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Effect of Credit Risk Management on Financial Performance of Deposit Taking Savings and Credit Cooperative Societies in Western Kenya

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Abstract:
Background*: Globally, the financial performance of Savings and Credit Cooperative Societies (SACCOs) has been improving steadily as shown by the increase in membership which is approximated at one billion, with the turnover from the world's 300 top SACCOs amounting to $2.5 trillion as at December 2017. In Africa, SACCOs have had a significant role in transforming the continent through financial support of businesses. Similarly, SACCOs play a fundamental role in Kenya's financial sector by assisting members save money and advancing credit. However, statistics show that financial performance of Deposit Taking Savings and Credit Cooperative Societies (DT-SACCOs)in Kenya is fluctuating as shown by non-performing loans which stood at 5.12%, 5.23% and 6.14% as at 2015, 2016 and 2017 respectively, with that of 50% of DT-SACCOS in Western Kenya being even lower. Previous studies show mixed results in linking credit risk management to financial performance. Prior studies on credit risk management and financial performance focus on banks indicating that the effect of credit risk management on financial performance of DT-SACCOs has not been established. The purpose of the study was therefore to establish the effect of credit risk management on financial performance of DT-SACCOs in Western Kenya.*
Materials and Methods*: Correlational research design was adopted and a census of the 19 DT-SACCOs for the period 2013 to 2017 was selected, yielding 95 data points. Purposive sampling was used to select interviewees. Secondary data from financial statements was used. Unit root test showed that the data was stationary at levels. Expert opinion was sought to establish face, criterion, content and construct validities. Hierarchical panel data regression was used to analyse data.*
Results*: The findings show that credit risk management has a negative significant effect on financial performance (non-performing loan ratio (β = -0.4059, p = 0.0015)indicating that a reduction in non-performing loan ratio by a unit improves financial performance by 40.59%.*
Conclusion:*The study concludes that corporate risk management is an important aspect in management of DT-SACCOs in Western Kenya and recommends that the SACCOs ought to invest in credit risk management if they seek to improve their financial performance.*
Key Word*:Credit Risk Management; Deposit Taking SACCOs; Financial Performance; Kenya;*

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I. Introduction

Globally, the financial performance of Savings and Credit Cooperative Societies (SACCOs) has been improving steadily with time as shown by the increase in membership which is approximated at one billion, with the turnover from the world's 300 top SACCOs amounting to $2.5 trillion as at December 2017[1]. This increase is attributed to the ever-increasing need for mobilisation funds and investment especially from the low-income earners[2]. However, this growth is threatened by financial and operational risk[3]. The global financial crisis which the world is recovering from has made corporate risk management in financial institutions including SACCOs an integral part in day to day operations[1].

Corporate risk management refers to all of the methods that financial institutions use to minimize financial losses. They are the means through which top and middle managers, as well as all employees prevent loss exposure of shareholders' investment through internal controls of people and technologies. Many risks are common to all financial institutions. From banks to microfinance institutions, these include credit risk, liquidity risk, market or pricing risk, operational risk, corporate risk management practices that are mainly used by financial institutions to mitigate financial loss include credit risk management, liquidity risk management and

operational risk management. These practices have however been shown theoretically and empirically to influence financial performance of financial institutions in different ways[4].

Theoretically, the Finance Distress Theory has been used to explain the importance of corporate risk management on financial performance. This theory proposes that firms enter into financial distress as a result of poor management of risks and economic distress and this affects their financial performance. When financial performance deteriorates to the point where a firm cannot meet its financial obligation, the firm is said to have entered the state of financial distress. The first signals of financial distress are violations of debt payments and failure or reduction of dividends payouts and this affects financial performance. Firms experience financial distress due to poor managerial policies, inefficient and ineffective internal control systems, non-disclosure of financial information and inability to recognize stakeholder rights. Poor risk management strategies which lead to increase in non-performing loans, operational risk and sub optimal liquidity levels and lack of trainings among firms' employees on risks can result to financial distress and therefore affect financial performance[5].

Empirical studies have studied the relationship between credit risk management and financial performance of firms. Whilesome report a positive relationship between the variables[6, 7, 8, 9, 10,11], there are those that were based on commercial banks using the non-performing loan ratio (NPLR) and capital adequacy ratio(CAR) as independent variables and therefore the results might be different if applied in this study which has NPLR, Liquidity asset ratio(LAR) and cost income ratio(CIR) as variables which measure credit risk[6]; others conducted their study in a developed country whose economic environment is different from Kenya which is a developing country with more financial risks[7]. Moreover, some used questionnaires to collect data which may have introduced biasness and subjectivity indicting that the findings are spurious[8], and yet others used cross-sectional data which may have introduced unobserved variable bias[9]. There are those that used a descriptive research design hence the long-run cause effect relationship was not established[10, 11]. Elsewhere, some studies found a negative effect between the variables[12]. The findings cannot however be generalized to SACCOs in other industries since only SACCOs in the hospitality were sampled. None of these studies focuses on financial performance using a hierarchical panel data regression method in DT-SACCOs in western Kenya which was the focus of the present study.

