

**EFFECT OF CREDIT RISK ON THE FINANCIAL PERFORMANCE OF TIER ONE
COMMERCIAL BANKS IN KENYA**

BY

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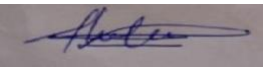
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DECLARATION

This research report is my original work and has not been presented in any other examination body.

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Contents

LIST OF TABLES	vi
LIST OF FIGURES.....	vii
LIST OF ABBREVIATIONS.....	viii
ABSTRACT.....	ix
CHAPTER ONE: INTRODUCTION	1
1.1 Background of the Study	1
1.1.1 Credit risk	1
1.1.2 Financial performance	2
1.1.3 Credit risk and financial performance	2
1.1.4 Context of study	3
1.2 Statement of the problem.....	3
1.3 Objective of Study.....	4
1.4 Value of Study	4
2.1 Introduction.....	6
2.2 Theoretical Review	6
2.2.1 Financial Distress Theory	6
2.2.2 Agency Theory.....	6
2.2.3 Information Asymmetry Theory.....	7
2.3 Determinants of Financial Performance	7
2.3.1 Asset Quality.....	7
2.3.2 Capital Adequacy	7
2.3.3 Liquidity	8
2.3.4 Interest rates.....	8
2.4 Empirical Studies	8
2.5 Conceptual Framework	10
2.6 Conceptual Model.....	10
CHAPTER THREE: RESEARCH METHODOLOGY	11
3.1 Research Design.....	11
3.2 Population of the study	11
3.3 Diagnostic test.....	11
3.4 Data Collection	11

3.5	Data Analysis.....	11
CHAPTER FOUR: DATA ANALYSIS.....		13
4.1	Introduction.....	13
4.2	Descriptive Analysis	13
4.3	Correlation Analysis.....	14
4.4	Regression Analysis	14
4.5	Fitting Regression Model	16
4.6	Discussion of Results	16
5.1	Introduction.....	18
5.2	Summary of the Findings.....	18
5.3	Conclusion.....	19
5.4	Recommendation	20
5.5	Limitations of the Study	20
5.6	Suggestion for further research.....	21
REFERENCE LIST.....		23
APPENDIX A.....		26
	Commercial Banks	26

LIST OF TABLES

Table 4:1: Descriptive Analysis	13
Table 4:2 Correlation Analysis	14
Table 4:3 Summary Output.....	14
Table 4:4 Model Significance	15
Table 4:5 Regression Coefficients.....	15

LIST OF FIGURES

Figure 1: Independent and Dependent Variables 10

LIST OF ABBREVIATIONS

CAR - Capital Adequacy Ratio

ROA - Return on Assets

ROE - Return on Equity

NPL- Non-Performing Loans

LQR - Liquidity Ratio

AQ - Asset Quality

ABSTRACT

The aim of the research was to determine the effect of credit risk on financial performance of Tier 1 commercial banks in Kenya. Effect of credit risk on Return on asset (ROA) was studied. The study examined determinants of financial performance like asset quality, capital adequacy, liquidity and interest rates. A descriptive research design was adopted on a population of eight banks. Accordingly, the data used was secondary data and was obtained from financial statements. These statements were derived from the websites of the banks between the years 2014-2019. Descriptive analysis, correlation analysis and regression analysis were carried out to determine relationship between variables. Asset quality had a negative correlation with ROA. Capital adequacy ratio (CAR) had a negative relationship with ROA. Liquidity ratio had a significant relationship with ROA. This study contributes to the knowledge by concluding that credit risk's effect on financial performance is minimal.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

There are various risks affecting commercial banks which are operational, market, liquidity, credit, reputational, business and systematic risk. Credit risk is a key risk that affects Kenyan commercial banks. Kenyan banks face this credit risk since their key business is taking deposits and disbursing loans. Banks reallocate money from savers to borrowers in process called financial intermediation. The largest asset class for banks are loans (Ghosh, 2012). Loans are financed by customer deposits. Therefore, the risk of borrowers not repaying loans results to possibility of non-payment of deposits when required by customers.

Non-performing loans and the Net Income/Total assets are some of the variables that affect financial performance. The relationship present between financial performance and management of credit risk is significant. Proper management of risk should therefore result in improved financial performance of commercial banks (Kishori and Sheeba, 2017). The other factors which impact financial performance are capital adequacy, interest rates, quality of assets, loan to deposit ratio, cost of income and credit rating.

