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INFLUENCE OF CREDIT MANAGEMENT ON FINANCIAL INTERMEDIATION EFFICIENCY OF DEPOSIT TAKING SACCOS'S IN KENYA

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Abstract

Purpose: The regulation of Deposit Taking Saving and Credit Co-operative societies was expected to enhance transparency and accountability in the management of DT SACCO's and thus protecting the interests of members. This was expected to lead to better service to members through provision of timely loans and advances with minimal risk exposures. SACCO's have been identified as major financial player away from the Commercial Banks thus important in financial intermediation. Thus, the current study on the influence of credit management on financial intermediation efficiency of DT SACCO's in Kenya.

Methodology: The study targeted 174 DT SACCO's operating in Kenya as at 31st December 2019. Data analysis was done using both descriptive and inferential statistics. Descriptive statistics used in the study included measures of central tendency; mean; dispersion and standard deviation. Inferential statistics used included correlation and regression analysis.

Results: The study findings showed that there was a persistent increase in financial intermediation efficiency within the period under study and thus can be concluded that as DT SACCOs complied with credit managementon their financial intermediation efficiency improved.

Unique Contribution to Theory, Practice and Policy: Pure efficiency was lower than scale efficiency throughout the period under study, thus there is need for management to examine their performance inefficiencies so as to minimize wastages and spillage of performance opportunities.

Key words: *Financial intermediation efficiency, Credit management, Deposit taking SACCO.*

Introduction

Treasury management for SACCOs essentially amount to liquidity management combined with some elements of credit portfolio risk measurement. For SACCOs, whose members hold the equity and also provide the vast majority of liabilities in the form of their deposits, the capital adequacy debate may appear not particularly relevant: it is all member money anyway, be it shares or deposits. And even loans are made only to members. Already, this is not entirely true, because a loan is generally much larger than the average share capital and deposit held by an

individual member. The bigger the loan amount relative to the individual shareholding and parallel savings, the larger the temptation for the borrower to default on the loan. Yes, it is your own money that you are losing, but in actual fact it is mostly the other members' money, because your individual loss compared to the loan amount is small (Bald, 2007).

SACCO credit requirement refers to all activities that a SACCO is engaged in when dealing with issuance of service, recording of transactions, analyzing and collecting payments for services rendered to debtors or customers. It is the process of controlling and collecting payments from customers (Mukherjee, 2014). SACCO credit requirement refers to the timely manner with which borrowers are meeting their contractual obligations (Alhassan, Kyereboah-coleman, &Andoh, 2014). The asset quality is inversely related to the amount of non-performing assets (NPAs). According to Ombaba (2013) a non-performing loan/asset is a credit facility in respect of which the interest and (or) principal amount has remained past due date for a specific period of time. According to Ng'etich and Wanjau (2011) the issue of non-performing assets has gained increasing attention since the immediate consequence of large amount of NPAs in the banking system is bank failure.

According to the SASRA report of 2014, the level of non-performing loans deteriorated from 4.72% to 5.73% in 2014, implying an increase in credit risk. In Kenya, credit management is regulated by law, specifically SACCO society Act (2008), which provides how loans are disbursed by the SACCO Societies and places emphasis on policies and limitations on loan disbursement. The Act provided the following criteria for computing allowance for loan loss: Performing loans- which are well documented and performing 1%; Watch loans which are one instalment outstanding 5%; Sub- standard loans which are 2- 6 instalment unpaid 25%; Doubtful loans which are 7- 12 instalment unpaid 50% and loss loan which are >12 instalment unpaid 100%.

Sacco's are required by SASRA to have a loaning policy specifically detailing loan concentration limit; terms and condition of insider lending; borrower to be provided with quarterly statement of each outstanding credit facility; and Sacco's to seek prior approval to introduce any new loan products. On External borrowing the Sacco shall not borrow more than 25% of its total capital and shall charge interest at least 2% higher than the borrowing rate. The classification of loan shall be in five categories; performing, watch, substandard, Doubtful and bad. The Challenges in Credit management requirement are: Lack of comprehensive loaning policy that conforms to the regulatory requirement, inability of SACCOs to generate members statement within specified frequencies, Some Sacco's have surpassed the minimum external borrowing requirement of 25% of the total assets, and high level of non-performing loans (delinquencies) which they are required to be written off (SASRA, 2014).