Savings and Credit Cooperative Societies (SACCOs) play a fundamental role in Kenya's financial sector through assisting members save money and advance credit to interested members. DT-SACCO is part of the larger Sacco sub-sector in Kenya which comprises the deposit-taking and the non-deposit taking Sacco Societies. The deposit-taking segment of the sub-sector is composed of those Sacco Societies which undertake both withdrawable and non-withdrawable deposits. Whereas the non-withdrawable deposits portion of the business may be used as collateral and are not refundable unless on withdrawal from membership, the withdrawable deposits portion of the business can be accessed by the members at any time[13]. Statistics show that non-performing loans in the DT-SACCOs stood at 5.12%, 5.23% and 6.14% as at 2015, 2016 and 2017 respectively which indicates fluctuating financial performance (SASRA, 2017). This rate is relatively high compared with the World Council of Credit Unions (WOCCU) recommended industry average of 5%; and particularly given that the credit lending model in the DT-SACCOs is mostly premised on guarantor-ship, which is meant to cushion DT-SACCOs against bad loans. It also demonstrates that, notwithstanding the fact that the loans and credit advances by DT-SACCOs are guarantee backed, they are still susceptible to default, and thus additional measures to address the risks ought to be put in place (SASRA, 2017). While withdrawable savings deposits do not comprise significant portion of the balance sheet, DT-SACCOs are usually faced with liquidity mismatch when issuing loans based on multiplier of savings.Therefore, this study sought to analyse the effect of credit risk management on financial performance of DT-SACCOs in western Kenya.

II. Material and Methods

Study Design: The quantitative paradigm was adapted in this study, and since the cause and effect relationship between quantitative variables was sought, a correlational research design was adopted.

Study Location: The study was conducted among DT-SACCOs operating in western Kenya. The area covers the ten counties of Kisii, Nyamira, Homa Bay, Migori, Kakamega, Busia, Vihiga, Kisumu, Bungoma and Siaya. This area lies between latitude 2^0 North and 3^0 South, and 33^0 East and 35^0 East. The area generally lies in an altitude of 1800 meters above sea level and has agriculture as the main economic activity. According to the Kenya Housing Survey (2009), the population in the region was 9,776,913. The western region of Kenya has seen an increase in the number of economic activities which has led to an increase in the number of financial institutions especially SACCOs. These SACCOs help members financially by allowing them to save and at the same time borrow money to finance their businesses. Despite these developments, the SACCOs in the region just like those in Kenya as a whole still face several challenges arising from issues credit risk management, liquidity and operational risk management which have affected their financial performance.

Study Duration: The study was conducted between January 2019 and December 2019. The data used in the study was for the financial years 2013 to 2017.

Sample size: The target population of this study was 19 DT-SACCOs in western region. The study was conducted on DT-SACCOs in western Kenya due to the fact that, of the twelve DT-SACCOs that operated on half-year restricted licenses, which expired in June, 2017 and were thereafter renewed for another half-year to the period December 2017, two of them operate in Western Kenya and they had the same challenge in 2016. A DT-SACCO is given a restricted license if it has liquidity challenges, high non-performing loans ratio and if it is undercapitalized.The DT-SACCOs was studied because of the important role they play in enhancing the livelihoods of the people in western region. Statistical information shows that SACCOs averagely control averagely 30% of Kenya's Gross Domestic Product (GDP) and accounts for 80% of the total accumulated savings. Additionally, the DT-SACCOs are selected since their financial data which was used in the present study is clearly determined.

Sample size calculation: A census survey was used to select all the 19 DT-SACCOs in western region. The study adopted a census approach because of the small number of DT-SACCOs in the region. Purposive sampling was used to select interviewees to assist in collection of primary data.The sampling technique describes the sampling unit, sampling frame, sampling procedures and the sample size for the study. The sampling frame describes the list of all population units from which the sample is selected[14]. A census approach enhances validity of the collected data by including certain information-rich cases for study. Purposive sampling enables the researcher to use judgment to select cases that best meet objectives of the study and is used when working with small samples[15].

