EFFECT OF CREDIT RISK MANAGEMENT ON FINANCIAL PERFOMANCE OF SAVINGS AND CREDIT CO-OPERATIVE SOCIETY IN KENYA

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ABSTRACT

In Kenya, SACCOS remain the most important players in provision of financial services and have deeper and extensive outreach than any other type of financial institute. They provide savings, credit and insurance services to a large portion of the population. SACCOs have contributed to a large extent to the continuous economic development in Kenya, by offering financial services to the poor and small scale businesses However, the growth of SACCOs has been inhibited by several challenges relating to effective credit risk management strategies. This study focused in assessing the effect of credit risk management on the financial performance of SACCOs with specific reference to SACCOs in Bomet County. The dependent variable was financial performance of the SACCOs while the independent variables were comprised of Capital adequacy and Management efficiency. The sample size for SACCOs in Bomet County that were selected to participate in the study was 18. The study employed purposive sampling technique in identifying the SACOOs. Secondary data was used for the purpose of this study and this data was derived from the financial statements of the SACCOs. All the predictor variables (CAR, and ME) had positive relationship with financial performance. the CAR coefficient of the predictor variables was significant at 5% level of significance except for ME. The findings confirm that there is a statistically significant influence of CAR on financial performance of SACCOs.

Key Words: *Credit Risk Management, Financial Performance, SACCOs*

INTRODUCTION

The financial sector comprises players from banking industry, micro finance institutions, capital markets, insurance companies, mutual funds and development finance institutions (CBK, 2007). In Kenya, SACCOS remain the most important players in provision of financial services and have deeper and extensive outreach than any other type of financial institute (ICA, 2002). They provide savings, credit and insurance services to a large portion of the population. Financial sector reforms were adopted in 1989 through the Structural adjustment programs supported by World Bank credit, which included liberalization of interest rate- attained in July 1991, and exchange rate-attained in October 1993.From the year 2010 new developments and intense competition in lending industry in Kenya's economy has been witnessed since the introduction of the economic liberalization which has posed serious challenges to the Sacco's. The emergence of formal and informal segments in the financial sector fragmentation implies that different segments approached problems such as high transactions costs, risk management, mobilization of funds, grants and capitalization (Steel, 1998).

Credit Management in Sacco

The provision of credit facilities is the core function of every savings and credit co-operative society. The credit management function facilitates efficient management and administration of the SACCO loans in order to ensure equitable distribution of funds and to encourage liquidity planning. In order to achieve prudence and accepted best practice, credit management should always be guided by clearly spelt out policies and procedures, strategic plan, by- laws , the co-operative act, the SACCO regulatory act and rules and regulations. Basically Savings and credit co-operative has three operational aspects namely; the savings, the credit and channeling external funds to members.

SACCO Societies in Kenya

A cooperative is an autonomous association of persons united voluntarily to meet their common economic cultural needs and aspirations through a jointly owned and democratically controlled enterprise. The key idea behind a co-operative society is to pool the scarce resources", eliminate the middlemen and to achieve a common goal or interest (Ministry of Cooperative Development and Marketing, 2007). Cooperatives are good vehicles for assisting the people improves their socio-economic situation. They are institutions that derive their strength and validity from member solidarity cooperation and concern for each other.

Statement of the Problem

SACCOs have contributed to a large extent to the continuous economic development in Kenya, by offering financial services to the poor and small scale businesses which form 60% of the economy. According to Chelogoi (2013) micro-credit institutions such as SACCOs have enabled small businesses in Kenya to overcome their major challenge of accessing funds for starting up, survival and growth.

However, the growth of SACCOs has been inhibited by several challenges relating to effective credit risk management strategies. Despite the assertion that credit risk management strategies can contribute to the performance of Sacco's literature on credit risk management is limited, mainly because of the high repayment rate of most of the well-known microfinance organizations. Studies have commonly focused on how participation in SACCOs program improved poor and hardcore poor households socio-economic wellbeing (Owusu, 2008; Silikhe, 2008), not whether they encountered any credit risks and if employing effective credit management strategies can help limit their risks.

