The Reality of Credit Risk on Threat of Financial Performance of Tier IV Commercial Banks in Kenya

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Abstract

Purpose: Commercial banks in Kenya have put in place several credit policies and strategies to reduce non-performing loans. The capacity of a bank to grow its loan in the year is largely determined by its asset quality and efficiency. Regrettably, the measures put in place by many banks to improve asset quality and efficiency seem to bear little fruits particularly in tier IV commercial banks have been recording declining performance over the recent past. The aim of the study was to establish the influence of credit risk on financial performance of tier IV commercial banks in Kenya.

Methodology: The study was guided by scientific theory of management, Transaction cost theory and Contingency theory. This study employed longitudinal research design. The target population was 13 tier IV commercial banks in Kenya as at 2022 from Central bank of Kenya website. A secondary data collection sheet assisted in tabulating secondary data from audited financial statements which were downloaded from the Central Bank of Kenya website. Panel Data analysis technique was employed to establish the relationships through STATA.

Findings: Pearson's product moment correlation coefficient depicted $r = -0.4306$, p-value of 0.0000 which is significant for credit risk. The regression model had a p-value of 0.0000, indicating that it was significant and reliable. An R^2 of 0.3799 was produced by the random effect model indicating that financial imperative contributes 37.99% to financial performance of tier IV commercial banks. The regression coefficients were -0.13 with a p-value 0.004< 0.05), credit risk (CR) and financial performance (ROE) at 5% level of significance. These results indicate that credit risk had significant influence on financial performance.

Recommendation: It was recommended that commercial banks should properly manage credit risk; prompt recovery of loans is also recommended to reduce loan impairment charges.

Keywords: *Credit Risk, Financial Performance, Tier IV Commercial Banks.*

INTRODUCTION

Greater competition and efficiency in the banking system can lead to greater financial stability, product innovation and access of households and firms to financial services, which in turn affects economic growth. The importance of the banking sector motivates the concern that state-dominated monopolistic, inefficient and fragile banking systems in sub-Saharan Africa can be a major hindrance to development. The commercial banking sector if heavily regulated. The regulations affect market entry and exit, capital adequacy levels, reserve and liquidity requirements, deposit insurance and determination of interest rates on deposits and loans Credit risk is the single largest factor affecting the soundness of financial institutions and the financial system as a whole. This is informed by lending being the principal business for banks (CBK, 2021).

The regulatory overhaul implemented in the aftermath of the global financial crisis to counter the rapid deterioration of European banks' credit portfolio, and erosion of their capital base, motivated us to focus on capital and provisioning policies to shed light and clarify the implications that the new regulatory framework may have on bank risk and performance. The crisis caused indeed a significant deterioration in the credit portfolio of European banks with the NPLs' stock surging to 900 billion euros at the end of 2016 and the NPL ratio jumping from about 3% in 2005 to more than 7% in 2016 (Giulio, Josanco &Maurizio , 2021).

The prompt intervention of European supervisors helped containing the spread of the issue as the NPL ratio of EU financial institutions decreased to 3% in 2019 but the stock of NPLs still persisted at dangerous levels marking 600 billion euros in June 2019. In addition, the values of the NPL ratio vary heterogeneously across euro area members, from 0.9% of Luxembourg to 37.4% of Greece, therefore fueling the policy debate about non-performing exposures. Banks are expected to fully cover the new secured and unsecured non-performing exposures within seven and two years, respectively (Giulio, Josanco &Maurizio , 2021).

