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Influence of Credit Risk Management on Financial Performance of Commercial Banks in Kenya

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Abstract

The management of credit risk in commercial banks determines the banks' financial performance, which predominantly influences the quality of the loan portfolio and the nature of credit administration programs as a whole. By ensuring that credit risk is effectively managed, the primary objective of credit risk management is to generate a high-quality, stable, large, and growing flow of net interest income for banks. This objective is achieved by ensuring that banks can meet the needs of their customers. This study determined the effect of credit risk management on the financial performance of Kenyan commercial banks. The investigation was founded on the portfolio theory. The paradigm of Positivism served as the philosophical foundation for the investigation. The study incorporated both explanatory and longitudinal research designs into its methodology. The study's target population consisted of 32 Commercial Banks in Kenya. The study utilized panel data consisting of time series and cross-sectional data spanning a decade from 2010 to 2019. Using Eviews, descriptive and inferential statistics were used to analyze the collected data, which was then presented in tables and figures. The study found out that Credit risk management had an insignificant negative relationship with Return on Equity (ROE) ($F=87.02884, p<0.05$) and Return on Assets (ROA) ($F=118.1208, p<0.05$). Arising from the study findings, it is observed that credit risk management has a negative effect on financial performance measure either in ROA or ROE, it is recommended that commercial banks should keep this parameter as minimum as possible so as not involve in loss making undertakings.

Key words: *Credit risk management; financial performance; commercial banks*

1. Introduction

Commercial Banks possess many types of assets, current or fixed, but the asset contributing to the largest share of a bank's income is the bank loan and Echeboka, Egbunike and Ezu (2014) stressed that the quality of a bank's assets is influenced by the bank's exposure to specific risks, the trends in non-performing loans and the financial health of bank borrowers. According to Crockford, (1986) asset and liability management (often abbreviated ALM) is the practice of managing risks that arise due to mismatches between the assets and liabilities. Charumathi (2008) defined ALM as a dynamic process of planning, organizing, coordinating, and controlling the assets and liabilities; their mixes, volume, maturities, yield, and costs in order to achieve a specified net interest income (NII). In other words, it deals with the optimal investment of assets in view of meeting current goals and future liabilities. It is related to the management of the risks associated with liquidity mismatch, interest rates and foreign exchange movements.

Financial performance and financial profitability are frequently used as interchangeable terms, (Burkhardt & Wheeler, 2013). With the increasing number of analysis and research papers referencing financial performances, there is a need to have basic understanding of definition of financial performance and its various measures, (Burkhardt, 2013). Therefore, choosing a particular measure of financial performance depends on how well it meets the intended purpose. Financial performance of a bank is defined as its capacity to generate sustainable profitability, (European Central Bank (ECB), 2010). Therefore, we can say that financial performance of a bank is its ability to employ the available



resources to increase shareholders' wealth and generate sustainable profits to strengthen its capital base through retained earnings to ensure future profitability.

There are various ways through which bank performance can be measured. European Central Bank (2010) report has categorized them in to three major categories which are traditional, economic and market-based measures. The traditional measures are similar to those used by other firms which include Return on Assets (ROA) which is the net income for the year divided by the total assets. The other measure is Return on Equity (ROE) which is the internal performance measure of shareholder's value and this is the most famous measure of financial performance. The Economic measures of performance aim at assessing the economic results generated by the bank from its economic assets. The market-based measures depend on the way the capital market value the performance of firm as compared to its economic and accounting value. A relationship of how well a bank is doing by assessing the returns on equity (ROE), which is an indicator of financial performance vis-à-vis other variables in the form of performance ratios.

In Kenya, Dubai Bank was placed under receivership in 2015 due to capital and liquidity deficiencies. The bank was subsequently liquidated. In the same year Imperial Bank was put under receivership due to suspected fraudulent activities at the bank. In April 2016 Chase bank went into a bank run. The Kenyan Central Bank had to make an arrangement for its revival. Receivership of three small banks impacted the liquidity distribution within the interbank market, which accentuated segmentation leading to marked reduction of interbank credit lines to small and medium tier banks (CBK, 2016).

Banks need to conduct stress testing in order to survive future dynamics, threats and opportunities. The banking sector all over the world acts as the life blood of modern trade and economic development and through being a major source of finance to economy (Ongore&Kusa, 2013). Profitability is very important for financial institutions. Over a while the study of the effect of financial performance on Commercial Banks has been an area of concern of experts, investors and analysts across the world (Sufian& Chong, 2008).

The economy depends on the banking industry majorly as far as lending is concerned. Therefore, their profitability and stability is crucial. The banking community is an important part of the economy. It is clear that Commercial Banks play a very crucial role in the allocation of economic resource by basically helping to channel funds from depositors to investors in a continuous manner (Ongore&Kusa, 2013).

