

The Impact of Core Capital and membership growth on financial performance of Deposit Taking Savings and Credit Cooperatives in Kenya

David Gitonga Kahuthu

Business Administration – Finance, Jomo Kenyatta University of Agriculture

Willy Muturi, PhD

JOMO KENYATTA UNIVERSITY OF AGRICULTURE (JKUAT)- KENYA

Mboya Kiweu, PhD

STRATHMORE UNIVERSITY – KENYA

Abstract

Savings and Credit cooperatives commonly known as SACCOs' are financial organizations formed by members with the same common bond to mobilize savings and later grant loans to the willing members. Prior to 2008 regulatory reforms which became operational in 2010, there was no conscious effort to regulate the subsector prudently because the organizations were not thought to pose any significant risk to the country's financial system. However, the organizations expanded financially and started Front office services activity in attempt to increase efficiency. In 2008, the government and the SACCO stakeholders formulated and legislated SACCO laws. The null hypotheses sought to examine if Core Capital requirements and members retention had any significant impact on the deposit taking SACCOs' financial incomes. The data was the analysed using the statistical package for social sciences software (SPSS). The study used census Survey design and a linear regression model to establish the influence of core capital and membership retention SACCO's financial Position. It compared the Betas of various independent and dependent variables before the regulatory reforms and after. The study conclusions on the basis of findings revealed that core capital and membership growth have positive impact on SACCO's financial performance.

Keywords: ACCOSCA, Capital adequacy, Membership growth, Prudential management

1.1 Introduction

SACCO is an acronym for savings and credit cooperative, which is known as credit union in United States of America, Canada, Mexico, savings and Credit in countries like Kenya, Uganda, Tanzania and financial Cooperatives in other countries. They are member owned organizations which encourage thrift and lending practices amongst membership and have diversity across the world, McKillop & Wilson (2011).

SACCO is a type of a cooperative belonging to the sub classification of financial cooperatives and was also defined as autonomous association of persons united voluntarily to meet the common economic, social and cultural needs of the group members, through a jointly owned and democratically controlled enterprise, Manyara (2003). A view shared by Olando et al (2013) and Asher (2007). Munyiri (2006) asserted that SACCOs are usual local institutions started by community to reduce poverty and are therefore mostly entrenched in rural and urban areas alike.

Woccu study provides that as at 31st December 2012, African SACCOs had a membership of 16,022,707, total assets of US dollars 5,600,465,483 and a financial penetration of only 6.43% which is quite small in comparison with North America with asset size of US dollars 1,331,720,878,771 and a financial penetration of 45.23%. Apart from Kenya which is using prudential standards contained in SACCO Societies act and the associated deposit taking regulations, the other African countries are not using them and are at different stages of development, Mac Pherson (1999).

Berger et al (1995), assert that regulators and supervisors see maintenance of healthy capital base across individual financial institutions as an important pre-requisite for general safety and solidness of the financial system. Thus, African countries would need to adopt the prudential standards to increase members' confidence

and loyalty to avoid the situation in Uganda where members deposit money in the evening and withdraw all of it the following morning to avoid likelihood of losing deposits, Vesperman (2013).

1.2 Overview of the SACCO Sector in Kenya

Manyara (2003) cited the beginning of evolution of cooperative movement through government initiative contained in the sessional paper No 10 of 1965. It encouraged Kenyans to form cooperatives to eradicate poverty and accelerate development. The institutions formed relied on government for guidance and hence had strong government presence and when the strong government supervisory powers were abused, the cooperatives sought autonomy. The regulated cooperatives lobbied strongly for Autonomy and in 1997 the sessional paper no. 6 led to revision of Cooperative Societies Act to embrace cooperative development in a liberalized environment and repealed the Cooperative Societies Act of 1966, Kobia (2011).

Kobia (2011) further noted the challenges which emerged ranging from mismanagement by the boards, corruption on deals especially in procurement, unresearched business ventures to outright embezzlement of SACCOs funds as significant threats to members' deposits among others. Therefore the government in 2004, realized that the 1997 Act did not meet the intended objectives and revised the 1997 Act through the amended Act (Republic of Kenya, 2004a) commonly known as cooperative Societies Act 2004 to facilitate growth in cooperatives.

1.2.1 Savings and Credit Cooperatives Registration and Growth in Kenya.

The first SACCO was registered in 1964 after the country became independent in 1963. In the 1960s, the other African countries just like Kenya were at various stages of forming cooperatives including savings and credit cooperatives which formed a continental force known as ACCOSCA (African Confederation of Cooperative Savings and Credit associations). ACCOSCA was formed in 1968 to empower SACCOs in Africa through financial, social and technical assistance with a view of improving livelihood of people living in Africa in accordance with cooperative principles (ACCOSCA, 2014). Ondieki, Okioga and Okwena (2011) acknowledged that Kenyan Cooperatives (SACCOs included) play a significant role in Kenyan financial sector.

The Kenyan SACCO subsector is the largest subsector in Africa with several of Kenya's large SACCOs having capital base large enough to rival the banks (Owen, 2007). Ademba (2010) noted that the SACCO movement has evolved in the past 40 years into a formidable force for the social and economic transformation of Kenyan people with about 63% of the Kenyan population directly or indirectly depending on the cooperative related activities for their livelihoods. With the committed members' movement of 5.7 million memberships, representing 63% of the adult population as at 31st December 2012, the financial cooperatives had accumulated Ksh 293 billion assets (SASRA 2012) which represented 31% of the national savings. The expanded institutions are currently offering banking like services in the name of Fosas and Sasas, (Manyara 2003) which posed new risks in credit, fraud and liquidity among others. Owen (2007) noted that a major innovation in the development of the sector in Kenya was the development of front office service activities (fosas) or direct deposit taking services (DTS) which offered banking like services to members.

Manyara (2003) sighted liquidity as one problem affecting SACCOs and hence tendency of most SACCOs to acquire external loans. Saunders and Cornett (2005) stated that liquidity risk can arise for two reasons: liability side reason as demonstrated by customer deposit withdrawal and asset side reason represented by loan disbursements. To keep pace with the expanded SACCO institutions the government had to formulate new legislation to counter the new challenges.