According to Calomiris (2009), allowance for loan loss is a contra asset account on the balance sheet used for offsetting losses on loan assets. It is the management's best estimate of probable losses in the remainder of the portfolio as at the balance sheet date. Allowance for loan loss is a provision or reserve estimated showing the amount of loans made past due date and likely to continue in default. SACCO Act (2008) defines allowance for loan loss as an amount set aside in the statement of financial position to recognize probable loan losses so that the true value of the loan portfolio is fairly stated. It is an expense in the income statement. The most critical asset in

any financial institution SACCO's included is loans and advances to members (Monteverde, 2000). For a SACCO to be successful, it must be able to disburse loans and advances and collect them from the members (Fiorillo, 2006). The impact of not collecting loan repayments are: direct reduction of SACCO's liquidity and direct reduction on profitability. When provision for loan loss is not deducted from the comprehensive income, the income statement will be over stated and if the SACCO pays dividend, it will be paying from capital which is illegal, (Leventis, Dimitropoulos, & Anandarajan,2012). If it is done periodically over a number of years, it can lead to insolvency, (Saunders & Cornet, 2007). For a SACCO to be successful, it must be able to disburse loans and advances and collect them from members, (Fiorillo, 2006).

Literature Review

Signaling Theory

Signalling theory was developed by Spence (1974) and elaborated by Watts and Zimmerman (1986) who alluded that the levels of asymmetric information in an organization have influence on investor's adverse selection. In credit management organizations should carry out due diligence of borrowers so as to minimize odds of adverse selection and moral hazard problems. There is need for collection of all loans disbursed and proper provisioning should be made. There are higher odds of loans provided for loans under provisions to default. According to Calomiris (2009) financial distress in 2007 to 2009 was associated with increased levels of loan defaults. Moreover, in some instances accounting provisions were not made on time.

According to Mishkin and Eakins (2012)efficient managements of credit facilities would be achieved through continuous review of credit policies and adoption of loan loss provision that can easily be adopted in development credit model sensitivity analysis model. Moreover, the management should estimate the allowance balance required using past same day loan experience, an assessment of the financial condition of individual borrowers, a determination of the value and adequacy of the underlying collateral, the condition of the local economy and an analysis of the levels of trend of the portfolio and a review of delinquent and classified loans. Actual losses could differ significantly from the amounts estimated by the management. The most critical asset in any financial institution (especially banks & SACCOs) is loans to members (Monteverde, 2000).

Two characteristics that make SACCO loans to members critical is the materiality of the earning asset and the assets exposure to credit and default risk. Legally loans to members form the core business of the SACCO and for it to continue to be in operations, the SACCO must sustain all activities surrounding savings and credit. This is supported by the loanable fund's theory (Mishkin& Eakins, 2012). For a SACCO to be successful, it must be able to disburse loans and collect loan repayments from the members, (Fiorillo, 2006). The impact of not collecting loan repayments is: direct reduction on SACCOs' liquidity and direct reduction on profitability. When provision for loan loss is not deducted from the comprehensive income, the income statement will be overstated and if the entity (credit Union) pays dividends it will be paying from capital which is illegal, (Leventis, Dimitropoulos, Anandarajan 2012). If it is done periodically over a number of years, it can lead to insolvency (Saunders & Cornet, 2007).

In Kenya, credit management is regulated by law, specifically in Government of Kenya (2008), the SACCO Societies Act; section 33 provides how loans are disbursed by the SACCO societies and placed emphasis on policies and limitations on loans disbursements. The regulation 41(3) further directs SACCOs to do provisions depending on the number of days that the loans remain delinquent. Loans paid on time and as per contractual terms are categorized as performing. The loans which are well documented and without any unpaid instalment have a provision for loan loss of 1%, while loans in arrears and unpaid instalments for a period ranging between 1-30 days are provided at 5% and categorized as watch. Substandard categorization is for a period between 31-180 days and is provided for 25% while doubtful provision is for a period between 181 days to 360 days and is provided for at 50%. In excess of 360 days, it is considered a total loss and the total value of both the principal and interest is provided in full.

The theory is appropriate for the study in support for the need for examination of credit management policies adopted by DT SACCOs. There is need for DT SACCOs to continuously provide information on non-performing loans to gross loans. This may minimize cost associated with seeking for credit information that may injure the credit creation of DT SACCOs and ultimately erode odds of financial intermediation efficiency.