Commercial Banks are blood veins of the economy. They offer the all-important services of providing deposits and credit facilities for customers, making credit and liquidity (Handley-Schachler, Juleff and Paton, 2007). Commercial Banks are also the channels of effective monetary policy of central banks of the economy of their countries (Siddiqui &Shoab, 2011). The soundness of a banking sector is very critical to the health of country's economy (Sufian & Chong, 2008). The banking sector and the economy of a country are closely related. The soundness of Commercial Banks largely depends on the financial performance. It normally shows the weakness and strengths of Commercial Banks. The financial performance of a financial institution is evaluated by determining the profitability (Makkar& Singh, 2013).

Financial institutions are required to keep strict financial ratio requirements. Bank profits are a good source of equity if reinvested back to the business operations. This should lead to safe banks since the profit leads to financial stability. Too high profitability is a sign of monopoly. This may affect intermediation. Banks exercising monopolistic tendencies may offer lower returns on deposit but charge high rates on loan. Too low profitability may scare away private agents, depositors and shareholders from banking thus resulting in banks failing to attract enough capital to operate.

Hosna, Manzura and Juanjuan (2009) ascertained credit risk management and profitability of Commercial Banks in Sweden over the period of years 2000-2008. Return on equity was used as profitability indicator while non-performing loan ratio and capital adequacy ratio were used as credit risk management indicators. The study revealed that credit management has effect on profitability of the sample banks but it varies across banks.

Aduda and Gitonga (2011) examined the relationship between credit risk management and profitability among Commercial Banks in Kenya spanning from 2000-2009. A correlations and regression analysis was used to do the empirical analysis. Return on equity was used as a dependent variable and non-performing loan ratio as explanatory



variable. The study revealed that there is a linear relationship between return on equity and nonperforming loan ratio and nonperforming loan ratio can be used as a measure of credit risk management which affects profitability at a reasonable level.

Boahene, Dasah and Agyei (2012) carried out a study on credit risk and profitability of selected banks in Ghana over the periods of 2005-2009. Return on equity used as dependent variable and net charge-off rate, non-performing loan rate and the pre-provision profit as a percentage of net total loans and advances as independent variables while bank size, growth and capital structure were used as control variables. The study found that there was positive and significant relationship between credit risk and profitability of the selected banks in Ghana over the study period. Poudel (2012) conducted a study on the impact of credit risk management on the financial performance of Commercial Banks in Nepal for the period of years 2001-2011.

Fredrik (2012) investigated the impact of credit risk management on the financial performance of Commercial Banks in Kenya over the periods of years 2006-2010. CAMEL components were used as a vector of credit risk management and return on equity as a vector for financial performance. The study has shown that there is a strong relationship between the CAMEL components and return on equity. Mwangi (2012) conducted a study on the effect of credit risk management on the financial performance of Commercial Banks in Kenya over a period of years 2007-2011 utilizing return on equity as dependent variable and nonperforming loan ratio and capital adequacy ratio as independent variables. The findings of the study unveiled that nonperforming loan ratio and capital adequacy ratio impacts return on equity inversely and they are statistically significant factors that impacts return on equity.

Kurawa and Garba (2014) evaluated the effect of credit risk management on the profitability of Nigerian banks covering a period of 2002-2011. Return on asset was used as a proxy of profitability and default rate, cost per loan asset, capital adequacy ratio and age were used as a proxy for credit risk management. The finding showed that default rate, cost per loan assets and capital adequacy ratio impacts return on asset positively but only default rate and cost per loan assets are statistically significant. Conversely, the study unveiled that there is negative but significant relationship between age and return on asset.

Ojo et al. (2012) studied the impact of credit risk on Commercial Banks' performance in Nigeria for the period of 2000-2010. Return on asset used as dependent variable and ratio of non-performing loan to loan and advances, ratio of total loan and advances to total deposit and the ratio of loan loss provision to classified loan as a measure of credit risk. A panel regression analysis was used in order to perform the statistical analysis. The study found that the effect of credit risk on the performance of Nigerian banks over the study periods was cross sectional in variant i.e. the effect is similar across banks.

Muritala and Taiwo (2013) carried out a study on the impact of credit risk management on the profitability of Nigerian banks over the period of years 2006-2010. Return on asset was used as a surrogate of profitability and the ratio of loan & advances to total asset and nonperforming loan to total loan were used as a surrogate of credit risk. The study revealed that both loan & advances to total asset and nonperforming loan to total loan have inverse association with profitability and they significantly impact profitability-return on asset.