With a large proportion of the SACCOs failing due to loan recovery challenges, despite the fact that microfinance institutions have put in place strict measures to credit risk management, and a large proportion of the population eligible to access financial services not being subscribed to any financial assistance as the SACCOs get wary of offering credit services, questions are raised on whether credit risk management may enhance the financial performance of the SACCOs. This study focuses in assessing the effect of credit risk management on the financial performance of SACCOs in Bomet County.

Objectives of the study

The main objective of the study is to analyze the effect of credit risk management on financial performance of savings and credit co-operative society in Kenya with specific reference to SACCOs in Bomet County. The specific objectives were to establish the effect of capital adequacy and management efficiency on financial performance of Savings and Credit Cooperatives in Kenya.

Research Questions

1) What is the effect of capital adequacy on financial performance of Savings and Credit Cooperatives in Kenya?
2) What is the effect of management efficiency on financial performance of Savings and Credit Cooperatives in Kenya?

THEORETICAL FRAMEWORK

Portfolio Theory

Portfolio theory of investment which tries to maximize portfolio expected return for a given amount of portfolio risk or equivalently minimize risk for a given level of expected return, by carefully choosing the proportions of various assets. Although portfolio theory is widely used in practice in the finance industry and several of its creators won a Nobel prize for the theory, in recent years the basic portfolio theory have been widely challenged by fields such as behavioral economics (Markowitz, 1952).Portfolio theory was developed in 1950'sthrough the early 1970's and was considered an important advance in the mathematical modeling of finance. Since then many theoretical and practical critics have been developed against it. This include the fact that financial returns do not follow a Gaussian distribution or indeed any symmetric distribution, and those correlations between asset classes(Michael and Sproul, 1998).

Credit Risk Theory

Although people have been facing credit risk ever since early ages, credit risk has not been widely studied until recent 30 years. Early literature(before 1974) on credit uses traditional actuarial methods of credit risk ,whose major difficulty lies in their complete dependence on historical data. Up to now, there are three quantitative approaches of analyzing credit risk: structural approach, reduced form appraisal and incomplete information approach (crosbie et al, 2003).Melton 1974 introduced the credit risk theory otherwise called the structural theory which is said the default event derives from a firm's asset evolution modeled by a diffusion process with constant parameters. Such models are commonly defined "structural model "and based on variables related a specific issuer. An evolution of this category is represented by asset of models where the loss conditional on default is exogenously specific. In these models, the default can happen throughout all the life of a corporate bond and not only in maturity (Long staff and Schwartz, 1995).
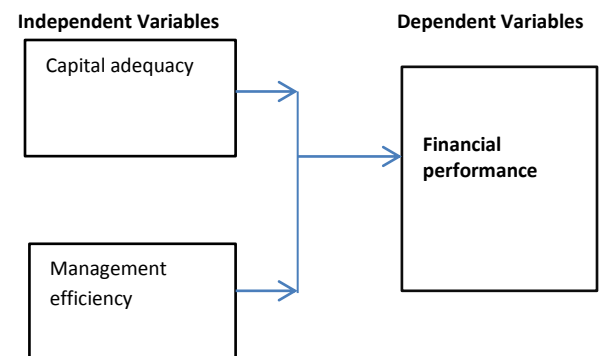
Conceptual Framework

Independent Variables   **Dependent Variables**

Figure 1: Conceptual framework

Financial performance

Analysis of the determinants of financial performance is essential for all the stakeholders, but especially for investors. The value of shareholders, defined as market value of a company is dependent on several factors: the current profitability of the company, its risks, and its economic growth essential for future company earnings. All of these are major factors influencing the market value of a company (Chijoriga, 2007).

Other studies (Brief & Lawson, 1992; and Peasnell, 1996) argue the opposite, that financial indicators based on accounting information are sufficient in order to determine the value for shareholders. A company's financial performance is directly influenced by its market position. Profitability can be decomposed into its main components: net turnover and net profit margin.

Ross et al. (1996) argues that both can influence the profitability of a company one time. If a high turnover means better use of assets owned by the company and therefore better efficiency, a higher profit margin means that the entity has substantial market power. Risk and growth are two other important factors influencing a firm's financial performance. Since market value is conditioned by the company's results, the level of risk exposure can cause changes in its market value. Economic growth is another component that helps to achieve a better position on the financial markets, because market value also takes into consideration expected future profits.