Empirical Literature Review

Sammy,Philemon and Juma(2013)modelled the impact of asset quality on commercial banks performance using panel data technique on 1997 to 2009 amongst commercial banks drawn from developing economies. Panel regression analysis was used to analyse the data. Results of study contrasted past studies which had found significant influence of priority sector on NPAs. Moreover, the study revealed that bad debts were highly correlated with industry sectors against the earlier assertion that it is dependent on the economy. Further, it was found that public sector banks had inferior bad debts management strategies as compared to private banks who had adopted superior risk management strategies and technology to mitigate the vice. Moreover, there was a link between capital adequacy, investment activity and profitability of commercial banks though asset size had no significant impact on commercial bank profitability. The study findings considered data from 1997 to 2009 after which they are new regulatory issues that have been introduced and they may have effect on financial intermediation efficiency of DT SACCOs.

Pastory and Mutaju (2015) examined the nexus between capital adequacy and asset quality among commercial banks in Tanzania. Panel research design was adopted in the study and a sample of 33 commercial banks was considered from 2006 to 2011 and regression analysis was applied to examine the nexus between variables. The findings revealed a positive and significant relationship between capital adequacy and asset quality. From the findings it was concluded that more regulatory measures ought to be employed in the banking sector since the duo ratios had more influence on commercial banks stability in Tanzania. There are different political and social economic environment in Tanzania and Kenya that may have implications on financial intermediation efficiency. Hence, each country findings may not be generalized in another.

Gathigia, Waweru and Muturi (2016) investigated the effect of credit risk on financial performance of commercial banks in Kenya. Panel secondary data was collected for the period 2005 to 2014 among 43 commercial banks in Kenya. Credit risk was operationalized as

measured by capital to risk weighted assets, asset quality, loan loss provision, loan and advance ratios and financial performance by return on equity (ROE). Fixed effects regression analysis was used to analyse the data and Generalized Method Moments (GMM) was used to purge time invariant unobserved firm specific effects and minimize possibilities of endogeneity problems. Results of the study revealed an inverse significant relationship between credit risk and commercial banks profitability. Moreover, poor asset quality was associated with low levels of commercial banks performance in both short run and long run. It was concluded that there is need for commercial banks to enhance their credit analysis and administration through robust credit policies and lending guidelines.

A Nigerian case to examine the nexus between credit risk and commercial banks performance in Nigeria over 15 years from 1997 to 2011 was carried out by Marshal and Onyekachi (2014). Panel secondary data was collected from annual audited financial statements of five commercial banks. Data was analysed using panel regression analysis technique and the results showed a positive and significant relationship between ratio of non-performing loans to loans and advances and commercial banks performance (ROA). It was concluded that loan and loan advances enhanced commercial banks performance thus calling for the need to recruit more borrowers as such to enhance commercial bank performance.

In the paper its conceptualized that credit management operationalized as proportion of non-performing loans to gross loan portfolio and financial intermediation efficiency. The influence is as shown in Figure 1.

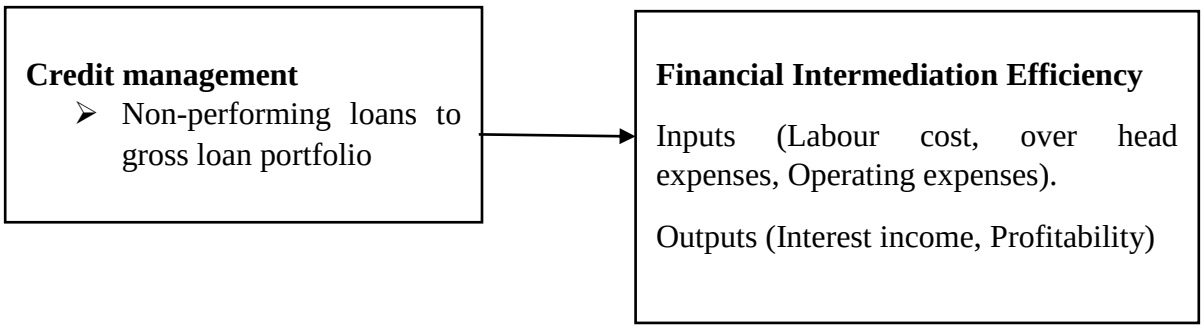

Figure 1 Conceptual Framework

Research Methodology

Research design is a conceptual structure within which to conduct a research. It constitutes an outline for data collection, measurement and analysis (Kothari, 2011). This study adopted a descriptive survey research design to analyse the influence of credit management on financial intermediation efficiency of DTSs in Kenya. Target population of the study was 174 DT SACCOs which were in operations as December 2020. Census approach was used to select 174 DT SACCOs. The study relied on secondary data that was collected from annual financial statement of DT SACCOs.