There are various theories informing this study. The financial distress theory is one such theory since it refers to a firm's inability to pay debt. It therefore means that a bank's ability to meet its obligation sufficiently is by itself a performance measure. The other theory informing this study is the information asymmetry theory. Market statistics are used in measuring value of goods by buyers. Hence, the buyer mostly perceives the entire market. The seller on the other hand possesses more detailed information. An asymmetry arises when the lender is not able to understand the credit rating of borrowers when providing loans. This might lead to loans becoming bad credit risks. The other theory informing this study is the agency theory. The agent might not work diligently for the interest of principal. Managers of bank entities make decisions which have an impact on credit risk as well as performance of entities.

1.1.1 Credit risk

This refers to the possibility of bank borrowers not to make required payments based on agreed terms. This risk arises since banks lend amounts to customers and they expect a gain from the

interest and principal repayments. The process of structure of the credit portfolio, credit portfolio concentration, credit monitoring and rationing and collateral determine credit risk (Gang, 2013).

Credit risk management for banks would involve understanding capital adequacy and reserves for loan loss at a given instance. It is important for banks to have knowledge of their customer's credit risk since loans are the largest asset class for banks. Therefore, the risk of borrowers not repaying would result to possibility of non-payment of customer deposits when demanded.

Better credit risk management presents an opportunity for improved financial performance.

Credit risk is measured using ratio of non-performing loans to total loans (Ruziqa, 2013).

1.1.2 Financial performance

This performance measures the capability of a company to generate revenues observed over a given time. It is important to both the internal and external stakeholders of a firm. Internally, it helps management establish weaknesses and strengths in order to attain objectives of the business. Externally, investors make buying or selling decisions based on analysis of how the company is performing financially. Financial performance is measured in qualitative and quantitative terms (Felix and Claudine, 2008).

Quantitatively, financial performance can be measured using ROE, ROA and Net interest margin (NIM). ROE measures how the company makes profit compared to its equity which is a result of dividing net income with the shareholders' equity. ROA is an indicator of profitability of a firm compared to total assets which is a result of dividing net income with the assets held by a firm. NIM is a result of subtracting the income from interest with the amount of interest paid out by banks to customers.

1.1.3 Credit risk and financial performance

Commercial banks usually keep an account for loan loss provision to take care of probability of non-repayment by customers. Therefore an addition of credit risk would increase the provision for loan loss. The provision is deducted against interest loan assets and net income which causes reduced profits and increases liability position of a bank. Financial performance is also affected

by interest rates, quality of assets, credit rating, capital adequacy, loan to deposit ratio and cost of income (Witzany, 2017).

According to Tang and Jiang (2003), both macro-economic and bank centric factors determine bank performance. Their study sampled four banks and established that rate of interest, inflation and growth in GDP, which are macro-economic variables impact bank performance significantly. Bank specific variable such as operational efficiency increases ROA. The study also found that bad debts affect bank performance in Hong Kong.

1.1.4 Context of study

The banking act was amended in September 2016 capping lending rate at four points above the Central Bank Rate. The floor on deposit rate was set at 70% of the CBR. The intention of this move was to increase regulation and increase financial inclusion by reducing the cost of borrowing. Smaller banks have been affected by this cap and have become targets for take over. The higher cost of term deposits and savings has negatively affected smaller banks. Bigger banks on the hand have shifted attention to non-funded income hence making riskier borrowers to go microfinance institutions. The microfinance institutions charge higher rates to shield against higher risks.

The Kenyan banking sector is composed of forty two commercial banks licensed to operate (Central bank of Kenya, 2019). These banks might face more effects from International Financial Reporting Standards (IFRS) 9. This is so because credit impairments are expected to increase. Capital adequacy affects financial performance.

1.2 Statement of the problem

Banking is a key driver of the Kenyan economic growth. Credit risk affects commercial banks in Kenya since they take deposits and disburse loans. Loans expose banks to larger risks compared to other operations. Kenyan commercial banks have been faced by challenges. The capping of interest rates and the increase in non-performing loans affected their financial performance. The cap was intended to reduce cost of borrowing but would not address credit risk. There was increased information asymmetry and credit information sharing through credit bureaus was not widespread.

There is a great need to manage credit risk because it's a major risk. It is crucial to understand how credit risk impacts bank performance since they are in the business of making risks. Banks should operate profitably for them to expand and grow (Alshehri, 2016). The conclusions of various researches give mixed trend on the manner in which credit risk relates to performance of commercial banks. Some found that credit risk positively affects financial performance while others found that credit risk negatively affects financial performance.

Onaolapo (2012) looked at relationship between credit risk and Nigeria's bank performance. The data was for a six year period from 2004-2009. During the study, negative relationship between efficiency of managing credit risk and profitability was hypothesized. The findings indicated that there is a dependency on operational efficiency other than deposit exposure on bank performance. The study analysed other measures of credit risk except asset quality. A research gap exists, despite the information gathered from the researches done. A study to investigate credit risk and how it relates to financial performance in Kenya is imperative. This study is necessitated by the increased non-performing loans in the banking sector.