1.2 Statement of the Problem.

Prior to the regulatory reforms in Kenya of 2008, SACCOs were not prudentially regulated and the already existing deposit taking businesses (Fosas) posed several risks to the safety of members' deposits and the stability of financial sector. The major problem was the liquidity challenge (Manyara 2003) where some SACCOs were unable to pay depositors withdrawals on demand.

The impact of not making provisions for loan losses was that the financial incomes were overstated and hence overpayment in dividends and interest on members' deposits. Payment of unearned incomes led to depletion of capital. The other significant problem was lack of early losses detection mechanism. Since SACCOs were relying on audited accounts, frauds would occur during the year and substantial losses would accrue before they were detected. As a result, members' confidence and loyalty kept diminishing and SACCO regulatory reforms had an objective of protecting members' deposits and creating confidence in the SACCO Subsector.

1.3 General Objective.

To determine the impact of core capital and membership growth on deposit taking SACCOs' financial performance in Kenya.

1.3.1 Specific Objectives

- i. To examine the impact of core capital on financial performance of deposits taking SACCOs.
- ii. To examine if members retention has any impact on financial performance of the deposit taking SACCOs.
- iii. To investigate the moderating effect of 2008 SACCO regulations on the relationship between core capital and membership on SACCO financial performance.

1.4 Hypothesis

Ho: Core capital requirement has no impact on financial performance of the SACCO.

Ho: Member retention has no impact on financial income of the SACCO.

Ho: The SACCO regulations (2008) have no modifying effect on core capital, liquidity, credit management and member retention on financial income of the SACCO.

1.5 Justification of the Study

The study will be beneficial to the following:

1.5.1 Policy Makers

The findings of this study will be used to influence the policy makers when revising core capital requirements for deposit taking SACCOs. It is anticipated that non deposit taking SACCOs will be considered and similar regulations be formulated for them.

1.5.2 Scholars, Researchers and Students

The study will enable researchers appreciate the impact of capital adequacy and membership retention as tools for SACCOs expansion and also pursue further areas recommended for further research.

1.5.3 Interest of stakeholders

The study will positively influence other stakeholders who currently rely on capital adequacy when lending money to SACCOs.

1.5.4 Deposit Taking SACCOs governance

The board of directors, management and staff will appreciate the study findings for advocating SACCOs funds utilization in core business as opposed to excessive investment in other financial institutions and pass on the benefits to members in form of interest on members' deposits and dividends. The study findings would also increase members' confidence and loyalty to the SACCO due to the safety of their deposits. It also encourages pro-active management of risks as they are anticipated before occurrence by the early detection mechanisms.

Literature review

2.1 Introduction

This chapter examines the theoretical and empirical literature covering the impact of core capital and membership retention on financial performance of the deposit taking SACCOs.

2.2.2 Core Capital Based Approach and Loanable Funds Theory.

Wilson et al (2011) and Goddard et al (2010) summed up the importance of capital base as “meaningful capital standards that are important in protecting the taxpayers and the stability of financial system”. Since retained earnings form a key component of core capital, it forms an important source of loanable funds in SACCOs. Saunders and Cornett (2007) acknowledge Loanable funds theory as the amount of money available to borrowers due to changes in interest rates and other government laws. However, in SACCOs, it is the amount of money available to borrowers as permitted by the SACCO by-laws and availability of funds. The funds retained in the SACCO business as recommended by capital adequacy theory have assisted the ever growing membership and the incessant demand for loans.

Saunders and Cornet (2007) stated that most regulators acknowledge the owners contributions (core capital) as important component primarily because it is the amounts available to stakeholders in the event of insolvency and liquidation. The financial institutions particularly fix high capital ratios in order to cushion depositors against any probable loss and the undesirable banking impact of panic funds withdrawal which may create destructive panic runs on other solvent but illiquid banks or SACCOs, (Bhattacharya & Thakor, 1993).

SACCOs are exposed to many financial risks but the three direct ones are: credit, systemic and liquidity risks. In credit risk, the lender is uncertain if the loan provided will be repaid as per the contractual documents. It includes the default risk which states that the lender is unlikely to recover both the principal and the interest rate payable by the client. For the protection of deposits the regulator must be assured that the organization can at least be able to pay a proportion of shareholders funds in the event of insolvency and liquidation, (Mishkin & Eakins 2011).

To be specific, the regulator may ask for a specific proportion to be deposited in the deposit Guarantee fund with a separate board of trustee for use if the business continuity is halted. Since all the stakeholders, rely on the owners funds for compensation in the event of financial difficulties, risk based supervision with identical reporting format must be implemented by all deposit taking SACCOs or credit unions, Andrews (2012). Croteau (1956) study utilized financial ratio analysis to suggest that US credit unions are characterized by increasing merger and growth due to compliance with capital requirements which was greatly contrasted by Koot (1978). To support increasing return to scale similar to Croteau (1956), Dran (1971), Taylor (1972,1977 and 1991), Wolken and Navratil(1980) and Fry et al., (1982) appreciated the importance of capital requirements in management of financial institutions. The prudential measure for loans granted to members is the allowance for loan loss.

In Kenyan SACCOs Scenario, capital requirements are provided for in law, (Republic of Kenya, 2008), namely; the SACCO Societies Act 2008, Kenya Gazette supplements No. 98. Core capital means the fully paid up members' shares, capital issued, disclosed reserves, retained earnings, grants and donations all of which are not meant to be expended unless on liquidation of the SACCO society, (Republic of Kenya, 2008) and has the following requirements;-

- (a) Core capital of not less than ten million (10,000,000)
- (b) Core capital to total assets of not less than ten percent (10%)
(C. C. A) = C.C/total assets=10%)
- (c) Institutional Capital to Total Assets of not less than eight percent (8%).
(I. C.A = I.C/total assets= 8%)
- (d) Core capital of not less than eight percent (8%) of the total deposits (C.C.D) = C.C/total deposits = 8%.