Afriyie and Akotey (2013) studied on credit risk management and profitability of rural banks in the BrongAhafo region of Ghana over the period of years 2006-2010. Return on asset and return on equity were used as a proxy for profitability while nonperforming loans ratio and capital adequacy ratio as a proxy for credit risk management. The result of the study unveiled those nonperforming loans ratio and capital adequacy ratios have positive association with profitability but only nonperforming loan ratio is a significant variable to influence profitability.

Kaaya and Pastory (2013) conducted a study on credit risk and Commercial Banks performance in Tanzania. Return on asset was used as a vector of financial performance and loan loss to gross loan, non-performing loan, loan loss to net loan, impaired loan to gross loan were used as vectors of credit risk. A multiple regression analysis was used to do the empirical analysis. Bank size and deposit were used as control variables in the analysis. The study revealed that there is a negative and statistically significant association between the credit risk indicators and financial performance over the study period. Charles and Kenneth (2013) conducted a study on the impact of credit risk management and capital adequacy on the financial performance of Commercial Banks in Nigeria for the period of 2004-2009. Return



on asset was used as a dependent variable and loan loss provision, loans and advances, non-performing loans and capital adequacy ratio as independent variables. The study has shown that sound credit risk management and capital adequacy impacted positively on bank's financial performance with the exception of loans and advances which was found to have a negative impact on the bank's financial performance.

Olawale et al. (2013) studied risk management and financial performance of banks in Nigeria for the period of 2006-2009 by using return on equity and return on asset used as dependent variables and doubt loans and capital asset ratio as independent variables. The result of the study shows an inverse relationship between financial performance and doubt loans and statistically insignificant while capital asset ratio was found to be positive and significant. Abdelrahim (2013) carried out a study on the effectiveness of credit risk management of Saudi banks in the light of global financial crises. Return on equity was used as a proxy for financial performance and CAMEL components as a proxy of credit risk management. The study found out a positive and statistically significant relationship between effective credit risk management and liquidity and positive but insignificant relationship between credit risk management and capital adequacy, asset quality, management soundness and earnings.

Mutua (2015), established that credit risk management had a significant influence on bank performance. Credit risk management was defined as the process of risk identification, credit sanctions and risk monitoring. His study agrees with Kargi (2011), whose findings concluded that credit risk management had a significant influence on profitability of Nigeria banks. They further showed the connection between credit risk management and financial distress. When large credit risk exposures exist, performance declines resulting in financial distress. Nyong'o (2014) concurred with Mutua (2015) in that, senior management develop policies and procedures for credit risk management. Also, most banks had a solid credit risk management system. However, the angle of financial distress was not tackled in connection to credit risk management.

Musyoki and Kadubo (2012) found that credit risks variables had a negative influence on banks' financial performance. They however did not show the connection between financial distress and credit risk. A study by Chimkono, Muturi and Njeru (2016), revealed that cost efficiency ratios, average lending interest rate and non-performing loan ratio had a significant influence on the performance of banks in Malawi. It however did not indicate the influence of non-performing loans on financial distress.

2. Research Methods

This study utilized positivist research philosophy. The positivist position is characterized by the testing of hypothesis developed from existing theory through measurement of observable social realities. The rationale for using positivist research philosophy in this study was for the researcher to gather panel data of the financial institutions listed in NSE which was not subject to manipulation. Also, according to Hazzi and Maldaon (2015) with a positivist philosophy, hypotheses of the study will be easily testable and provide the opportunity for confirmation and falsification. Given that the study involved test of hypotheses, positivist philosophy will be the most appropriate research philosophy to be used in the study. Simon (2011) noted that studies based on positivism are most often deductive in nature while Johnson and Christensen (2010) opined that positivist philosophy uses past studies in forecasting. The study targeted 42 Commercial Banks out of which 32 Commercial Banks were sampled by use of purposive sampling techniques while 10 Commercial Banks were not selected since some of them were under receivership, statutory management or were merged and acquired.

The study adopted a regression model to establish the relationship between credit risk management and financial performance of Commercial Banks in Kenya. The study predicted a positive relationship between credit risk management and financial performance of Commercial Banks in Kenya. The study panel data models were written as:

$$Y_{it} = \beta_0 + \beta_1 CRM_{it} + e_{it}$$

Where;

Y_{it} =Financial Performance (ROA or ROE), CRM_{it} =Credit Risk Management and i -an index for cross section (Banks), t -an index for time series-(2010-2019, $i=1, \dots, n_1$, $t=1, \dots, n_1$, and e_{it} =error term



3. Analysis Result

This section presents descriptive output of the study. They include; mean, maximum, minimum, standard deviation and number of observations. Data from all the 32 commercial banks in Kenya out of a possible 42 commercial banks were collected giving 76.2% participation rate. 32 Commercial Banks were purposively selected since they meet all the necessary criteria. Some of the Commercial Banks left out have been put under receivership, some under statutory management and others merged or acquired. The descriptive statistics show the distributions across the periods of study from 2010-2019. The mean shows an average over the period while standard deviation illustrates an extent of variations in the study period. Table 4.1 shows the results of the descriptive statistics.