1.3 Objective of Study

The objective of study was to investigate the effect of credit risk on the financial performance of Kenyan banks.

1.4 Value of Study

The research increased information available to commercial banks on credit risk. The Kenyan commercial banks that are aiming for expansion need information regarding managing credit risk in the midst of innovation in their services. The study will help to influence bank policies regarding credit risk management. The managers in particular will need this information to manage the exposure since loans are the largest asset class for banks. This will have an effect on shareholders wealth.

Additionally, the study is also important to investors. This is so because it will help establish if traditional measures like computation of ratios relate to bank performance. The study also helps investors determine whether alternative measures such as credit ratings have an effect on financial performance.

The study is of importance to government for policies and regulations. The government will be able to analyse the effect of its policies regarding lending by the Kenyan banks. The regulator which is CBK will be able to know whether they need to increase supervision and how it would affect banks licensed to operate in Kenya.

This study will also be beneficial to the area of finance since it avails more information to the researchers in the area of finance. It gives insights to financial researchers on the gaps that may exist in the determination of the relationship that is present between performance of banks and credit risk. Further studies in establishing this relationship may find this useful.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter explains theoretical literature review and empirical studies on financial performance and credit risk.

2.2 Theoretical Review

Theoretical review is explanation of the theories informing the relationship of the variables in the research. The theories explored include Financial Distress theory, Information Asymmetry and Agency theory.

2.2.1 Financial Distress Theory

Financial distress means a firm's inability to pay obligations or debts as and when they become due for payment. Baldwin and Scott (1983) stipulated that a company is said to be in financial distress if it fails to repay obligations it owes. The signs of financial distress include violation of debt payments. Firms enter into financial distress due to improper management of risk, poor profitability and strains from the economy. The company has to be liquid and have prudent measures to manage risks (Boritz, 1991). For commercial banks this would be manifested by the inability to meet withdrawal demands by depositors and disburse advances and loans to customers when needed. Credit risks can lead to financial distress in banks hence the need to effectively manage this credit risk.

2.2.2 Agency Theory

Agency relationship was described by Jensen and Meckling (1976) as a contractual relationship where one party engages the other to act and do a certain task. Therefore, the principal delegates the agent to engage in making decisions for principal. The agent sometimes does not act in the best interest of the principle. Monitoring costs are incurred by the principal in order to motivate the agent. Also, the principal has to give incentives to the agent in order to motivate him. Agency theory applies in this study because managers are given mandate in making decisions on credit risk management which affects profits of the

company. Moreover, the agency costs have an effect on profitability as well as financial performance.

2.2.3 Information Asymmetry Theory

This theory was explored by George A Akerlof, stating that sellers possess more knowledge about the quality of products compared to the buyers. Buyers cannot easily observe quality goods since they use statistics of the market. Hence, the seller may have incentive to give fewer goods as compared to quality since they have more information. This asymmetry comes about in the market since borrowers know better the facts relating to their investments than lenders. The lender may not be in a position to understand credit risk of borrowers when providing loans (Auronen, 2003). The Information asymmetry theory applies to this study since adverse selection may increase non-performing loans and eventually increase credit risk.

2.3 Determinants of Financial Performance

2.3.1 Asset Quality

Credit risk refers to extent of fluctuations that occur in value of debt instruments caused by alterations in credit quality of borrowers (Chen and Pan, 2012). Commercial banks cushion against probability of default by customers by having a loan loss provision account. Hence, the more the credit risks the more the provision for loan loss which is deducted against loan assets and interest income. This means reduced profits and increases liability position of a bank. When NPLs increase relative to the total assets, this affects the financial performance.

2.3.2 Capital Adequacy

Commercial banks' capital adequacy is important since it determines financial performance and losses. Commercial banks engage in high risk activity of giving loans therefore they need to maintain good capital levels. According to Manole and Grigorian (2002), capital adequacy ratios determine the ability to generate revenues which impact financial performance of commercial banks. Furthermore enough liquidity prevents financial crisis in the event of massive

withdrawals by depositors. An increase in capital makes commercial banks to minimize position of their liquidity hence lowering exposure to credit risk.

2.3.3 Liquidity

Commercial banks should keep quality and liquid assets. This makes it possible to achieve requirements of the company by changing assets to cash. This is important in making sure firms meet its need for a under a serious case of liquidity stress. Basel committee on banking supervision (2008) explains that commercial banks should also finance with the smallest quantity of company's stable liabilities. The profile of liquidity risk should also be taken into consideration. Therefore, the natural logarithm of total assets has an effect on credit risk and financial performance.