Similar bank requirements were provided by Barrios & Blanco (2002) while the ones for credit Unions were provided by Hawken; Bake & Davis (2005). From the above definitions, it implies that the component of equity is only 2%, meaning that SACCOs should devise a way of sustaining capital from own funds (retained earnings, capital reserves, grants and donations). Orlando et al (2013) recommended institutional capital as an important strategy to help SACCOs accumulate on wealth and thus improve services to members. Therefore, SACCOs are expected to make policies on dividends and interest on members' deposit that would ensure enough retained

earnings. The retained earnings would not only improve liquidity but also sustain core capital. Thus the change in paradigm for Kenyan SACCOs is to avoid distributing surplus on the whims of populism that would give leaders votes to join SACCO directorship boards or other elective SACCO bodies. Klinedinst (2012) noted that with proper policies, SACCOs can become alternative to banks in providing funds to citizens.

2.2.1 The SACCO Theories

The theories explain the evolution of SACCOs from initiation in the early 19th century to the present position. The original mode of existence is supported by the shareholders theory where shareholders unite with a view of solving a certain economical problem and then benefit from their efforts, Freindman (1970) and Coolho et al (2003). The SACCO's corporate governance is in the hand of the "invisible hand" the AGM where the joint principals (members) guide the destiny of the SACCO and delegate some responsibilities to the management Committee. The agency theory is similar to shareholders theory which states that the SACCO exists to maximize shareholders wealth, Orlando et al (2013). The theory is an efficient market model (Blair 1995, Keasey et al, 2004), which stresses that the firm value is determined by the firm's short term performance and thus sacrificing long term investments. However, the neo-classical growth theory (Gatner 2006), recognizes the importance of long term investments and capital growth.

As the SACCO expands both in membership and total assets, the need to hire a manager arises who acts as the steward responsible of protecting and maximizing shareholders value and hence the stewardship theory, Davis et al (1997). The steward is satisfied when the organizational objectives are achieved, Donaldson and Davis (1991). Orlando, Jagongo and Mbewa, (2013) extended it and called it financial stewardship which is meant to increase and sustain SACCOs' value while satisfying the needs of the members at the same time.

Abdullah and Valentine (2009), advanced "stakeholders theory" which acknowledged that all the stakeholders' interests in the SACCO need to be addressed adequately for the success of the institution and overall membership. The theory asserts that satisfying shareholders only is only beneficial in the short term while satisfying all stakeholders is more sustainable and benefits shareholders more in the long term.

However, the degeneration theory can largely explain the diversity in the SACCOs objectives among the existing SACCOs. Cornforth et al (1988), appreciates the change in paradigm by the SACCOs due to pressure it receives from other market forces and amplified by members' demands for higher returns. The degeneration theory compromises the original principles of SACCOs of open membership, democratic member control, limited capital ownership, education and training among members and cooperation among cooperatives. As the SACCOs expand to become financial institutions like banks, they often respond to market pressures to operate like other financial institutions. Unlike the initial objective of saving with a major objective of obtaining credit, the shareholders start demanding more immediate services using the current technology like ATMs and higher returns on their investments among others. The change in paradigm leads to increased risks and hence the prudential regulation on the deposit taking SACCOs by the government. The core capital must be addressed as SACCOs expanded both in membership and asset size.

2.4.2 Members Retention

Manyara (2003) acknowledged that technology is made up of discoveries in science, loan product development and improvements in machinery, processes, automation and information technology. Over time the cooperative membership in SACCOs has grown as demonstrated by table 3 drawn from SACCO supervision reports 2011(Sasra, 2011).

Table 2.1 Growth in Membership from 2008 to 2012

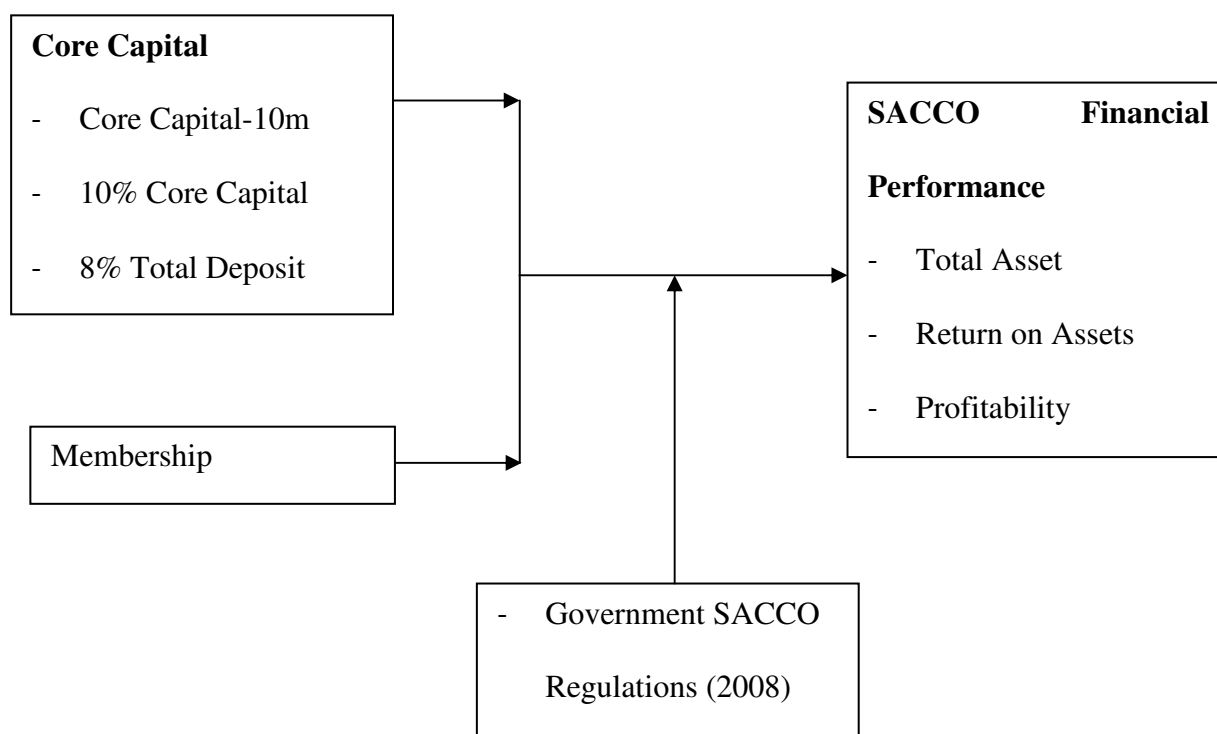
Time in Years	Membership	Growth in percentage
2008	1,061,348	
2009	1,538,993	45
2010	1,646,966	7
2011	2,092,946	27
2012	2,544,001	