The size of the company can have a positive effect on financial performance because larger firms can use this advantage to get some financial benefits in business relations. Large companies have easier access to the most

important factors of production, including human resources. Also, large organizations often get cheaper funding (Chijoriga, 2007).

Capital adequacy
The lack of enough capital to lend to clients is globally one of the most severe problems inhibiting the growth of SACCOs (Mbawala, 2004). To some extent SACCOs can use the deposits by clients to increase its loan book, but this option is often limited in poor communities. In order to expand programs, SACCOs need access to a stable and an ongoing source of funds for SACCOs to achieve sustainable growth (Nelson, Mknelly, Slack & Yanovitch, 1994). There is often a mismatch in the maturity of a SACCOs loan and deposit books, making it difficult and risky to grow the loan book.

Additionally high costs make it difficult for some SACCOs to sustain their operations from loan revenues alone. Costs to SACCOs affect the rate at which they fund their loan books, salaries of staff and infrastructure expenses, but may be exacerbated by unreliable infrastructure, an inefficient payment system, commissions and poor selection procedures (Mukama et al., 2005).

Management efficiency
According to WOCCU the financial discipline of provisioning for loan losses has not been part of the SACCO development since SACCOs have relied on the check-off system for decades. SACCOs therefore end up having extremely low net institutional capital and fail to meet the WOCCU prudential standard of excellence of a minimum of 10% net institutional capital. Institutional capital is a critical second line of defense after loan loss provisions from losses incurred by the credit union related to increasing delinquency and defaults.
Dhakal (2011) on risk management in SACCOs found out that risk management is not imbedded into the SACCOs institutional cultures and its value

is not shared by all employees. He also noted that given the capacity, introduction of sophisticated systems and technical tools risk management does not work in SACCOs and therefore they lack the capacity required for risk management.

Gaitho (2010) surveyed on credit risk management practices by SACCOs in Nairobi, findings revealed that majority of SACCOs used credit risk management practices to mitigate risks as a basis for objective credit risk appraisal. She also found out that majority of SACCOs relied heavily on the discretion and ability of portfolio managers for effective credit risk management practices as opposed to a system that standardizes credit and credit risk decisions.

Githingi (2010) surveyed on operating efficiency and loan portfolio indicators usage by microfinance institutions found out that most microfinance institutions to a great extend used operating efficiency indicator as a credit risk management practice. Efficiency and productivity ratios are used to determine how well microfinance institutions streamline their credit operations. He also noted that microfinance institutions need to employ a combination of performance indicators such as profitability, operating efficiency and portfolio quality indicators to measure their overall performance

Gisemba (2010) researched on the relationship between risk management practices and financial performance of SACCOs found out that the SACCOs adopted various approaches in screening and analyzing risk before awarding credit to client to minimize loan loss. This includes establishing capacity, conditions, use of collateral, borrower screening and use of risk analysis in attempt to reduce and manage credit risks. He concluded that for SACCOs to manage credit risks effectively they must minimize loan defaulters, cash loss and ensure the organization performs better increasing the return on assets.

Wambugu (2009) on credit management practices in SACCOs offering front office services found out that risk identification is an important stage in credit risk management and should be applied effectively to identify the current credit risks confronting the organization, provide the likelihood of these risks occurring and reveal the type and amount of loss these risks are meant to cause if they occur. He concluded that the establishment of a review system that provided accurate timely and relevant risk information in a clear, easily understood manner is key to risk monitoring.

METHODOLOGY

Research Design
A cross-sectional descriptive research design has been used in this study to assess the effect of credit risk management on the financial performance of SACCOs in Bomet County.This design has been used because data was collected once. Descriptive research is designed to obtain pertinent and precise information of the phenomena (Lokesh-Koul, 2004). Descriptive research describes data and characteristics about the population or phenomenon being studied. Descriptive designs were used in preliminary and exploratory studies to allow the researcher to gather information, summarize, present and interpret for the purpose of classification.

Target Population
The target population for the survey was the entire set of units for which the survey data was used to make inferences. Thus, the target population has defined those units for which the findings of the survey was meant to generalize, Dornyei (2007). The target population was 180 SACCOs in Bomet County. Data was collected from the head of credit risk management in the selected SACCOs.