 In 2020, Credit growth remained trapped at single-digit levels unlike the double-digit levels recorded pre-2017. Across the bank sizes, loan growth declined among the tier 4 banks. Slowing economic growth, elevated credit risk-triggered risk aversion among lenders and subdued demand among borrowers are the key reasons underlying the slower credit growth. The capacity of a bank to grow its loan in the year was largely determined by its capital to asset ratio position, so that banks with higher capital ratios recorded higher loan growths relative to those with lower capital (Kenya Bankers Association, 2021) Financial Performance is a measure of the results of a firm's policies and operations in monetary terms. These results are reflected in the firm's return on investment, return on assets, shareholder value, accounting profitability and its components. It is the subjective measure of how well a firm can use assets from its primary mode of business and generate revenues and create value for its shareholders. Performance of a firm is affected by multiple factors. The internal factors that might affect the performance of a company are corporate governance practices of the company, ownership structure, and risk management of the firm, capital structure of the firm and firms characteristic and policies (Gaturo, 2018)

Commercial banks in Kenya have put in place several credit policies and strategies to reduce non-performing loans. Every bank is striving to make the best use of their resources to improve on efficiency, the firms' value and shareholders' wealth. This however is done amidst stiff

competition faced by the same banks thus customer satisfaction remains key to growth and sustainability (Deloitte, 2021). The capacity of a bank to grow its loan in the year is largely determined by its asset quality and efficiency. Regrettably, the measures put in place by many banks to improve asset quality and efficiency seem to have borne little fruits particularly in tier IV commercial banks have been recording declining performance over the recent past (CBK, 2021). As a result, several banks in the lower tier such as Chase Bank, Dubai Bank of Kenya and Imperial Bank have been put under receivership in a span of the past two years

2. LITERATURE REVIEW
2.1 Theoretical Literature Review
The theoretical framework of this study was guided by scientific theory of management, transaction cost theory and contingency theory.
2.1.1 Scientific Theory of Management
This theory was postulated by Taylor (1970). Taylor suggests that managers have the responsibility to ensure organizational efficiency by controlling the labor process. Managers can increase the efficiency and effectiveness of organizations through scientific Management principles to maximize worker incentive. This theory explains how organizations can be able to improve on efficiency through making use of the resources available including; employees, physical and financial resources in the best way possible to maximize return on investments and shareholders' wealth. It stresses the role of management in giving direction on how activities are carried out for optimum output to be achieved so as to improve efficiency.
2.1.2 Transaction Cost Theory
This theory was postulated by Ferris (1981) who obtained motivations and influence from non-economic domains. He defined it as the cost of providing for some good or service through the market rather than providing it within the firm. The transaction cost theory stresses that individuals typically bring about costs without realizing they are an expense.

This theory was important to the study as it enabled the understanding of how mangers of commercial banks can have an optimum balance between maximizing the company's profits and maximizing the utility for its owners. It is an essential part of corporate governance related to the organizations' operations. It assisted in understanding the degree of management's responsibility for the consequences of actions taken on the firm's net worth.
2.1.3 Contingency Theory
Contingency Theory was developed by Saxberg(1979). Contingency theory of working capital management states that the effectiveness of working capital is highest where the structure fits the contingencies, hence only those organizations that align their working capital with the current environment achieve maximum output.

The theory was relevant to the study since assisted in determining the level/approach of working capital management to approach, firms must put into consideration the strategically significant external variables such as include economic conditions, demographic trends, sociocultural trends political/legal factors and industry structure.

2.2 Conceptual Framework

Figure 1 below shows a diagrammatic representation of the dependent and independent variables.

Independent Variable   **Dependent Variable**
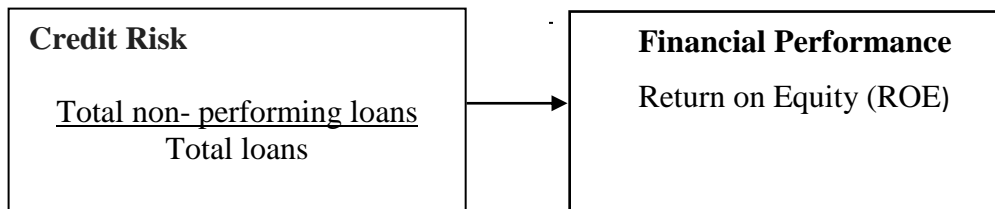

Figure 1: Conceptual Framework

Siriba (2020) investigated the effect of credit risk on commercial banks' performance in Kenya for five years. Secondary data was obtained from the respective banks' annual financial statements. Descriptive statistics included mean and standard deviation, were used to explain the characteristics of the study variables. Multiple regression was used to examine the effect of credit risk on the banks' performance. It was found that non-performing loans and loan loss provision had non-significant negative effects on the banks' profitability with $p=0.394$ and $p=0.653$, respectively. The research also unveiled that loans and advances (LA) had a significant positive impact on commercial banks' profitability ($p=0.001$).