Source: Sasra Annual Reports (2011 and 2012)

As evidenced in table 2.1, the growth in membership led to higher demand for financial services, more loan products, automation and information technology, Kobia (2011). Increased services and membership led to automation of services through computers and hence the complication in analyzing accounts particularly the loan book. Due to increased volume of business and the risks posed by the large SACCOs, the government had to adopt risk based approach for managing deposit taking SACCOs. The practice is similar to assertion by Saunders and Cornet (2007), who appreciated that Congress, had to introduce risk based approach to limit the excess risks posed by the depository organizations through qualified thrift lender (QTL) test. The QTL test required regulators to close down a saving institution if it's Equity to total ratio assets fell below 2%.

2.3 Conceptual Framework

The conceptual framework explained the connection between the variables and answered the why question of this study.



Independent Variables

Moderating Variable

Dependent Variable

Figure 2.1 The Conceptual Framework

Source: Researcher (2013)

2.4 Empirical Literature Review

The study greatly relies on the work done by Hyndman et al (2004) on credit unions in Ireland, Spiegel and Yamouri (2004) and credit associations in Japan, McGrath (2008). Other studies on higher capital requirements are supported by the core capital features of Basel III framework. (Commission Report United Kingdom, 2011). The Basel recommendations are the main international effort to establish rules and capital requirements for banks, published by Basel committee on banking supervision housed at the bank for international settlements, (Saunders and Cornett, 2011). This sets a prudential framework on how banks and depository institutions' ratios would be calculated, Prieto (2014).

Barrios and Blanco (2002) justified the presence of core capital regulation on avoidance of bankruptcies and the negative externalities on the financial system. Negative externalities emanates from the likely panic withdrawals from other solvent but illiquid banks due the collapse of a known financial institution, Bergie et al (1995). To illustrate the importance of capital regulation, they used two banks at different times to show the importance of capital adequacy regulation where markets are not mature to regulate themselves.

Studies by McKillop & Wilson (2011) stated specifically, that banks were expected to maintain a capital ratio of 10% on its risk-weighted assets. Basis of computation for core capital Weights were given under the relevant Basel accord while the SACCO capital ratios were given expressly in SACCO societies regulations as core capital to total Assets (CCA) of 10% and Core capital to total Deposits (CCD) of 8% (Republic of Kenya, 2008). Cournett (2011) proposed that credit Unions in United States were allowed to set their own standards. The distribution of credit unions is strongly evident in countries which adopted prudential standards as stated by McKillop & Wilson (2011). Deller; Hoyt; Hueth and Sandaram (2014) carried out a study on economic impact of cooperatives in United States of America. The research report described and quantified the magnitude of economic impact in United States of America owing to Cooperative investments.

Macharia (2013) did a study on effect of licensing requirements on the performance of savings and credit cooperatives in Nakuru County. Most SACCOs according to the study, reported improvements in their performance both in membership, portfolio and efficiency. Mbui (2010) carried out a study on the business opportunities for stima SACCO society limited in a new regulatory environment. The study concludes that the new regulatory environment provided more structured and clear guidelines on the operations of stima SACCO. Musumbi (2012) carried out a research on performance management in the SACCO societies regulatory Authority (Sasra). The researcher adopted a case study and the data collected was qualitative in nature from only one organization.

Odhiambo (2011) researched on relationship between working capital management and financial performance by deposit taking SACCOs licensed in Nairobi county. Findings of the study indicated that efficient working capital management leads to better financial performance of a SACCO hence positive relationship existed between efficient working capital management and financial performance.

Okwee (2011) carried out research on corporate governance and financial performance of SACCOs in lango sub region of Northern Uganda. The research sought to establish the level of compliance with corporate governance guidelines, determine the relationship between corporate governance and risks, examined the relationships between corporate governance and financial performance. A sample of 63 SACCOs were drawn from a population of 75 SACCOs and a questionnaire distributed to each of the SACCOs. The questionnaires were then collected, vetted and analyzed. The findings revealed that majority of SACCOs were found to comply less with corporate governance guidelines, risks were found to be weakly and negatively correlated with corporate governance and financial performance.

However, corporate governance and financial performance were found to be strongly positive correlated. The study concluded that less compliance with corporate governance as well as high risk levels may explain the relatively poor performance of those SACCOs. The study recommends further research in corporate governance guideline implementation and lending models among SACCOs.

Olando (2013) study was on assessment of financial practice as a determinant of growth of SACCOs wealth in Kenya, a case study of Meru county. The study used a descriptive design in soliciting information among forty four (44) SACCOs. The research data methodology tool used was a questionnaire and the questionnaires were distributed to the forty four SACCOs in the county. The study found out that SACCOs which inadequately complied with their Bylaws and did not have incomes from their investments were unable to adequately cover their costs. The study recommends that the government should review legal framework to ensure that institutional capital is used to grow SACCOs wealth.