2.3.4 Interest rates

This refers to percentage of the principal that the customers pay for the funds commercial banks lend them. The borrower lender relationship in the Kenyan banking system can be looked at from two dimensions. The CBK plays the role of lender to commercial banks and commercial banks also act as the lender to customers. The Central bank sets the base lending rate for commercial banks. The interest rate spread affects the financial commercial banks' financial performance (Brown and Manassee, 2002).

2.4 Empirical Studies

Kithinji (2010) looked at Kenyan banks performance from 2004-2008 and how credit risk impacts the performance. The ratio of loans to total assets was analysed. The ratio of NPLs to total loans on return to total asset was also analysed. The study established that majority of the bank profits are not influenced by the quantity of NPL. Other variables that could impact performance need to be considered. Also, a longer period to observe the banks performances need to be considered during the study. This study included liquidity and market risk and their effect on performance.

Opondo (2014) looked at the impact credit risk has on bank performance in Kenya's banking sector. The study showed how higher credit risk management resulted to improved bank performance. The variable that was considered in measuring financial performance was ROA.A

descriptive research design and regression analysis were adopted for this study. The study covered the years 2008-2013 and credit risk was analysed with the variability of loans to deposits ratio. It was recommended that Kenyan commercial banks share information on borrowers to reduce credit risks.

Muriithi (2016) examined how financial risk relates to commercial banks performance. The study looked at credit risk as one of the financial risks and also market and liquidity risks. The study established a significant negative manifested by an F test and OLS model. The study looked at all the forty three banks operating in Kenya. Furthermore, the study established that bank managers sometimes have a tough choice deciding on either bank financial performance or financial risk.

Muasya (2013) examined processes pertaining to credit risk management and losses. During the research, it was evident that majority of commercial banks in Kenya did not have systems for informing them on credit risk. Therefore, an inverse relationship existed between losses on loans and management of credit risk. The research adopted a descriptive research design in determining the correlation between loan portfolio losses and credit risk management. The studies recommend that commercial banks in Kenya should consider provisioning for certain practices linked to managing credit risk.

Kargi (2011) examined how credit risk affects profits of banks in Nigeria. Financial statements were used to obtain from financial ratios of selected banks between 2004 and 2008. The study used descriptive design. In addition, correlation and also regression were used. This study concluded that banks that manage credit risk better end up with better performance financially. The study determined that profitability is conversely affected by loan levels, NPL as well as deposits therefore exposing banks to high risk of distress and illiquidity.

Poudel (2012) examined some parameters allied to management of credit risk and how this affects Nepalese banks financial performance. Capital adequacy ratio was considered in this study. The default rate of loans was also examined. Additionally, the cost per loan assets was analysed. Correlation analysis was used to analyse the data. Regression analysis was also adopted in the study. The research showed that the variables selected inversely affect performance of commercial banks. The t test observation showed a significant negative

relationship between ROE and loan default rate. It also showed a significant negative correlation between ROE and capital adequacy ratio.

2.5 Conceptual Framework

There are many studies that have been explored in determining bank's financial performance correlates to credit risk globally. The researchers aimed to find out relationship between ROA and credit risk measures. The measures of credit risk include NPL and loans to deposits ratio. These studies focussed on financial indicators and were carried out in markets where interest rates were influenced by forces of demand and supply. Still, a research gap exists in establishing how great bank financial performance is affected by credit risk in Kenya. More so, how interest rate cap affects credit risk during the period under review should be evaluated.

2.6 Conceptual Model

The dependent variable in this study is financial performance and credit risk is the independent variable. Independent variable was the ratio of NPL to the total loans. The dependent variable was the ROA. The two control variables were liquidity ratio and capital adequacy ratio.