Taiwo, Ucheaga, Achugamonu, Adetiloye,Okoye and Agwu (2017) in an empirical investigation into the quantitative effect of credit risk management on the performance of Nigeria's Deposit Money Banks. Secondary data for empirical analysis was obtained from CBN Statistical bulletin and World Bank. The study employed multiple linear regression model to analyze the time series data. The result showed that sound credit management strategies can boost investors and savers confidence in banks and lead to a growth in funds for loans and advances which leads to increased bank profitability. The findings revealed that credit risk management has an insignificant impact on the growth of total loans and advances by Nigerian Deposit money banks.

Gaturo (2018) sought to fill the conceptual and contextual gap in literature by focusing on credit risk management practices and commercial banks financial performance in Kenya. The research utilized descriptive research design and the sampling design was purposive sampling design. The research made use of a multiple regression model for the analysis. Findings of the study indicate that there exist a positive and significant effect of credit risk management practices that is, credit terms and conditions, client appraisal, credit practices and credit control practices on financial performance of commercial banks in Kenya.

Omondi (2019) did a study on the effect of financial risk on the Kenya's commercial banks financial performance. A causal research design was adopted in this study in which the population targeted included 42 commercial banks that had been in operation in Kenya from the year 2013 to 2017. The study used secondary panel data that was analyzed through descriptive

and inferential statistics within the framework of panel regression model with the aid of STATA. From the analysis of the data, R-square (R^2) for the regression was 0.7386 implying that credit risk, liquidity risk, interest rate risk and foreign exchange risk, jointly explain 73.86 percent of the variations in commercial banks' financial performance (ROE) in Kenya at 0.05 level of significance. Credit risk was established to have a negative and significant effect on financial performance of commercial banks in Kenya with coefficients of β=-0.3395534.

Karanja (2019) purposed to evaluate the credit risk and lending performance of commercial banks in Kenya. Descriptive survey research design was employed on a target population of the 42 commercial banks in Kenya. Purposive sampling was used to pick 42 credit managers and simple random sampling invoked to determine the other 301 respondents from the target population of 1260 employees. Data was analyzed using descriptive statistics and inferential statistics. The results of the study revealed that the combined effect of credit risks positively influenced the lending performance of banks.

A study by (Muriithi, Munyua and Muturi (2016) had a main objective of assessing the effect of credit risk on financial performance of commercial banks in Kenya. The study used the balance sheets components and financial ratios for 43 commercial banks in Kenya. Panel data techniques of fixed effects estimation and generalized method of moments were used to anlyze the data. The pairwise correlations between the variables were carried out. F- test was used to determine the significance of the regression while the coefficient of determination, within and between R^2, were used to determine how much variation in dependent variable is explained by independent variables. From the results credit risk has a negative and significant relationship with bank profitability.

3. METHODOLOGY

3.1 Research philosophy

This study was guided by positivism where the phenomena being observed lead to the construction of dependable data. Positivism was appropriate for this study because helped in establishing the current state or reality of financial performance of commercial banks and how financial imperatives can assist in improving this performance.

3.2 Research Design

This study employed a correlational research design that involves looking at variables over a period of time. This method was appropriate as it helped in establishing the systemic patterns of the independent and dependent variables to enable high validity and reliability.

3.3 Target Population

The target population was 13 tier IV Commercial banks in Kenya as at 2022 from CBK website.

3.4 Research Instrument

A data collection sheet was used to obtain secondary. Document analysis of audited financial statements of tier IV commercial banks from CBK website, commercial banks website assisted in obtaining the information required in the secondary data sheet.

3.5 Data Collection Procedure

Secondary data was downloaded from CBK and commercial banks website so as to analyze the financial statements for the required data.