Owino (2011) looked at the competitive strategies adopted by SACCOs in Mombasa county of Kenya. The researcher's findings indicated that government policies and resistance to change were the greatest challenges to strategy formulation and implementation. Other challenges faced were lack of financial resources and absence of good management to drive competitive strategies in the right direction. For further research it recommends that a study be carried out to determine the influence of Sasra on the SACCO movement. Ademba (2012) did a study on cash management and insisted that cash management as the most important item for financial institutions should be properly managed. The main aim of cash management is to avoid a situation of panic withdrawals and irrational rush for cash. Thus SACCOs must maintain cash and cash equivalents of 15% ratio to short term deposits and short term liabilities, as provided by the SACCO societies Act of Kenya (Republic of Kenya, 2008).

Research Methodology

3.1 Research Design

The research design used was descriptive Survey using SACCOs empirical quantitative and qualitative data. It is a comparative study between period prior to licencing and post licensing period.

3.2 Population

The target population of the study comprised of 124 licensed SACCOs in Kenya as at 31st December 2012

3.3 Research Instruments

The research instruments used were questionnaires and data mining templates to extract information from Sasra data base and perception from knowledgeable experts. The questionnaires were distributed to all the targeted population of licensed SACCOs as at 31st December 2012.

3.4 Data Collection Procedures

Data was obtained from both the primary and secondary sources. Data collection from primary sources was done through questionnaires while the secondary Data was obtained from Sasra's database. The data was analyzed, manipulated and logical conclusions made on the basis of findings.

3.5 Data Validity and reliability

Pilot study was conducted when 22 questionnaires were administered to 22 SACCO Ceos with an intention of pre-testing the questions. Pilot testing was done to determine the flaws, limitations or other weaknesses within the interview design and made corrections of the errors possible. To test for reliability, the study used the internal consistency technique which was assessed using cronbach coefficient Alpha. Internal consistency of data was determined by correlating the scores obtained from one time with the scores obtained at other times using the same research tool. The coefficient obtained was 0.8 and the rule is that the absolute value greater than 0.7 is acceptable as adequate for the data being examined.

3.6 Data Processing and Analysis

The data collected was validated, analyzed and interpreted to establish the impact core capital and membership mobilization had on SACCOs financial performance. Descriptive statistics such as mode, median, mean and standard deviation were used to perform data analysis. Data was processed using Statistical Data Processing for Social Sciences software (SPSS) to obtain results using linear regression model.

The use of classic linear regression model was preferred due to its ability to show relationships between the independent and the dependent variables, Castillo (2009). Multiple regression results for the period before regulation 2006 – 2009 and after regulation 2010 – 2013 were compared using the following models:

$$Y = \beta_0 + \beta_1 X_1 + E \dots \dots \dots \text{before regulation of 2010 and after regulation 2013}$$

$$Y = \beta_0 + \beta_2 X_2 + E \dots \dots \dots \text{before regulation of 2010 and after regulation 2013}$$

Moderating Effect

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + E \dots \dots \dots \text{for period 2006 - 2013 before moderating effect of SACCO societies Act.}$$

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + E$ for period 2006 - 2013 after moderating effect of SACCO societies Act.

Where the dependent variable Y = Financial Income levels,
 β_0 = intercept (represented by entrance fee and minimum capital),
 β_1 = coefficient of core capital,
 β_2 = coefficient of membership growth
 X_1 = Core capital
 X_2 = membership growth
NB:

β is the symbol for Beta and beta represents the coefficients of independent variables.
To test for hypothesis, the two simultaneous equations were used. Thus, the research is a comparative study for the financial performances for the periods before and after the prudential regulatory laws of 2010. The differences between the coefficients of the two equations showed the influence of the various independent variables and hence either led to non rejection of the null hypothesis or rejection of null hypothesis.

Description of Data

4.1 Introduction

This chapter presents the findings of the study. Data collected was in both in qualitative and quantitative aspects with analysis of both items being reported on. Both categories of data were analyzed using descriptive statistics such as mode, mean and standard deviations and inferential statistics such as classical linear regression coefficients. Data reporting was done using graphs, tables, charts and equations.

4.2 Response rate

From the data collected, out of 124 questionnaires administered, 108 were filled and returned which represents 87% response rate. The response rate is considered adequate to make conclusions for the study as observed by Mugenda and Mugenda (2003), that 50% response rate is sufficient, 60% good and any rating above 70% is considered very good. The recorded high response rate can be attributed to data collection procedures, where the researcher pre-notified the potential participants who were either CEO's or chief finance managers of all the 124 licensed SACCO societies as at 31st December 2012.

4.3 Core Capital.

The study sought to investigate the impact of core capital on financial performance of deposit taking SACCOs. The study demonstrates the impact of core capital on financial performance by comparing the coefficients of core capital in the linear regression equation before the statutory reforms in years 2006 - 2009 and resultant coefficients 2010 - 2013 after the implementation of prudential requirements as contained in SACCO laws (Republic of Kenya, 2008). The regressed results for the four years before reforms show a consolidated balance sheet (statement of financial position) from 2006 to 2009 and the results are compared with consolidated Balance sheet for the period 2010 to 2013.

The independent variable is measured by the ratio of core capital to total assets (CCA) while the dependent variable is measured by return on assets (ROA) ratio which is specifically computed by earnings before interest and taxes divided by the total assets. The study used regression analysis and correlation analysis between variables as regression showed the relationship while correlation quantified the extent of relationships between variables.

4.3.1 Core Capital (CCA) and financial performance (Return on Assets) During Pre – Reform Period (2006 – 2009).

Regression summary Table 4.1 indicates that the correlation coefficient between CCA and ROA is 0.457 with p-value of $0.012 < 0.05$. There is positive relationship between CCA and ROA. This is in line with studies made by Nair & Kloppinger – Todd (2007) which shows that SACCO growth depended on financial stewardship, capital structure and funds allocation. Buch and Prieto (2014) further supported the findings that prudential regulations particularly core capital increases financial incomes.

Table 4.1 Regression Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.457	.209	.202	.452

The independent variable is CCA. The R square is .209 which is lower than 0.5 implying there was no strong relationship between CCA and financial income as indicated in table 4.3 because core capital was haphazardly maintained before the statutory reforms of 2010. The implication is that when core capital is very low, the cash available for business is very low and hence reduced financial incomes (Aduda 2012).