Sample size and Sampling Procedure
The sampling frame was the list of all the SACCOs in Bomet County. In practice, the sample size used

in a study is determined based on the expense of data collection, and the need to have sufficient statistical power Kish (2005). In order to determine a representative sample from the general population, Yamane's, as cited in Kyamanywa (2005), sampling formula was used. This gave a sample size for SACCOs in Bomet County that was 18.

Sampling techniques

The study has employed purposive sampling technique in identifying the SACOOs. In the purposive sampling the researcher has selected the respondents based on their knowledge, commendable experience and vital information presumed important to the study (Trochin, 2006). The researcher has selected 18 SACCOs to participate in the study based on the availability of complete records describing the SACCOs in line with the variables to be measured in this study. The ability of the head of credit risk management function in the SACCO to adequately provide in-depth information related to the objectives of the study was also considered by the researcher in selecting the SACCOs.

Data collection procedure

Secondary data was used for the purpose of this study and this data was derived from the financial statements of the SACCOs. This included the statement of comprehensive income and statement of financial position of the SACCOs. The variables used was Return on Equity (ROE) calculated as annual net income after tax divided by shareholder's equity as a measure of financial performance. Pandley (1996) asserts that return on the shareholder's equity is calculated to see the profitability of owner's investment. It indicates how well the firm has used the resources of its owners. The ratio has revealed the relative performance and strength of the cooperative future investment.ROE is an all embracing ratio that relates net income to the level of investment.

It is generally easily understood by all levels of management (Foulk, 2002).

Data Analysis

The collected data was checked for errors in responses, omissions, exaggerations and biases. All analyses were done using SPSS. For easy management and longevity of the data, it was captured in Ms-Excel 2007 windows. All data was entered and verified after effective coding. Data was then scrutinized in relation to the objective of the study, otherwise with a potential abundance data; vast numbers of irrelevance summaries was produced. Checking of inconsistencies, anomalies, missing values, outliers (say data cleaning) was done in SPSS syntax. Analysis was descriptive in nature (Cor-Foreman, 2009).Multiple-linear regression model was used to establish existence of relationship between the four aspects of credit risk management with the financial performance of the SACCOS (Cor-Foreman, 2009). Descriptive statistics was aimed at identifying the pattern of the data and consistency of the responses in each of the hypothesized credit risk management aspects influencing the financial performance of the SACCOs. Results were then presented in tables and graphs.

The following formula for the regression model was used to analyze the relationship:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \epsilon$$

Where; Y = Financial Performance of the SACCOs

β_0 = The constant or coefficient of intercept.

X_1 = Capital Adequacy.

X_2 = Management Efficiency.

ϵ = Error factor

$$\beta_1 - \beta_2 = \text{Correlation coefficients}$$

The financial performance of the SACCOs was the dependent variable in this study. This was measured using the Return on Equity (ROE) of the SACCOs.

FINDINGS AND DISCUSSIONS

Descriptive statistics

The study sampled eighteen SACCOs operating in Bomet County. Secondary data for the last three years was analysed. The table below shows the average values for Financial Performance, Capital Adequacy, Management Efficiency and Liquidity each of the eighteen SACCOs for the last three years.

Table 1 : Average for each variable for the sampled SACCOs

	Financial Performance	Capital Adequacy	Management Efficiency
	ROE	CAR	ME
Ndarawetta Business and Producers	0.543217	0.011279	0.001077
Imarisha Sacco	0.653469	0.027641	0.015507
Bomet Central Youth Sacco	0.412943	0.067595	0.03432
Stegro Sacco	2.179964	0.053178	0.003979
Tenhos Sacco	0.15912	0.222628	0.033391
Bomet County Boda Boda Sacco	0.466384	0.088738	0.016577
Bomet Jua Kali Sacco	0.399165	0.109122	0.0172
Kipsigis Edis Sacco	0.610683	0.062403	0.016384
Maono Daima Sacco	0.558534	0.056428	0.086301
Youth Farmers Sacco	0.231742	0.126121	0.020621
Konyit Sacco	0.477901	0.022563	0.016583
ChangChego Sacco	0.390616	0.104324	0.008619
Siongiroi FSA	-0.00818	0.055254	0.019493
Bomet East Women Sacco	0.12297	0.093006	0.007907
Sigor Ward Women Sacco	0.544967	0.023561	0.007903
Kapkoros Tea Panda Sacco	1.246381	0.073777	0.030593
Gotabgor Sacco	0.317498	0.060115	0.010031
Imarisha Sacco	0.370105	0.010734	0.008723