3.6 Data Analysis and Presentation

Data was sorted and cleaned before exporting to STATA. Normality was tested through Shapiro–Wilk. Multicollinearity was tested by use of Variance inflation factors. Heteroscedasticity was tested through Breuch- Pagan test. Autocorrelation was tested through Durbin-Watson statistic. Stationarity was tested using Levin-Lin-Chu test. Wooldridge test was used to ascertain autocorrelation of error terms. The panel data was analyzed using descriptive and inferential statistics. Descriptive statistics comprised of; mean, standard deviation and variance. Inferential statistics comprised of correlation analysis and Hausman test for fixed and random effect regression model. Data was **presented using tables and charts. The model below was used to test the hypothesis.**

$$FP_{it}= \beta o + \beta_1 CR_{it} + \varepsilon_{it} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (1)$$

β_0 = Regression constant

β_1 = Panel regression coefficient

CR= Credit Risk

FP= Financial performance

i =13 tier IV commercial Banks

t = Time period from 2012-2021

ε= Error term

4. RESEARCH FINDINGS AND DISCUSSION

4.1. Descriptive Statistics

The descriptive statistics including Mean, standard deviation, minimum and maximum were run to understand the distribution of the variables; Credit Risk and Financial performance as measured by ROE. Table 1 shows that the average Return on Equity (ROE) was 22.11% with a standard deviation of 0.10. On the same note, the minimum range of ROE was -6.64% with a maximum of 0.44%. This is an indication that some banks had high profits and hence high financial performance while others had losses thus negative return on equity. The standard deviation of 0.11 shows wide variability between financial performances across commercial banks.

Credit Risk recorded a mean of 0.37 with a standard deviation of 0.16. This was with a minimum of 0.21 while the maximum was 0.69. Again, it was evident that there was a wide variability in credit risk across commercial banks with some commercial banks having a very high credit risk. Thus in such commercial banks a good number of borrowers do not meet their contractual obligations or default. Such banks will therefore face liquidity problems and may not be able to meet their short term obligations.

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Table 1: Descriptive Statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
ROE	130	0.2211	0.1048	-0.0664	0.4387
Credit Risk	130	0.3659	0.1642	0.02063	0.6863

4.2 Diagnostic Tests

4.2.1 Stationarity Test

Levin-Lin-Chu test was run to establish stationarity. This test was based on null hypothesis that the variables are not stationary. When the probabilities are less than 0.05 critical value, this hypothesis is rejected. Table 2 reflect that at critical value of -1.9476, all the variables test statistics were less than the critical value and also the p-values were less than 0.05. Thus the variables; ROE and Credit Risk met the stationary test.

Table 2: Levin-Lin-Chu stationarity Test Results

Variable	Panels	Periods	Test Statistic	P-value
ROE	13	10	-9.7248	0.0000
Credit Risk	13	10	-9.8885	0.0000

4.2.2 Normality Test

Shapiro-Wilk test was used to test normality. The null hypothesis for Shapiro-Wilk test is that the variables are normally distributed. At 5% level of significance, if the p values are less than 0.05 then we reject the null hypothesis. Table 3 shows W-value of 0.98033, which is near one, probability value 0.05618> 0.005 and z-value of 1.588 less than the z-critical value of 1.96. Thus the study failed to reject the null hypothesis that residuals were normally distributed at 95% level of confidence. Normality of residuals was therefore confirmed.

Table 3: Shapiro-Wilk test for normal Residuals

Variable	Obs.	W	Z	Prob.
Residuals	130	0.98033	1.588	0.05618

Table 4 confirm that data for all the variables is normally distributed since their p-value are all greater than 0.05 at 95% level of confidence. Thus the study failed to reject the null hypothesis that the variables were normally distributed at 95% level of confidence. Normality of variables was therefore confirmed.

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Table 4: Shapiro Wilk Test Normal Data

Variables	Obs	w	v	Z	Prob>z
Credit risk	130	0.98319	1.731	1.234	0.10856
ROE	130	0.98450	1.596	1.052	0.14646

4.2.3 Multicollinearity Test

Variance Inflation Factors (VIF) was used to test Multicollinearity. VIF tolerance level should not be more than 2.5. Table 5 depicts that VIF of all the variables seem to within the range of less than 2.5. The values of VIF inverse i.e $\frac{1}{VIF}$ >0.4 thus there is no case of Multicollinearity in the variables.