Table 4.2 ANOVA

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	.076	1	.076	8.510	.012
Residual	.884	99	.009		
Total	.960	100			

The independent variable is CCA.

As indicated in table 4.2, the F_ Value is 8.510, with a p value of $0.012 < 0.05$. Hence the overall model is significant. The implication is that the model supports income generation in the financial institutions due to practical relationship between revenue reserves, capital reserves, owners' equity and financial income in deposit taking SACCOs. The findings are similar to the study by Barrios & Blanco (2003) whose findings stated that although capital formed a small percentage of a bank's wealth it nevertheless played a critical role in long term finance, solvency and public credibility of the institution.

Table 4.3 Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
CCA	.423	.145	.271	2.917	.012
(Constant)	.009	.011		.866	.388

The individual regression results show that for an increase in CCA by one unit, ROA increases by 0.423 units.

4.3.2 Core Capital and Financial Income (Post – reform period 2010 – 2013)

The study sought to compare the regression results between the pre- reform period and post reform period to ascertain if the statutory reforms brought any impact on deposit taking SACCOs' financial income.

Regression Table 4.4 indicates that the coefficient of determination between CCA and ROA is 0.710 in post reform period, with p-value of $0.000 < 0.01$. The interpretation is that there is high positive relationship between CCA and ROA. In comparison with the period before reforms of 2006 - 2009, with a coefficient of determination (R squared) of 0.209, the coefficient of determination after implementation of law is 0.710, which is 239 % increase and a pasche index of 339% if the period of 2006 – 2009 is taken as the base year. The pre – reform relationship is weak in comparison with post reforms period results. The implication is that a strong core capital is essential for the operation of smooth lending business as evidenced by the coefficient correlation of 0.843 in table 4.4.

Table 4.4 Model Summary For R2

R	R Square	Adjusted R Square	Std. Error of the Estimate
.843	.710	.708	.543

Table 4.5 ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	.019	1	.019	103.590	.000
Residual	.017	96	.000		
Total	.036	97			

Table 4.5 shows the results of Anova test which reveal that the core capital has a significant impact on financial income. The inference is derived from the fact that p- value is 0.000 which is lower than 5% level of significance. Therefore the linear regressions line that $Y = B_0 + B_1 X_1 + E$ where X_1 is the core capital and Y represents return on assets is significant.

This assertion is similar to the findings made by Costantino (2011) where he stated that prudential regulation and particularly capital adequacy is essential for managing financial crises. The findings are also in tandem with Verhelst (2011), Deubner (2011), Carvelis (2010), Carmassi et al (2010), Jackson (2010), Konoe (2010) who postulated that financial regulatory regime on capital adequacy was critical.

4.4 Membership

The study sought to investigate the impact of membership on financial performance of deposit taking SACCOs. The study demonstrates the impact of membership on financial performance by comparing the coefficients of membership growth before the statutory reforms in year 2010 and after the implementation of prudential requirements (Republic of Kenya, 2008) as contained in SACCO laws in the period 2010 – 2013.

4.4.1 Membership and Financial Income.

Table 4.6 indicates that correlation coefficient between membership and ROA is – 0.075 and R^2 of .006 and the results were compared with the results of 2010- 2013 which revealed strong relationship.

Table 4.6 Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.075	.006	-.011	.024

The independent variable is membership growth

Although there appears to be no relationship between Membership and ROA for the period before statutory reforms 2006 – 2009, the period after statutory reforms of 2010 – 2013 portray a strong relationship between membership and financial income.

4.4.2 Membership and Return On Assets (Roa) - Period 2010 – 2013.

The study sought to establish whether there was a relationship between membership and financial income as measured by Return on assets (Roa). On establishing relationship, the results were compared between pre-licensing period and post licensing period and membership was found to be significant as illustrated in table 4.7.

Table 4.7 ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	.455	1	.455	5.079	.026
Residual	10.383	116	.090		
Total	10.837	117			

The table shows the results of ANOVA which reveal that membership has significant impact on ROA as the P value is 0.026 which is less than 5% level of significance.

Table 4.8 Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
MEMBERS	.064	.028	.205	2.254	.026
(Constant)	-.142	.028		-5.168	.000

The regression equation is $ROA = -0.142 + 0.064_{MEMBERS} + E$

The results in table 4.8 indicate that membership has a significant positive influence on ROA. This is shown by the regression weight of 0.064 with a t-value (2.254) which is greater than 1.96 and P Value of 0.026 at 95% level of significance that is less than 5%. The rule is that if P value is less than 0.05, then the variable is significant.

4.5 Findings - Overall Model Comparisons

The models formulated can be compared using the following linear regression equations for the two periods:

$$ROA = 0.097 + 0.358_{CCA} - 0.019_{MEMBERS} + E \dots 2006 - 2013$$

$$ROA = 0.060 + 0.823_{CCA} + 0.068_{MEMBERS} + E \dots 2010 - 2013$$

For equation 1, 2006 – 2013 the R and R² was 0.549 and 0.301 respectively but for equation 2 when the statutory reforms were implemented the R and R² changed to 0.963 and 0.928 implying that variables became better estimators of financial performance.

Empirical Findings and Discussion

5.1 Introduction

The study design was a descriptive survey that compared the financial performance of deposit taking SACCOs in Kenya before the statutory reforms of 2010 and after enactment of law and the associated regulations. Data was interpreted and the results of the findings were correlated with both empirical and theoretical literature available.

5.2 Summary of Findings

The study sought to investigate the impact of prudential regulations on the financial performance of deposit taking SACCOs in Kenya. Specifically, the study investigated core capital and membership growth impact on SACCOs' financial position.

5.2.1 Association of core capital and Deposit taking SACCOs financial performance in Kenya.

The finding of the study revealed that core capital positively influenced the financial performance of deposit taking SACCOs in Kenya. Results of the inferential statistics such as ANOVA showed that core capital has a major positive significance on the SACCOs financial performance. When comparing the period prior to statutory reforms, the beta of core capital was low in comparison with beta for the period post statutory reforms.