The ranges of twice the standard error (SE) of skewness of the variables were: ROE (Y) =$\pm$ 0.650; and CAR(X1) = $\pm$ 0.650; ME(X2) = $\pm$0.650 The computed skewness value for Y was 0.782. Since this value is almost within the range of twice the SE of Y, Y values were only slightly skewed to the left. For X1, value for skewness was 0.741, showing that the distribution was skewed slightly to the left. For X2 the values of skewness fell within the ranges of twice their Standard errors, showing that their distributions were roughly normal.

The ranges of twice the standard error (SE) of kurtosis of the variables were: Y = $\pm$ 1.224; X1 = $\pm$1.246; and X2 = $\pm$ 1.226 The computed kurtosis value for Y was 0.687. Since this value is within the range and close to 0(zero) the distribution of the scores was close to normal in terms of peakedness. Since the computed values for X1, and X2 were within the range and close to zero, it showed that the distribution of the variables was nearly normal.

The standard deviation of Y = .0771; X1 = .0730; and X2 = .0187 were all close to 0, meaning that most data values of all the variables were close to the mean.

Table 1: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
ROE	54	-.9492	3.3905	.5376	.0771	.782	.325	.687	.612
CAR	54	0.0000	.0700	.0730	.741	.325	1.013	.623
ME	54	.0010	.0863	.0197	.0187	.530	.325	1.047	.613
Valid N (list wise)	54								

One-Sample Kolmogorov-Smirnov Test was used to ascertain the normality of the study variables before employing linear regression that requires the assumption of normality. The test tests the null hypothesis that the distribution is normal against the opposite that the distribution is not normal. The results shows p-values greater the conventional 5% for all the variables and hence the assumption that all variables come from a normal distribution.

Table 3: One-Sample Kolmogorov-Smirnov Test

		ROE	CAR	ME
N		54	54	54
Normal Parameters[a]	Mean	.5376	.0700	.01970
	Std. Deviation	.0771	.0730	.01870
Kolmogorov-Smirnov Z		.5290	1.0200	1.1010
Asymp. Sig. (2-tailed)		.1900	.1350	.0610

Univariate analysis

Effect of capital adequacy on financial performance of SACCOs

Linear Regression analysis was employed to predict financial performance of the SACCOs from CAR. Model summary shows the coefficient of determination (R^2) which tells us the percentage of the variation in financial performance of SACCOs explained by the model. From the results of the table below, the regression model containing CAR as the independent variable explains 42.3% of the variation in financial performance of SACCOs. Durbin-Watson value close 2 indicates that the model did not suffer significantly from autocorrelation.

Table 4: Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.651[a]	.423	.317	.7345	1.784

a. Predictors: (Constant), CAR

b. Dependent Variable: ROE

The table below displays ANOVA results that tests the significance of the R^2 for the model. An F statistics of 7.329 with a p-value less than the conventional 5% indicates that the overall model was significant at 95% confidence level.

Table 2: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.954	1	3.954	7.329	.009[a]
	Residual	28.055	52	.540		
	Total	32.009	53			

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Residual	28.055	52	.540		
Total	32.009	53			

a. Predictors: (Constant), CAR

b. Dependent Variable: ROE

In order to detect whether multicollinearity was a problem to the model, condition index; the variance-inflation factor (VIF); and tolerance of each variable was calculated. VIF values are considered a problem when they go beyond 10, and tolerance values below .10 should be a cause for concern. A condition index over 30 suggests serious collinearity problems and an index over 15 indicates possible collinearity problems. The data were duly tested for multicollinearity by using Pearson's correlation and conditional index. The Table below, showed no serious problem of multicollinearity.