Data was analyzed using descriptive statistics (mean, standard deviation) and inferential statistics; regression analysis to examine the nature of the influence of credit management on financial intermediation efficiency. Regression model of the study was of the form:

$Y_{it} = \beta_0 + \beta_1 X_{1it} + \varepsilon_{it}$

Where

Y_{it}= Financial Intermediation Efficiency

X_{1it}= Credit management

Results and Discussions

The average financial intermediation efficiency of DT SACCOs in Kenya was 0.87, with a minimum of 0.09 and maximum of 1. The standard deviation was 0.09, which indicates minimal deviation on financial intermediation efficiency of DT SACCOs. Normality test indicates that financial intermediation efficiency was not normally distributed since its P value was less than 0.05. Hence, there was enough evidence to warrant rejection of the null hypotheses that the data was normally distributed against an alternative of non-normality of data. Non-normality of financial data was in conformity with Githira, Muturi and Nasieku (2020) who reported that data from listed companies in East Africa was not normally distributed. Moreover, they agreed with Wairimu, Muturi and Olouch (2019) who found that data from listed non-financial companies in Nairobi securities exchanges was not normally distributed. Further, the data confirmed Mwai, Memba and Njeru (2019) who reported that financial deepening of commercial banks in Kenya is not normally distributed. The average financial intermediation efficiency mimicked Kariuki (2018) who reported an average 0.87, with an oscillating average from 2011 to 2014 among DT SACCOs in Kenya.

The mean credit management was 0.35, with a maximum of 0.68 and minimum of 0.01. The standard deviation was 0.14 a clear indication of variation of credit management approaches among DT SACCOs in Kenya. Credit management practices were normally distributed since p value for Jarque Berra was greater than 0.05. The findings concur with Arora (2014) and Kariuki (2018) who alludes that credit management practices positively affects financial intermediation efficiency of DT SACCOs in Kenya. Hence, there is need for monitoring and evaluation of credit borrowers to amplify their repayment so as to enhance financial intermediation role of DT SACCOs. Furthermore, Swamy et al., (2013) sensitizes on the need to enhance financial intermediation through positive credit rating and minimize the odds of economic stagnation and dysfunctional financial institutions.

Table 1 Descriptive Statistics

	Credit Management	CRSTE	VRSTE	FIE
Mean	0.35	0.53	0.61	0.87
Median	0.35	0.50	0.58	0.92
Maximum	0.68	1.00	1.08	1.00
Minimum	0.01	0.00	0.01	0.09
Std. Dev.	0.14	0.26	0.27	0.14
Skewness	0.04	0.33	0.07	-1.53
Kurtosis	2.67	2.21	1.81	5.43
Jarque-Bera	4.34	40.11	53.77	571.3
Probability	0.11	0.00	0.00	0.00
Sum	315.27	476.1	549.7	781.9
Sum Sq. Dev.	18.46	61.59	66.63	18.77
Observations	900	900	900	900

Financial Intermediation Efficiency

The study examined financial intermediation efficiency through DEA approach where inputs were (labour cost, overhead expenses, operating expenses) and outputs (Interest income and profitability). Similar approach was applied by Kariuki (2018) while examining the effect of firm financial characteristics on financial intermediation efficiency of DT SACCOs in Kenya.

The trend analysis of financial intermediation efficiency of DT SACCOs in Kenya indicated that Constant Returns to Scale Technical Efficiency (CRSTE) recorded oscillating growth from 2012 to 2017 with the lowest mean growth of 0.50 in 2016 and highest average growth of 0.57 in 2012. Similar oscillation was noted on the mean growth of Variable Return to Scale Technical Efficiency (VRSTE) with the highest mean of 0.64 in 2014 and lowest average of 0.59 in 2018 and 2019. The mean financial intermediation efficiency was either 0.87 or 0.88 from 2012 to

2017. The least financial intermediation efficiency was reported in 2017 though FIE of 1 was recorded throughout the period under examination. A closer examination indicated that in 2016 most DT SACCOs recorded wider variation in their financial intermediation efficiency. This may be attributed with alignment to new political structures under new constitution in Kenya and compliance with SASRA regulations in 2014.