5.2.4 Association of membership and Deposit taking SACCOs financial performance in Kenya.

Initially change in membership was insignificant but it later changed to being significant because as SACCOs opened common bond more people were able to join the efficient SACCOs and left the inefficient SACCOs.

5.3 The overall effects of the variables

The study findings showed a great influence of the two variables effect on the financial performance of deposit taking SACCOs. Test overall significance of the two variables jointly, core capital and membership growth using ANOVA, at 0.05 level of significance found the model to be significant.

5.4 Recommendations

The study has established that core capital and membership were important components in sustaining and increasing financial incomes of deposit taking SACCOs in Kenya. Specifically, the study recommends;

- 1) The shareholders/members should realize the importance of core capital and membership growth. They should popularize it among all the stakeholders and pass it on to generations through members' education programs.
- 2) Core capital management and membership growth leads to expansion of SACCOs and hence requirement of core competencies on subjects of finance, accounting, human resources, credit management, risk management among others in management of SACCOs. Members should elect Board of directors on the basis of key competencies and the board should extend same practices while recruiting employees. This is critical to the SACCOs and the SACCO subsector at large.
- 3) For full benefits of core capital and membership management to be realized, SACCOs should develop policies on all key areas. The policies are important to the people performing the tasks especially in the new era of performance management in the SACCOs.
- 4) The economies of scale and economies of scope brought by core capital management and membership growth logically lead SACCOs towards computerization. Consequently, reduction of costs, increased capacities in handling large volume of business and efficiency in task handling becomes apparent.

5.5 Recommendations for further research

The research study investigated SACCOs financial performance under prudential management at specific level of 10% core capital to total assets. However, other studies need to be done at different core capital levels to establish if similar findings can be generated. Thus, other studies would help to establish the most optimal core capital level to enable the subsector reap the highest benefits.

Similar studies should be done on non-deposit taking SACCOs to enable legislation for the non deposit taking SACCOs with a view of a single legislation for all the SACCOs (both deposits and non deposit taking SACCOs).

Studies should also be done on effect of legislation on total asset growth of SACCOs and the associated dividend payout policy. Since compliance required increased revenue retention to sustain capital adequacy, the SACCOs have to increase revenue retention which would be in direct conflict with members who always pressurize for increased dividends.

5.6 Conclusion

The critical point was to explore the impact of prudential regulations on the financial performance of deposit taking SACCOs in Kenya. Based on previous studies analyzed, the components of prudential standards had different impact on financial incomes of deposit taking SACCOs, namely;

1. Core capital has a positive relationship with SACCOs financial performance
2. Membership growth had an inverse relationship with SACCOs financial performance initially but changed to positive later after the statutory reforms of year 2010.

The findings also indicated that core capital is a major contributor towards the growth of financial income of deposit taking SACCOs. This is in line with Mayer (1990), Boyd (2008) and Berger et al (1995) who found that core capital is essential in protection of deposits and stability of financial systems. The findings indicated that core capital and membership growth are important for increasing financial incomes, protection of deposits and maintenance of professionalism within the deposit taking SACCOs.

References

- Abdullah, H., & Valentine, B., (2009). Fundamental and ethics theories of corporate governance. *Journal of middle eastern finance and economics*, 4, 88 – 96.
- Ackroyd, S., & Hughes, S.A., (1981) *Data Collection in Context* Longman.
- Ademba, C. (2010, October 5). Challenges facing SACCO regulations in Africa. Paper presented at 11th SACCA congress, Swaziland. Retrieved May 9, 2014 from African confederation of cooperative Savings & credit Associations website, <http://www.acosca.org>

- Ader, H., Mellenberg, J., & Hand, D., (2008). *Advising on research methods: a consultant's companion*. Huizen, the Netherlands: Van Kessel.
- Asher, M., (2007). Reforming governance and regulation of urban cooperative banks in India. *Journal of financial regulation and compliance*, 15(1), 20-29.
- Babie, E., (2004). The practice of social research. Belmont C.A Wadsworth.
Behaviour, Agency Costs, and ownership Structure, *Journal of finance*
- Berger, A. N., (1995). The role of financial institutions. *Journal of Finance*, 19, 393-430.
- Buch, C. & Prieto, E., (2014). Do better capitalized Banks lend less? Long-Run panel evidence from Germany, *International Finance 17:1*, John Wiley & Sons.
- Castillo, E., (2009). Process Optimization, A statistical Approach NY: Springer (International series in operations research and management science), July 2007. (Reviewed in : *Journal of quality Technology* 40,2,2009)
- Constantino, F., (2012). Regulation of supervision on financial markets, *International journal of the public sector management*, Vol 25 Iss: 6/7, pp 437 - 443
- Creswel, J., (2003). *Research design: Qualitative, quantitative and mixed methods approaches* (2nd ed), Thousand Oaks, C.A: sage.
- Davis, P., (2005). The governance of cooperatives under competitive conditions: issues, Processes and culture. *Journal of corporate governance*, 1, 28-29.
- Druly, C., (2000). *Management and Cost Accounting*, fifth edition, Thomson high Holborn House 50 – 51 Bedford Row London WC1R 4LR.
- Gall, M.D., Gall, J.P., & Borg, W.R., (2007). *educational research: An Introduction*. Boston: Pearson Education.
- Hancock, D., & Wilcox, J.A., (1993). Has there been a capital crunch in banking? *The journal of Economics*, 3,305-360.
- Hawken, K., & Miles, B., (2004). Amendments of the capital requirements Directive adopted by European Parliament, *Journal of investment compliance*, vol 10 Iss 3.
- Hyndman, R.J., (2008). *Stochastic population forecasts using functional data models for International publishers*, New Delhi., India.
- Jensen, M.C., & Meckling, W.H., (1976). *Theory of the Firm: Managerial Economics*, World Council of Credit Unions, Madison: WI, USA.
- Jensun, M., (2001). Value Maximization, stakeholders Theory, and the Corporate *Journal of economic Perspectives* 23:77-100
- Jstor, M., (2004). The American Economist, *profitability of credit unions*, commercial banks and savings bank, *Journal of finance*. World Council of Credit Unions, Madison: WI, USA.
- Kothari, C., (2004). *Research methodology: methods and techniques*, 2nd edition. New age
- KUSCCO. (2006). The SACCO Family Union Newspaper, Nairobi, *A journal Kenya Union of Savings Credit Co-operate Unions (KUSCO)*.
- Kvale, C., (2007). *Doing interviews*. Thousand Oaks, C.A.Sage.
- Lucy, T., (2001). *Quantitative Techniques*. 4th Edition Ashford Color Press, The Tower building London.