INDEPENDENT VARIABLE

DEPENDENT VARIABLE

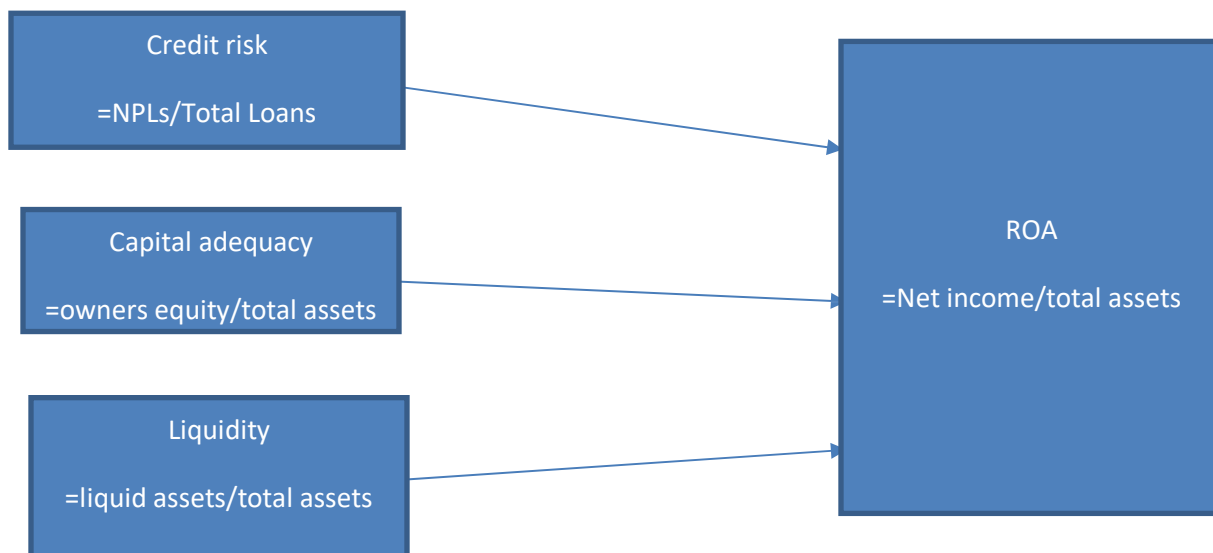


Figure 1: Independent and Dependent Variables

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Research Design

The research adopted a descriptive research design of the commercial banks in Kenya. A descriptive research design involves collecting data, organising and tabulating to depict certain output.

3.2 Population of the study

The study looked at the 8 Tier 1 commercial banks operating in Kenya between 2014 and 2019. The number of commercial banks is 42 (Central bank of Kenya, 2019). Hence, the 42 commercial banks was the population of the study.

3.3 Diagnostic test

Normality test was applied as a diagnostic test. Diagnostic test help to find out whether the error term follows the normal distribution. Furthermore, hypothesis testing presumes that the model is adequate and does not violate assumptions of classical normal linear regression model.

3.4 Data Collection

Secondary data availed from financials of Kenya Tier 1 banks was used. The data was quantitative. The data extracted included total assets, net income, NPL, total loans, owners' equity and liquid assets.

3.5 Data Analysis

Excel spread sheets were used to analyse the data. A descriptive analysis was carried out on the variables. Correlation was used to correlate the variables. Regression was eventually so as to show the relationship. The model used was;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + E$$

Where;

Y=Financial Performance (ROA)

β_0 = Constant term

X1= Asset quality of bank

X2= Capital adequacy of bank

X3= Liquidity

Return on asset was used to determine financial performance. ROA is net income to total assets ratio. Asset quality is achieved by getting NPL to total loans ratio. Capital adequacy ratio refers to banks capital to risk ratio. Liquidity is the ratio of liquid assets to total assets. The liquidity and capital adequacy ratio are looked at in comparison to guidelines of CBK.

CHAPTER FOUR: DATA ANALYSIS

4.1 Introduction

The chapter looks at analysis of data and interpretation of credit risk affects financial performance by analyzing the 8 tier one banks operating from 2014 to 2019. There was one hundred percent response rate since all the data was obtained.

4.2 Descriptive Analysis

This research was carried out to establish how financial performance is affected by credit risk in the 8 tier one commercial banks. ROA measured financial performance. The ratio of NPL to total loans was used to measure credit risk. The liquidity and capital adequacy ratio were used as the two control variables. Table 4.0 below shows the ratio descriptive statistics.

Table 0:1: Descriptive Analysis

ROA		AQ		LDR		CAR	
Mean	2.89	Mean	3.65	Mean	44.20	Mean	16.16
Std. D	0.78	Std. D	1.70	St. D	11.47	Std. D	1.49
Min	1.30	Min	1.20	Min	14.10	Min	13.30
Max	5.20	Max	8.00	Max	66.60	Max	19.50

Source: Researcher, 2021

The minimum and maximum value for ROA was 1.3 and 5.2 percent respectively. The mean for ROA was 2.89 and standard deviation was 0.78. The mean for asset quality was 3.65 and standard deviation was 1.70. The minimum and maximum value for asset quality was 1.2 and 8 respectively. The mean for liquidity was 44.20 and standard deviation was 11.47. The minimum and maximum values for liquidity were 14.1 and 66.6 respectively. The mean for capital adequacy was 16.16 and standard deviation was 1.49. The minimum and maximum values for capital adequacy ratio were 13.3 and 19.5 respectively.