Table 5: Variance Inflation Factors

Variable	VIF	1/VIF
Credit Risk	1.19	0.840928

4.2.4 Test of Heteroscedasticity

Breusch- Pagan/Cook-Weisberg test was conducted to test Heteroscedasticity. Breusch-Pagan-Godfrey test is a Chi-Squared test statistic distributed with k degrees of freedom. According to the results in table 6, the probability of Chi-square of 3 degrees of freedom is 0.7412> 0.05 at 95% confidence level. Thus the study failed to reject the null hypothesis that variables residuals had a constant variance hence no heteroscedasticity.

Table 6: Breusch- Pagan/Cook-Weisberg Test for Heteroscedasticity

Chi2	0.11
Prob>chi2	0.7412

4.2.5 Test of Auto-Correlation

Independence of error terms was evaluated through the Wooldridge test. The null hypothesis is H_0: There is no evidence of autocorrelation. Wooldridge test results in Table 7 with F-value of 2.09, less than the 2.63 F-critical and a p-value of 0.2677, greater than 0.05 at 95% confidence level. Thus the study failed to reject the null hypothesis that there is no autocorrelation. Hence the data was fit for linear regression.

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Table 7 : Wooldridge Test for Autocorrelation

H_0: no first-order autocorrelation

$F(12, 114) = 2.09$

$Prob > F = 0.2677$

4.3 Inferential statistics

Inferential statistics included Pearson correlation analysis and Hausman'3 test for fixed and random effects model.

4.3.1 Correlation Analysis

To assess the strength and direction of relationships between the study variables, pairwise Pearson product moment correlation coefficients were generated for each pair of variables. Table 8 shows the association between Credit risk and ROE had $r = -0.38$, p-value of 0.0009 which is significant. This implies that credit risk has a significant negative association with financial performance. Thus if credit risk increases, financial performance would decrease.

Table 8: Pearson Correlation Coefficients

Variable	ROE	Credit Risk
ROE	1.0000	
	(0.0000)	
Credit Risk	− 0.3773*	1.0000
	(0.0009)	

Note. Values in parenthesis () are p-values and * indicate statistically significant given p-value < 0.05

4.3.2 Fixed and Random Effects Models

In order to identify the appropriate model between fixed and random effect Models, Hausman test was used. This test is based on the null hypothesis that random effect model is appropriate while the alternative hypothesis was that the fixed effect model was appropriate. Fixed and random effect panel regressions helped to predict the unitary changes in the dependent variable, ROE given the changes in the independent variables, Asset Quality, Credit Risk and Bank Efficiency.

Before the interpretation of fixed and random effect results, Hausman test assisted in identifying the appropriate model between fixed effect and random effect. Given the chi-square of 5.07 < the critical chi-squire of 5.991, while p-value of 0.1671>0.05 thus the study failed to reject the null hypothesis that the random effect model is appropriate.

The regression equation therefore is extracted from the random effects model and is as given below;

ROE = 0. 3791298 – 0.1315295CR………………………………….…………….(2)

The regression coefficient – 0.1315295 with p-values less than 0.05, showed a significant influence of Credit risk (CR) on financial performance (ROE) at 5% level of significance

Table 9: Fixed Effect Model

ROE	Coef.	Std. Error.	t	$p > \lvert t \rvert$	Prob>f	R-Squire
Credit Risk	– 0.1327723	0.0468454	– 2.83	0.005		
Constant	0.3721238	0.0230659	16.13	0.000		
Rho	0.39747521					

Table 10: Random Effect Model

ROE	Coef.	Std. Error.	Z	p>z	Prob>f	R-Square
Asset Quality	– 0.1364497	0.054905	– 2.49	0.013	0.000	0.3799
Constant	0.3435461	0.0259687	14.60	0.000		
Rho	0.3435461					