- Macharia, H.K. (2013). *The effect of licensing requirements on the performance of cooperative societies in Kenya*. A survey of Deposit taking SACCOs in Nakuru county. MBA thesis, Kenyatta University, Kenya.
- Magali, J. J. (2014). The influence of leadership, corporate governance and regulations on credit risk management: The study of rural SACCOs from Tanzania. *Management and Administrative Sciences Review*, 3(2), 262-281.
- Makori, J. (2013). The challenges facing deposit taking savings and credit cooperative Societies' compliance in Kenya. A case of the Gusii region. *Interdisciplinary Journal of Contemporary Research in Business*, 4(12).
- Marczyk, G., DeMatteo, D., (2005). *Essentials of research design and methodology* Hoboken, NJ: John Wiley & Sons.
- Mark, K., (2012). *Going forward financially, credit union as an alternative to Commercial banks*, Alex Bryson Emerald Group of Publishing Limited, pp 3-21.
- Mbui. J.K. (2010). *Business opportunities for Stima SACCO society limited in a new regulatory environment*. MBA Thesis, University of Nairobi, Kenya.
- Mckillop, D., & Wilson, J., (2011). Credit Unions, a theoretical and empirical Overview, (2011). *Periodicals, Inc* New York University Salomon center and Wiley
- Mudibo, E., (2005). Corporate Governance in Co-operatives the East Africa
- Mugenda, O., & Mugenda, A., (2003). *Research methods: Quantitative and Qualitative Approaches*, Acts Press, Nairobi-Kenya.
- Odhiambo, J. (2011). *The relationship between working capital management and financial performance of deposit taking Savings and credit Co-operatives societies licensed by SACCO Societies Regulatory Authority in Nairobi county*. Doctoral Thesis, university of Nairobi.
- Okwee, A. (2011). Corporate governance and financial performance of SACCOs in Lango sub region. MSc. Thesis, Makerere University, Uganda.
- Olando, C., Jagongo A., & Mbewa M., (2013) The contribution of SACCO financial stewardship to growth of SACCOs in Kenya. *International Journal of humanities and social sciences*, 3 17(1).
- Owen, G. (2007). Rural Outreach and financial cooperatives: SACCOS in Kenya. World Bank, Washington, DC, USA
- Owino, M. (2011). *Competitive strategies adopted by savings and credit cooperatives in Mombasa county in Kenya*. MBA thesis, University of Nairobi, Kenya.
- Pandey, I. M., (2010). *Financial management. 9th edition*, New Delhi: India Vikas publishing House PVL ltd
- Peek, J., & Rosengren, E.S., (1995). Bank Regulation and the Credit Crunch, *Journal of Money, Credit and Banking* 27. Requirement, Cedarcroft crescent Ottawa retrieved from: [www. Amandrews.ca](http://www.Amandrews.ca)
- Popper, K., (1959), *The Logic of Scientific Discovery* Reprinted (2004), Routledge, Taylor and Francis.
- Republic of Kenya. (2004). *The Cooperative Societies Rules 2004*. Nairobi: Government printer.
- Republic of Kenya. (2008). Economic Survey (2008). Nairobi: Central Bureau of Statistics. Ministry of Planning and National Development.: Government printer.

- Republic of Kenya. (2008). *The SACCO societies (Deposit taking Business) regulations, 2010*. Nairobi: Government printer
- Republic of Kenya. (2008). *The SACCO societies Act, 2008*. Nairobi: Government Printer.
- Richardson, A. J., & Meyburg, A.H., (2003). Definitions of unit non-response in travel.
- Saunders, A., & Cornett, M.M., (2007). *Financial Markets and Institutions: An Introduction to a Risk Management Approach. 3rd Ed.* New Delhi: Savings banks.
- Scott, A.J., & Wild J., (1986) .Fitting logistic models under case control or choice based sampling. *Journal of the Royal Statistical Society Series B 48, 170- 182.*
- Seidman, I., (2006). *Interviewing in qualitative research: A guide for researchers in education and social sciences*, third edition, New York, Teachers College Press.
- Thakor, A.V., & Furlong, P.W., (1995). Capital Requirements, Loan Renegotiation, and the Borrower's Choice of Financing Source, *Journal of Banking and Finance, 19 (June), 693-711.*
- United Kingdom (2011). *Independent Commission Report*; London: Government Printer.
- Wall, L.D., & Peterson, D.R., (1995). Banking holding company capital targets in the early 1990's: the regulators versus the markets, *journal of banking and finance 19 (June), 563-574.*
- WOCCU, (2012a) Program brief Kenya: Complying with new credit union (SACCO) Regulations. Retrieved July 9, 2014 from world council of credit unions website,<http://www.woccu.org>
- WOCCU, (2012b).statistical report 2012. Retrieved June 6 ,2014 from world council of credit Unionswebsite,<http://www.woccu.org>
- WOCCU, (2014b). *CU regulator's network*. Retrieved July 27, 2014 from world council of credit unions. website,[http:// www. Woccu.org /involved/regnet](http://www.Woccu.org/involved/regnet)
- WOCCU. (2014a). About World Council of Credit Unions. Retrieved May 28,2014 from world council of credit Unions website,[http:// www.woccu.org](http://www.woccu.org)
- World Bank. (2003). Kenya. A policy Agenda to Restore Growth. Washington, D.C.