4.3 Correlation Analysis

Table 0:2 Correlation Analysis

	<i>ROA</i>	<i>ASSET QUALITY</i>	<i>LIQUIDITY</i>	<i>CAPITAL ADEQUACY</i>
ROA	1			
ASSET QUALITY	- 0.07658	1.00000		
LIQUIDITY	- 0.33575	0.41193	1.00000	
CAPITAL ADEQUACY	- 0.03155	0.12389	- 0.02364	1.00000

Source: Researcher, 2021

This was carried out so that the relationship between independent variables and dependent variable can be determined. ROA was the dependent variable while the independent variables were asset quality, capital adequacy and liquidity. Asset quality was measured by ratio of NPL to total loans. Capital adequacy was the bank's capital to risk ratio. Liquidity was the liquid assets to total assets ratio. The correlation between asset quality and ROA is -0.076. The correlation between liquidity and ROA is -0.335. The correlation between capital adequacy and ROA is -0.031.

4.4 Regression Analysis

This was performed in order to establish the relationship between the dependent variable and independent variables. The dependent variable was ROA while asset quality, liquidity and capital adequacy were the independent variables.

Table 0:3 Summary Output

<i>Regression Statistics</i>	
Multiple R	0.346145
R Square	0.119816
Adjusted R Square	0.059804
Standard Error	0.761033
Observations	<u>48</u>

Source: Researcher, 2021

The table above shows regression statistics. The R square was 0.12. This can be interpreted that the independent variables explained 12% of the variation in ROA. 88% is explained by other factors.

Table 0:4 Model Significance

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	3	3.468978	1.156326	1.996519511	0.128370642
Residual	44	25.48352	0.579171		
Total	47	28.9525			

Source: Researcher, 2021

The above table shows variance analysis which depicts the overall significance of the model. The results show that at 88% confidence interval the model as a whole is okay. At 0.13, F critical value for $F_{3,44}$ is 1.98 which is lower than the calculated F statistic of 1.996 thus reject the null hypothesis that all coefficients are equal to zero.

Table 0:5 Regression Coefficients

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	4.300533	1.297376	3.314793	0.001842836
ASSET QUALITY	0.038086	0.072464	0.525586	0.601814771
LIQUIDITY	-0.02537	0.010655	-2.38153	0.021632351
CAPITAL ADEQUACY	-0.02663	0.075363	-0.35337	0.725499974

Source: Researcher, 2021

From the table above the intercept had a positive coefficient of 4.301 which was significant at 95% confidence level given the p value of 0.001. There is 99% confidence that the intercept correctly explains ROA. Asset quality had a positive coefficient of 0.038 which was not significant at 95% confidence level given the p value of 0.601. There is 40% confidence that the intercept correctly explains ROA. Liquidity had negative coefficient of -0.025 which was significant at 95% confidence level given the p value of 0.021. There is 98% confidence that the intercept correctly explains ROA. Capital adequacy had a negative coefficient of -0.026 which was not significant at 95% confidence level given the p value of 0.725. There is 28% confidence that the intercept correctly explains ROA.

4.5 Fitting Regression Model

The model used was

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + E$$

Where;

Y=Financial Performance (ROA)

β_0 = Constant term

X1= Asset quality of bank

X2= Capital adequacy of bank

X3= Liquidity

Hence, the model became

$$ROA = 4.3 + 0.038X_1 - 0.026X_2 - 0.025X_3$$

4.6 Discussion of Results

Table 4.4 shows asset quality had a positive coefficient of 0.038 which was not significant at 95% confidence level given the p value of 0.601. Capital adequacy had a negative coefficient of -0.026 which was not significant at 95% confidence level given the p value of 0.725. Liquidity had negative coefficient of -0.025 which was significant at 95% confidence level given the p value of 0.021. This means that a decrease in liquidity by -0.025 increases financial performance by 1. Table 4.1 also showed that liquidity had a high negative correlation with ROA. This can be explained by the fact that banks need to maintain required liquidity thus foregoing dispensing cash hence negative correlation. Thus, liquidity can be used to explain return on asset.

The study showed that credit risk alone does not have a major impact on financial position. As discussed by Onaolapo (2012), banks have a dependency on operational efficiency other than exposure on deposits which are usually advanced as credit to customers. Asset quality which mainly contributes to credit risk is not the only factor that needs to be evaluated when measuring bank performance. The big banks as shown in this study have lower NPLs as compared to the net

income hence the impact appears to be minimal. These lower NPLs could also be due to the fact that big banks attract credit worthy customers due to their perceived stability thus reduced provisions for bad debts.

Capital adequacy in big banks is usually achieved due to their large size and portfolio. As shown in the study, these banks do not have a challenge with maintaining the recommended capital adequacy levels. Hence, the huge capital may play the part of buffering the banks in case of financial distress. Due to the riskiness of giving out loans, big banks need to cushion against exposure to these risks. Poudel (2012) when examining parameters linked to management of credit risk of Nepalese banks looked at the capital adequacy ratio. His study showed how banks struggle to maintain adequate capital adequacy ratio to prevent risk exposure.