Procedure methodology: The study used both primary and secondary data. Secondary data was collected from financial reports of the DT-SACCOs that were obtained from both SASRA and the DT-SACCOs. Data was collected on Total loans, Non-performing loans, Cash, Net balances with commercial banks, Net balances with financial institutions other than banks, Government securities, Total assets, Operating expenses, Net income after tax, Investment in companies, Balances with other SACCOs and other financial securities and Property and equipment and covered a period of five years (2013-2017). This data was extracted using data collection sheet. Secondary data from annual financial reports were used because, being statutory documents, the reports facilitate easy comparisons since they are produced on an annual basis by the DT-SACCOs. Furthermore, since they are audited annually, data reliability and validity are enhanced making them more credible sources of data.The research items in the present study were evaluated for validity in terms of face, criterion, content and construct validity by using expert opinions of four professional financial analysts.To establish reliability, the stationarity conditions of the data series were tested using the unit root test of the Augmented Dickey-Fuller (ADF).

Statistical analysis

Before analysis, the data were tested for assumptions of linear regression. Normality was diagnosed using a histogram of regression standardized residuals along with their summary statistics for financial performance. The shape of the histogram and the Jarque-Bera (JB) statistic was used to determine normality of residuals. The heteroscedasticity condition was not tested in the present study since it is not considered a serious problem for panel data since it allows identification and measurement of effects that are not detectable in pure cross-sectional or pure time-series data. Multicollinearity was tested in the present study by means of variance inflation factor (VIF) while the Durbin-Watson statistic was used to test autocorrelation. To establish the stationarity conditions of the data series in this study, unit root test using the Augmented Dickey-Fuller (ADF) methodology was conducted.

Hierarchical Panel data methodology was employed in this study. This is because the observations have two dimensions; cross-section and time-series. Hsiao (2005) observes that panel data estimation methodology contains more degrees of freedom and less multicollinearity leading to more efficient estimates. Moreover, it allows for greater flexibility in modelling differences in behaviour across entities which enables the control for unobserved heterogeneity.

III. Result

Data analysis involved cleaning the data collected by checking for any incompleteness, inconsistencies and mistakes. Hypotheses were tested using multiple regression models to determine if significant associations existed between the study variables.

Table no 1 shows the descriptive statistics of the data on credit risk management which was measured using non-performing loan ratio, and the dependent variable of financial performance which was measured using Return on Assets for the DT-SACCOs in Western Kenya.

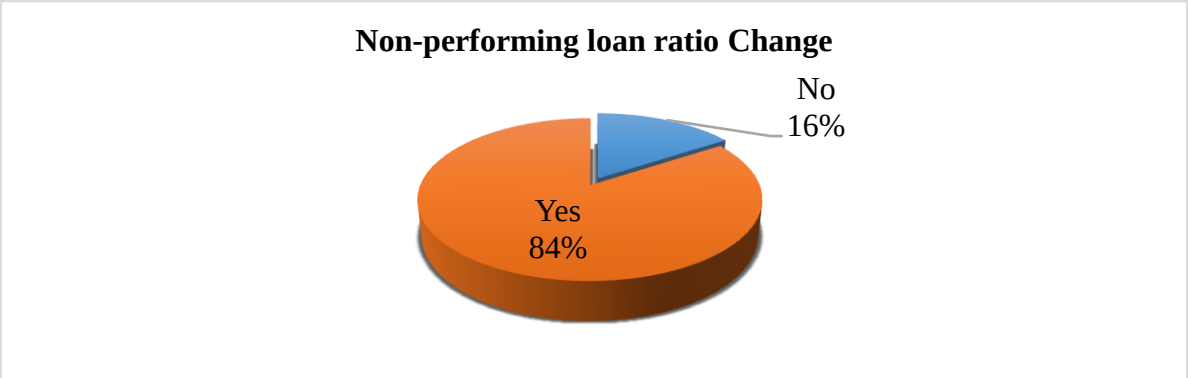
Table no 1: Shows Descriptive Statistics on the study variables

Variable	Obs	Mean	Std. Dev.	Min	Max	Skewness	Kurtosis
ROA	95	0.0237	0.0205	0.0201	0.0287	0.052	2.226
NPLR	95	0.022	0.014	0.010	0.099	3.646	18.380

The results in Table 4.1 revealed that the mean financial performance for the 19 DT-SACCOs in western region was 2.375%. The minimum reported Return on Assets was 2.01% while the maximum was 2.87%. This means that the net income is two percent of total assets. The Return on Assets was spread within a standard deviation of 0.0205 implying that there was a narrow deviation of the Return on Assets from the mean financial performance. Likewise, the mean Non-Performing loan ratio was 0.022. The minimum reported Non-Performing loan ratio was 0.010 while the maximum was 0.099. The Non-Performing loan ratio was spread within a standard deviation of 0.014 from the mean Non-Performing loan ratio.