Table 11: Hausman Test Results

ROE	(b)	(B)	S.E.	$p > \lvert Chi^2 \rvert$	Chi2
	fe	*re*			
Credit Risk	– 0.1327723	– 0.1315295	0.0117449		

b = consistent under null hypothesis; random effect appropriate

B = inconsistent under alternative hypothesis; fixed effect appropriate

4.4 Discussion

The model had a p value of 0.000, indicating that the model was significant and the results was reliable. In addition, the R^2 of the model showed a value of $\beta = 0.3799$, indicating that financial imperatives contributed approximately to 37.99% of the changes in ROE. The model also showed a Rho value of 34.35%, which was the variance due to the differences across the banks. The constant value was 0.3791, indicating that without the financial imperatives, the firms would only have 38% return on Equity.

The findings are in line with Taiwo, Ucheaga, Achugamonu, Adetiloye,Okoye and Agwu (2017), Gaturo (2018), Omondi (2019) and Karanja (2019) who also established a negative relationship between credit risk and financial performance of commercial banks.

The random effect model results show regression coefficient of $\beta = -1327723$ with a p-value $0.005 < 0.05$ for credit risk (CR) which imply that credit risk had a significant negative influence on financial performance (ROE) at 5% level of significance over the 10 -year period. This indicates that if credit risk increased by 1 percent, financial performance will reduce by 13.277 %. The study therefore rejected the null hypothesis that credit risk has no significant effect on the financial performance of commercial banks in Kenya.

5. CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

For credit risk, Pearson's correlation coefficient indicated $r = -0.6456$, p-value of 0.0259. Random effect regression coefficient $\beta = -0.1315295$ with a p-value $0.004 < 0.05$ which are all significant. It was therefore concluded that credit risk has a significant influence on financial performance of commercial banks. That is, a reduction in credit risk improves the financial performance of tier IV commercial banks in Kenya

5.2 Recommendations

Since credit risk has a significant negative influence on financial performance of commercial banks, it is recommended that commercial banks should properly manage credit risk, prompt recovery of loans is also recommended to reduce loan impairment charges. Borrowers should be closely monitored to reduce overdue loans. Recovery of bad loans should be improved through various measures such as one time settlements (OTs). Proper internal controls should be put in place to ensure credit worthiness of borrowers.

REFERENCES

CBK. (2021). *Commercial Banks Credit Officer Survey.* Nairobi: Government of Kenya.

Deloitte. (2021/2022). Banking Industry Trends Report .

Ferris, J. S. (1981). A transactions theory of trade credit use. *The Quarterly Journal of*

Gaturo, C. J. (2018). *Credit Risk Management Practices and Financial Performance of Commercial Banks in Kenya.* Kenyatta University.

Giulio Velliscig, Josanco Floreani and Maurizio Polato. (2021). Capital and asset quality implications for bank resilience and performance in the light of NPLs' regulation: a focus on the Texas ratio. *Journal of Banking Regulation*.

Karanja, J. G. (2019). *Credit Risk and Lending Performance of Commercial BanksiIn Kenya.* Methodist University.

Kenya Bankers Association. (2021). *State of the banking industry report.* Nairobi: Centre For Research on Financial Markets And Policy .

Murithi, M. N. (2019). *Bank Characteristics and Financial Performance of Lower Tiers Commercial Banks In Kenya.* Kenyatta University.

Omondi, N. O. (2019). *Financial Risks And Financial Performance Of Commercial Banks In Kenya.* Kenyatta University.

Saxberg, B. O. (1979). A Theory of Performance: A Contingency and Path Analysis. *Approach. Management Science, 25*(3), 231-244.

Taiwo, J.N.,Ucheaga, E.G.,Achugamonu, B.U.,Adetiloye, K.,Okoye, L.,Agwu, M.E. (2017). Credit Risk Management: Implications on Bank Performance and Lending Growth. *Saudi Journal of Business and Management Studies*, 584-590.

Taylor, F. (1970). *Scientific Management in the Sociology of Organizations.* (B. S. Miller, Ed.) New York: The Free Press.