The study showed that liquidity had a significant relationship with ROA as shown in the study. There is need for big banks to maintain sufficient liquidity levels to prevent distress for instance during panic withdrawals by customers. Kithinji (2010) when looking at the effect of credit risk on financial performance also included liquidity risk in the study. The ratio of NPLs to total loans and return on asset were analyzed. The studies showed that majority of profits of the bank were not influenced by NPL. Her study established that other variables needed to be considered that could impact performance and a longer period of study.

CHAPTER FIVE: CONCLUSION

5.1 Introduction

The chapter summarizes findings on the analysis of variables used in the study to investigate how credit risk affects financial performance of tier one commercial banks as at 31st December 2019. The variables used in the study were return on asset, non-performing loan to total loans ratio, Capital adequacy ratio and liquidity ratio.

5.2 Summary of the Findings

The objective of the research was to analyze how financial performance is affected by credit risk. ROA measured financial performance. Ratio of NPL to total loans was used to measure credit risk. Other ratios considered included liquidity and capital adequacy which affect credit risk. The correlation between asset quality and ROA was not significant. Asset quality is measured by ratio of NPL to total loans. In normal operations, non-performing loans are very low compared to net income thus the impact is very low. Big banks have good reputation with customers hence attract credit worthy clients. This enables them to have low bad debts hence less exposure to credit risk. The ROA is expressed as ratio of net interest income to the total assets. The asset quality ratio is achieved by ratio of NPI to total loans which represent the highest assets for banks. Thus for big banks the NPL will be smaller compared to the net interest income. As a result the effect of asset quality on credit risk for big banks is minimized.

The correlation between liquidity and ROA was significant. This can be explained by the fact that banks need to maintain required liquidity thus foregoing dispensing cash. The high liquidity levels maintained by big commercial banks enable them to cushion against financial distress. The banks bet on stable liquidity positions in order to be able to meet financial obligations when they become due for payment. The amount of liquid assets which can be easily converted into cash need to be great compared to the total assets of the banks as shown in the case with the big banks in Kenya. As established by Kithinji (2010), liquidity and market risk play a part in financial performance of banks.

The correlation between capital adequacy and ROA was not significant. This is due to the fact that for tier one banks, capital adequacy is not an issue. Capital adequacy in big banks is usually achieved due to their large size and portfolio. As shown in the study, these banks do not have a

challenge with maintaining the recommended capital adequacy levels. Hence, the huge capital may play the part of buffering the banks in case of financial distress. Due to the riskiness of giving out loans, big banks need to cushion against exposure to these risks. Poudel (2012) examined capital adequacy ratio of Nepalese banks and found that banks endeavor to maintain capital adequacy ratio to prevent credit risk exposure. The study had R square of 0.12. This meant that the independent variables explained 12% of the variation in ROA. 88% was explained by other factors.

5.3 Conclusion

The research aimed at determining how financial performance of tier one commercial banks in Kenya is affected by credit risk. The ratio of NPL to total loans was used to measure credit risk while other ratios such as capital adequacy and liquidity were considered. It can be concluded that liquidity can be used to explain ROA. Capital adequacy and Asset quality have a low effect on financial performance of tier one commercial banks.

Tier one banks are large in size and hence have larger assets compared to the smaller banks. Capital adequacy is not an issue in these large banks. Capital adequacy in big banks is usually achieved since they are large in size and have large portfolio. This study shows that these banks do not have a challenge with maintaining the recommended capital adequacy levels. The huge levels of capital may help to prevent losses to the banks.

The tier one banks always strives to maintain the required liquidity in order to maintain good financial performance. The liquidity in tier one banks can be used to explain return on asset. The stable liquidity positions maintained by big commercial banks enable them to cushion against financial distress. The stable liquidity positions enable these banks to meet financial obligations when they become due for payment. The amount of liquid assets which can be easily converted into cash should have a high ratio compared to the total assets of the banks as shown by the tier one banks in Kenya.

Asset quality was found to have a positive correlation with ROA though not significant. Asset quality was assessed by NPL to total loans ratio. Assets in this case were looked at from the perspective of the total loans. For tier one banks, the non-performing loans are low compared to

the net income hence impact of NPL to total loans ratio to the return on asset is very low. Due to the good reputation of big banks, they attract credit worthy clients. This enables them to have low bad debts hence less exposure to credit risk. The levels of NPLs are minimal compared to the net interest income thus the impact is not high as shown in the study.

5.4 Recommendation

The study has shown liquidity to significantly affect financial performance. Hence, customers, investors and other players can use liquidity to know whether their interests are safeguarded. Customers who are depositors should know liquidity position of their banks to be assured of the safety of their deposits. Banks that face financial distress might not be able to support withdrawals by customers and even end up in liquidation. This is more so in the case of panic withdrawals which leads to collapse of banks.

