be concluded from the findings that the Kenyan commercial banks' value is significantly affected by interest rate spread, management efficiency and bank size. The study therefore concludes that a unit increase in these variables causes a significant increase in value of commercial banks. It was also established that asset quality, capital adequacy, age of the firm and capital structure are statistically insignificant determinants of value and therefore this study concludes that these variables do not influence to a large extent the Kenyan commercial bank's value.

This study concludes that independent variables selected for this study asset quality, capital adequacy, interest rate spread, capital structure, management efficiency, bank size and bank age influence to a large extent value of commercial banks in Kenya. Thus, a conclusion can sufficiently be made that these variables significantly influence value of commercial banks as reflected by the p value in ANOVA summary. Seven independent variables explain 50.8% of changes in value. This implies that the variables not included in the model explain 49.2% of changes in the value of listed banks.

The outcomes concur with Maaka (2013) who studied the relationship between assets quality and financial performance of Kenyan commercial banks. The study used correlation design in which data was collected from financial statements from 33 Kenyan banks over a five-year period (2008- 2012). Multiple regression analysis was used and the study's findings indicated that the commercial banks' profitability in Kenya is negatively influenced by increases in asset quality. The sample included 14 banks, which control a huge proportion of the Kenyan banking system, thus reliable and representative of the Kenyan banking sector.

5.4 Recommendations

The study found out that a positive relationship exists between value and size of a bank. This study recommends that banks' management and directors should aim at increasing their asset base by coming up with measures and policies aimed at enlarging the banks' assets as this will eventually have a direct influence on value of the bank. From the findings of this study, big banks in terms of asset base are

expected to have a higher value than small banks and therefore banks should strive to grow their asset base.

The study established that a positive relationship exists between value of a bank and management efficiency. This study recommends that policy makers and directors of commercial banks in Kenya should devise measures to check and improve management efficiency, as efficient managers are likely to increase the value of a bank which translates to increased shareholders wealth.

The study established that interest rate spread has a positive and notable influence on value of commercial banks. Thus the study wishes to make the following recommendations for policy change: Policy makers in the banking industry should come up with policies that will ensure the value of the banks is maximized without hurting the economy The Kenyan Government through the CBK should come up with policies that create a conducive environment for commercial banks to operate in since it will translate to economic growth of the country.

5.5 Limitations of the Study

This study covered a period of five years (from January 2013 to December 2017) on an annual basis. This period may not be enough to make generalization on the effect of asset quality on value of firms. A longer study period such as 30 or more years may be able to capture some economic aspects such as business cycles that might have been missed in this study.

Data quality is one of the study limitations. From this research, it is hard to conclude whether the results present the true facts about the situation. The data that has been used is only assumed to be accurate. There is also a great inconsistency in the

measures used depending on the prevailing conditions. Secondary data was employed in the study which was already existent as opposed to primary data which is raw information. The study also considered selected determinants of and not all the factors affecting value of commercial banks mainly due to limitation of data availability.

For data analysis purposes, the researcher applied a multiple linear regression model. Due to the shortcomings involved when using regression models such as erroneous and misleading results when the variable values change, the researcher cannot be able to generalize the findings with certainty. If more data is added to the functional regression model, the hypothesized relationship between two or more variables may not hold.

5.6 Suggestions for Further Research

This study focused on asset quality and value of listed commercial banks in Kenya and relied on secondary data. A research study where data collection depends on primary data covering all the 11 commercial banks listed at the NSE is recommended so as to compliment this research.

The study did not exhaust all the independent variables influencing value of commercial banks quoted at the NSE and a recommendation is given that further studies are carried out to incorporate other variables like liquidity, growth opportunities, industry practices, corporate governance, political stability and other macro-economic variables. Establishing the effect of each variable on value will enable policy makers know what tool to use when controlling the value.

The study concentrated on the last five years since it was the most recent data available. Future studies may use a range of many years e.g. from 2000 to date and

this can help confirm or disapprove this study's findings. The study limited itself by focusing on listed banks. The recommendations of this study are that further studies be carried out on other commercial banks in Kenya. Finally, due to regression models' limitations, other models such as the Vector Error Correction Model (VECM) may be applied in explanation of the various relationships among variables.

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APPENDICES

Appendix I: Commercial Banks Listed at the NSE

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

Appendix II: Data Collection Form

Year	Total assets	Total debt	Core capital	Total expenses	Total revenue	Market value of equity	Book value of equity	Non-performing loans	Total loans