Table 3: Collinearity Diagnostics a

Model Dimension	Eigen value	Condition Index	Variance Proportions (Constant)	CAR
1 1	1.698	1.000	.15	.15
2	.302	2.372	.85	.85

a. Dependent Variable: ROE

Table of coefficients below presents the unstandardized and standardized coefficients of the model, the t statistic for each coefficient and the associated p-values. The predictor variable had significant negative relationship with financial performance.

The findings confirm that there is a statistically significant influence of CAR on financial performance of SACCOs. This implies that one unit increase in CARs leads to 3.744 unit increase in financial performance of SACCOs as demonstrated by the equation below.

Financial performance = .801+3.744CAR

Table 4: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1 (Constant)	.801	.140		5.741	.000		
CAR	3.744	1.383	.351	2.707	.009	1.000	1.000

a. Dependent Variable: ROE

Effect of management efficiency on financial performance of SACCOs

Linear Regression analysis was employed to predict financial performance of the SACCOs from Management Efficiency (ME). Model summary shows the coefficient of determination (R^2) which tells us the percentage of the variation in financial performance of SACCOs explained by the model. From the results of the table below, the regression model containing ME as the independent variable explains 42.6% of the variation in financial performance of SACCOs. The size of Durbin Watson statistic which depends on the number of predictors and number of observation, as conservative rule of thumb, values less than 1 or greater than 3 are definitely cause for concern. In this case the value of Durbin Watson was closer to 2.087 indicated that there was no serious problem of autocorrelation.

Table 5: Model Summary b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.653[a]	.426	.346	.1834	2.087

a. Predictors: (Constant), ME

b. Dependent Variable: ROE

The table below displays ANOVA results that tests the significance of the R^2 for the model. An F statistics of 9.1741 with a p-value less than the conventional 5% indicates that the overall model was significant at 95% confidence level.

Table 6: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.954	1	4.954	9.1741	.007[a]
	Residual	28.055	52	.540		
	Total	32.009	53			

a. Predictors: (Constant), ME

b. Dependent Variable: ROE

In order to detect whether multi collinearity was a problem to the model, condition index; the variance-inflation factor (VIF); and tolerance of each variable was calculated. VIF values are considered a problem when they go beyond 10, and tolerance values below .10 should be a cause for concern. A condition index over 30 suggests serious collinearity problems and an index over 15 indicates possible collinearity problems. The data were duly tested for multi collinearity by using Pearson's correlation and conditional index. The Table below, showed no serious problem of multi collinearity.

Table 10: Collinearity Diagnostics a

Model	Dimension	Eigen value	Condition Index	Variance Proportions	
				(Constant)	ME
1	1	1.728	1.000	.14	.14
	2	.272	2.520	.86	.86

a. Dependent Variable: ROE

Table of coefficients below presents the unstandardized and standardized coefficients of the model, the t statistic for each coefficient and the associated p-values. The predictor variable had significant negative relationship with financial performance.

The findings confirm that there is a statistically significant influence of ME on financial performance of SACCOs. This implies that a unit increase in ME leads to 3.187increase in financial performance of SACCOs as demonstrated by the equation below.

Financial performance = .581+ 3.187ME

Table 11: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.581	.155		3.735	.000		
	ME	3.187	1.236	.353	2.578	.015	1.000	1.000

a. Dependent Variable: ROE

Multivariate regression

Linear regression analysis was employed to predict financial performance of the SACCOs from CAR, and ME combined. Model summary shows the coefficient of determination (R^2) which tells us the percentage of the variation in financial

performance of SACCOs explained by the model. From the results of the table below, the regression model containing CAR and ME as the predictor variables explain 71.7% of the variation in financial performance of SACCOs. Durbin-Watson value close 2 indicates that the model did not suffer significantly from autocorrelation.

Table 12: Model Summary [b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.847[a]	.717	.642	.0196	1.993

a. Predictors: (Constant), ME, CAR

b. Dependent Variable: ROE

The table below displays ANOVA results that tests the significance of the R^2 for the model. An F statistics of 3.935 with a p-value less than the conventional 5% indicates that the overall model was significant at 95% confidence level.