Investors on the other hand need to be assured of the safety of their investments. Investors expect a return on their investments. Banks with good liquidity ratios will have high yield for the investors as shown in this study. Thus investors should be able to determine their prospective earnings by observing the liquidity ratios of banks. Commercial banks should therefore put strict measures for ensuring that stable liquidity positions are maintained at all times. This is so as to safeguard the interest of all the stakeholders.

The study has established asset quality to have positive correlation with financial performance though not significant. In normal operations for tier one banks bad debts are very minute to affect financial performance. However, smaller banks may not be able to absorb the shock of bad debts due to their smaller size. This is because they might not have the capability to cushion against operational losses caused by bad debts due do minimal assets. Moreover their net incomes might be lower compared to the levels of NPL thus affecting performance. Hence, there is need to practice prudent lending practices in order to prevent financial distress.

5.5 Limitations of the Study

A period of five years was used in establishing how financial performance is affected by credit risk. More years of study period might have generated varied output. A longer duration would have shown a clearer trend of the variables that were used in the study. For example the growth of some banks from tier two to tier one over time would have shown how growth of liquidity levels affects performance. The changes in regulations over time and the effect on both credit

risk and financial performance would have also been studied. Furthermore, only 8 tier one commercial banks were used in the study.

Capital adequacy ratio as a variable is not an issue to tier one bank since they do not experience capital adequacy issues. This is due to their large size. Tier two and tier three banks might have had capital adequacy issues due to their smaller size compared to the big banks. The effect of the cushioning against losses by the smaller assets of these small banks would have been observed.

Asset quality was measured as NPL to total loans ratio. The total loans were used to represent assets. The ratio NPL to total assets might have generated varied output. Though total loans are the major assets of banks, the other types of assets might have an impact in determining the asset quality of banks. Since loans are exposed to credit risks due to the possibility of non-repayment, the other types of assets might come in handy to protect against adverse effect of losses as a result of bad debts.

5.6 Suggestion for further research

The study of effect of credit risk on financial performance was specific to commercial banks. Further research can be done on other financial institutions to validate what was found in this study. Commercial banks in particular the big banks have sufficient credit information sharing system. Other financial institutions such as micro finance lending institutions and savings and credit cooperative societies lack this information sharing system. Perhaps this has an impact on their performance.

Further research can also be done to determine whether liquidity majorly affects financial performance in smaller banks. Smaller banks have been under scrutiny by the regulator on meeting the required statutory liquidity ratio. They are continuously struggling to maintain liquid assets that can be easily converted into cash. Thus they are not able to meet their financial obligations. This could be the reason why they are unable to grow to tier one bank level.

Further research can be carried out on the gap between asset quality and financial performance. More study can be done to determine how non-performing loans affect financial performance especially for smaller banks. Since the levels of net income for smaller banks are not that much to meet NPL, they are faced with the challenge of combating credit losses. Further research can

be carried out to determine why smaller banks attract non-credit worthy customers leading to increased bad debts.

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APPENDIX A

Commercial Banks

1. KCB Bank Kenya Ltd	22. Ecobank Kenya Ltd
2. Equity Bank Kenya Ltd	23. Gulf African Bank Ltd
3. The Co-operative Bank of Kenya Ltd	24. First Community Bank Ltd
4. Standard Chartered Bank Kenya Ltd	25. African Banking Corporation Ltd
5. I & M Bank Ltd	26. UBA Kenya Bank Ltd
6. Absa Bank Kenya Plc	27. Paramount Bank Ltd
7. NCBA Bank Kenya PLC	28. Sidian Bank Ltd
8. Diamond Trust Bank Kenya Limited	29. M-Oriental Commercial Bank Ltd
9. Stanbic Bank Kenya Ltd	30. Middle East Bank (K) Ltd
10. Citibank N.A. Kenya	31. HFC Ltd
11. Bank of Baroda (Kenya) Limited	32. Transnational Bank Limited
12. Bank of India	33. Mayfair Bank Ltd
13. Prime Bank Ltd	34. Spire Bank Limited
14. Family Bank Ltd.	35. Consolidated Bank of Kenya Limited
15. SBM Bank Kenya Ltd	36. DIB Bank Kenya Ltd
16. Development Bank of Kenya Ltd	37. National Bank of Kenya Ltd
17. Victoria Commercial Bank Limited	38. Jamii Bora Bank Ltd
18. Guaranty Trust Bank Ltd	39. Bank of Africa (K) Ltd
19. Habib Bank AG Zurich	40. Imperial Bank Ltd**
20. Credit Bank Ltd	41. Chase Bank (K) Ltd**
21. Guardian Bank Limited	42. Charterhouse Bank Ltd*