3.1.1 Credit Risk Management and Financial Performance

The study sought to determine the influence of credit risk management on financial performance of Commercial Banks in Kenya. Financial performance was measured using either ROE or ROA shown in Tables 1 and 2.

Table 1: Regression for Credit Risk Management and Financial Performance (ROE)

Dependent Variable: ROE

Method: Panel Least Squares

Date: 04/28/23 Time: 16:58

Sample: 2010 2019

Periods included: 10

Cross-sections included: 32

Total panel (balanced) observations: 320

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|-----------|
| CRM | -0.852672 | 0.112840 | -9.328925 | 0.0000 |
| C | 0.214315 | 0.011502 | 18.63295 | 0.0000 |
| R-squared | 0.214871 | Mean dependent var | | 0.144566 |
| Adjusted R-squared | 0.212402 | S.D. dependent var | | 0.176179 |
| S.E. of regression | 0.156353 | Akaike info criterion | | -0.867173 |
| Sum squared resid | 7.773892 | Schwarz criterion | | -0.843621 |
| Log likelihood | 140.7477 | Hannan-Quinn criter. | | -0.857768 |
| F-statistic | 87.02884 | Durbin-Watson stat | | 1.553538 |
| Prob(F-statistic) | 0.000000 | | | |

Table 2: Regression for Credit Risk and Financial Performance (ROA)

Dependent Variable: ROA

Method: Panel Least Squares

Date: 04/28/23 Time: 16:58

Sample: 2010 2019

Periods included: 10

Cross-sections included: 32

Total panel (balanced) observations: 320



| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|-----------|
| CRM | -0.202660 | 0.018647 | -10.86834 | 0.0000 |
| C | 0.036530 | 0.001901 | 19.21931 | 0.0000 |
| R-squared | 0.270844 | Mean dependent var | | 0.023102 |
| Adjusted R-squared | 0.268551 | S.D. dependent var | | 0.030210 |
| S.E. of regression | 0.025837 | Akaike info criterion | | -4.467753 |
| Sum squared resid | 0.212288 | Schwarz criterion | | -4.444201 |
| Log likelihood | 716.8405 | Hannan-Quinn criter. | | -4.458348 |
| F-statistic | 118.1208 | Durbin-Watson stat | | 1.553974 |
| Prob(F-statistic) | 0.000000 | | | |

4. Discussion

From the study findings, credit risk management has a significant negative effect on ROE at 5% level of significance ($\beta = -0.8527$, p-value = 0.000). This implies that credit risk management results to insignificant decrease in ROE in Commercial Banks. This implies that an increase in credit risk management results to a significant decrease in ROE of commercial banks. The resultant simple regression equation using ROE as an indicator of financial performance was therefore fitted as; $Y_{it} = 0.214 - 0.8527CRM_{it} + e_{it}$

The study results also show that the regression model used was fit for data analysis at 95% confidence level due to the significant F-statistic value (F-statistic= 87.03, p-value= 0.000). This study is consistent with the research findings like Olawale et al. (2013) and Kaaya and Pastory (2013) noted that credit risk management has a negative effect on financial performance of organizations.

From the study findings in Table 3.19, credit risk management has a significant negative effect on ROA at 5% level of significance ($\beta = -0.2027$, p-value= 0.000). This implies that credit risk management results to insignificant increase in ROA in Commercial Banks in Kenya. This implies that an increase credit risk management results to a significant decrease in ROE of commercial banks. The resultant simple regression equation using ROA as an indicator of financial performance was therefore fitted as; $Y_{it} = 0.0365 - 0.2027CRM_{it} + e_{it}$

The study results also show that the regression model used was fit for data analysis at 95% confidence level due to the significant F-statistic value (F-statistic=118.12, p-value=0.000). This study is consistent with the research findings like Olawale et al. (2013) and Kaaya and Pastory (2013) noted that credit risk management has a negative effect on financial performance of organizations.

5. Conclusions

The study found out that credit risk management had a negative but insignificant effect on financial performance of commercial banks both for ROE and ROA. Arising from the study findings, it is observed that credit risk management has a negative effect on financial performance measured either in ROA or ROE, it is recommended that commercial banks should keep this parameter as minimum as possible so as not to involve in loss making undertakings.

6. Recommendations

The study also recommends a similar study to be conducted in different sectors within the economy apart from the banking sector like the micro finance institutions, savings and credit cooperative societies, manufacturing sector among others. This may cement and generalize the research findings to a larger extent. Furthermore, a different methodological approach like qualitative research approach can be used so as to measure various aspects of liquidity risk management and financial performance.



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