These findings were corroborated by responses from the Key informants of the respective deposit taking SACCOs where the figure 4.2 below indicates that 84% of the respondents agreed that non-performing loan ratio has been rising since the year 2013. However, change has been fluctuating as noted by the respective respondents whose responses are shown in the figure below.

Figure1: Non-Performing loan ratio Change



Correlation results between the study variables are shown in Table 2.

Table no 2: Shows Correlation Resultsof the study variables

Variables	ROA	NPLR
ROA	1	
Sig. (2-tailed)	-----	
NPLR	-0.482	1
Sig. (2-tailed)	0.000	-----

The results in the Table 2 reveal that there is a negative and significant association between non-performing loan ratio and financial performance of deposit taking savings and credit cooperative societies (***R***= -0.482, p = 0.000). This shows that a unit increase in nonperforming loan ratio leads to a decrease in return on asset ratio of 48.2%. This is consistent with previous findings which showed that there is a positive association between credit risk management and financial performance of organizations[6, 7, 8, 9, 10, 11]. The results are however in contradiction with some studies[12] which showed a negative association between the variables.

Regression results are shown in Table 3.

Table No. 3: Regression Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Non-Performing loan ratio (NPLR)	-0.4059	0.1009	-4.0227	0.0015
C	5.5527	0.6837	8.1213	0.0002
R-squared	0.3693	Mean dependent var		2.3758
Adjusted R-squared	0.3486	S.D. dependent var		0.2052
S.E. of regression	0.1656	Akaike info criterion		-0.7170
Sum squared resid	2.4962	Schwarz criterion		-0.6095
Log likelihood	38.0593	Hannan-Quinn criter.		-0.6736
F-statistic	17.7648	Durbin-Watson stat		1.88860
Prob(F-statistic)	0.00100			

The model R- squared was 0.3693. This implies that the goodness of fit of the model explains only 36.93% of the variation in the financial performance of deposit taking savings and credit cooperative societies in western Kenya while the remaining 63.07% is explained by other factors not captured in the model. This shows that Liquidity asset ratio is a good predictor of financial performance (ROA) in the model used. This is further supported by a significant F statistic 17.7648 where the value was greater than the critical value at 0.05 significance level. This implies the general linear (OLS) model is statistically significant.

The study adopted a null hypothesis which stated that credit risk management has no significant effect on financial performance of deposit taking savings and credit cooperative societies in western Kenya. The acceptance/rejection criteria were that, if the p value is greater than 0.05, the $Ho_1$is not rejected but if it's less than 0.05, the Ho_1 is rejected. The results in Table 3 show that non-performing loan ratio (NPLR) has a negative and significant effect onfinancial performance (β = -0. 4059,p= 0.0015). This implies that a unit increase in nonperforming loans leads to a 40.59% reduction in financial performance. Due to the fact that NPLs are an indication of poor financial health of financial institutions, these findings corroborate those of some other studies such as one which analyzed the effect of credit risk management practices on the profitability of deposit taking SACCOs in Nairobi County and concluded that employing credit appraisal practices, credit monitoring, debt collection practices and credit risk governance practices helps to bring about a positive effect on financial profitability of the deposit taking SACCOs in Nairobi County[10]. Likewise, the study findings agree with another study which analysed the impact of credit risk management on financial performance in savings and co-operative societies in Kitui County, credit monitoring, loan policy in mitigation of risk, loan defaulters have a significant effect on the financial performance of SACCOs[11].

IV. Discussion

The results revealed that the coefficient for liquidity asset quality was negative (-0.4059) and significant at 5 percent level (p= 0.0015). This means that there is a negative and statistically significant relationship between nonperforming loan ratio (LAR) and financial performance. This implies that the more the saccos hold more nonperforming loans, the more they are likely to have poor financial performance.

It was established that non-performing loan ratio has a statistically significant relationship with financial performance This indicates that whenever firms invested on credit risk management factors of non-performing loans there was improvement on their financial performance.

V. Conclusion

It was established that there was a significant relationship between non-performing loan ratio and financial performance implying that whenever DT-SACCOs in invested on managing them, there would be a significant improvement on their financial performance of deposit taking SACCOs in western Kenya. It is suggested therefore that the DT-SACCOs invest more in credit risk management if they seek to improve their financial performance

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