Table 13: ANOVAb

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.113	2	2.038	3.935	.013[a]
	Residual	25.896	51	.518		
	Total	32.009	53			

a. Predictors: (Constant) ME, CAR

b. Dependent Variable: ROE

In order to detect whether multicollinearity was a problem to the model, condition index; the variance-inflation factor (VIF); and tolerance of each variable was calculated. VIF values are considered a problem when they go beyond 10, and tolerance values below .10 should be a cause for concern. A condition index over 30 suggests serious collinearity problems and an index over 15

indicates possible collinearity problems. The data were duly tested for multicollinearity by using Pearson's correlation and conditional index. The Table below, showed no serious problem of multicollinearity.

Table 14: Collinearity Diagnostics a

Model	Dimension	Eigen value	Condition Index	(Constant)	CAR	ME
1	1	2.866	1.000	.03	.04	.04
	2	.492	2.413	.14	.00	.11
	3	.416	2.626	.01	.60	.36
	4	.226	3.562	.82	.35	.49

a. Dependent Variable: ROE

Table of coefficients below presents the unstandardized and standardized coefficients of the model, the t statistic for each coefficient and the associated p-values. All the predictor variables (CAR, ME and CR) had positive relationship with financial performance we. All the coefficients of the predictor variables were significant at 5% level of significance except for ME. The findings confirm that there is a statistically significant influence of CAR on financial performance of SACCOs.

Financial performance = .792 +4.742CAR

Table 15: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	.792	.165		4.811	.000		
CAR	4.742	1.454	.445	3.260	.002	.868	1.152
ME	3.330	5.550	.080	.600	.551	.901	1.110

a. Dependent Variable: ROE

SUMMARY OF THE FINDINGS

The study was aimed at analyzing the effect of credit risk management on financial performance of savings and credit co-operative society in Kenya with specific reference to SACCOs in Bomet County. The independent variables included Capital Adequacy; and Management Efficiency against one dependent variable the Financial Performance.

The results of the study showed that Capital Adequacy in the SACOs as measured by Capital to Assets Ratio significantly determine the Financial Performance of SACCOs. However, the linear relationship between CAR and financial performance was observed to be positive. This implies that an increase in CARs leads to an increase in financial performance of SACCOs.

With regard to the importance of management efficiency in predicting financial performance of SACCOs, the study results showed positive insignificant contribution. This implies that management efficiency as measured by Number of active Borrowers per Management Staff was not very important with regards to financial performance of SACCOs. The positive coefficient of ME in the model implies that an increase in ME leads to an increase in financial performance of SACCOs though not very important.

The results further showed the combined regression model in which Capital Adequacy in the SACOs as measured by Capital to Assets Ratio and liquidity in the SACOs as measured by current ratio were considered as most important with regards to financial performance in the SACCOs. On the other hand Management Efficiency as measured by Number of Active Borrowers per Management Staff was not significant in the combined model.

Conclusion

Effect of Capital Adequacy on the Financial Performance of SACCOs

The findings confirm that there is a statistically significant influence of Capital Adequacy on Financial Performance of SACCOs. A positive increase in Capital Adequacy leads to an increase in Financial Performance of SACCOs.

Effect of Management Efficiency on the Financial Performance in SACCOs

The findings confirm that there is a statistically insignificant influence of Management Efficiency on Financial Performance of SACCOs.

Recommendations

The study recommends the following to the management of SACCOs in Kenya;

Management should make policies putting in mind the important contribution of Capital Adequacy as they all predict Financial Performance of the SACCOs.

In addition, management of SACCOs in Kenya should adopt and endeavor to implement sound credit risk management practices to ensure presence of suitable credit risk policy and that appropriate credit risk limits are set as they impact on the financial performance of the SACCOs.

The government and other stakeholders should ensure that there is favorable external business environment for SACCOs in Kenya.

Areas of Further Research

The limitation of this study is that it analyzes only SACCOs in Bomet County in Kenya. This study will provide a way for future investigation of these factors in different environments and other factors that will be proved to affect Financial Performance of SACCOs.

Further research should also consider utilizing both qualitative and quantitative techniques that

can be used in assessing the borrowers. Consequently, in line with reviewed literature SACCOs can be viewed as asset portfolios with appropriate risk-return tradeoff, while borrowers attributes assessed through qualitative models can be assigned numbers with the sum of the values compared to a threshold.

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