Kariuki, Muturi and Ngugi (2016) alluded that Scale Efficiency can be either CRS or VRS where VRS assumes that organization inefficiency can be associated with managerial inefficiency. According to Yadav and Katib (2015) those firms whose efficiency score are one indicate that selected input-output mix does not only optimize but also multiplies productivity and if it's less than one there are wastages in production process and opportunities for optimization of increasing returns to operations. Hence, an organization may increase their return through minimization of inefficient region or escalation of their efficiency and ultimately decrease their financial intermediation.

From the findings it can be deduced that DT SACCOs have sustained intermediation efficiency an aspect that can be associated with compliance with regulatory requirements. The average intermediation efficiency in the period under examination was higher than Mwangi (2014) who documented 0.775. DT SACCOs intermediation efficiency was better than commercial banks 70% by Kamau (2011) and Nasieku, Kosimbei and Obwogi (2013) who recorded 84%. DT SACCOs should develop measures to enhance their operational efficiency with 13% so as to achieve 100% financial intermediation efficiency. Throughout, the period of empirical examination VRSTE was higher than CRSTE that indicates that calls for examination of measures aimed at enhancing managerial efficiency and compliance with polices instead of increasing their asset bases (Hassan, Sanchez &Ngene, 2012).

Table 2 Efficiency Scores over the Years

Year		Minimum	Maximum	Mean	Std. Deviation
2015	CRSTE	0.03	1.00	0.57	0.27
	VRSTE	0.02	1.00	0.64	0.26
	FIE	0.36	1.00	0.87	0.14
2016	CRSTE	0.09	1.00	0.53	0.25
	VRSTE	0.08	1.00	0.60	0.27
	FIE	0.09	1.00	0.87	0.15
2017	CRSTE	0.00	1.00	0.54	0.28

	VRSTE	0.01	1.00	0.62	0.29
	FIE	0.36	1.00	0.88	0.13
2018	CRSTE	0.03	1.00	0.52	0.27
	VRSTE	0.09	1.00	0.61	0.28
	FIE	0.31	1.00	0.86	0.15
2019	CRSTE	0.02	1.00	0.50	0.24
	VRSTE	0.01	1.00	0.59	0.26
	FIE	0.34	1.00	0.86	0.15
2020	CRSTE	0.09	1.00	0.53	0.26
	VRSTE	0.09	1.00	0.59	0.27
	FIE	0.29	1.00	0.88	0.14

Regression Analysis on the Influence of Credit Management on Financial Intermediation Efficiency

The main objective of the study examined the influence of credit management on financial intermediation efficiency of DT SACCOs in Kenya. Findings in Table 3, has an R squared of 0.612, that shows that 61.2% of changes in financial intermediation efficiency of DT SACCOs was associated with credit management. Credit management has positive and significant influence on financial intermediation efficiency of DT SACCOs in Kenya (β= 0.010, p value < 0.05).

The findings were in support of Arora (2014) who found that in India commercial banks that has high levels of asset quality had high efficiency. Similar results were showed by Odunga, Nyangweso, Carter and Mwarumba (2013) who documented significant influence of credits risks ration on operating efficiency of commercial banks. To alleviate the level of risk exposure among commercial banks they were need for management of agency problems and conflict among different stakeholders. This was achievable through recruitment of management that have experience in management of banking affairs. Further, the results confirmed Burki and Niazi (2010) who alluded that state, private and foreign owned banks in Pakistan financial intermediation efficiency was associated with bank size, asset quality and branch networks. Further, positive increase by at least 10% of non-performing loans decreased financial intermediation efficiency by at least 6%.

The resultant equation was of the form:

Financial Intermediation Efficiency = 0.865 + 0.010*Credit Management

Table 3 Credit Management and Financial Intermediation Efficiency

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Credit management	0.010	0.0031	3.314	0.004
C	0.865	0.013	66.537	0.000
R-squared	0.612	Mean dependent var		0.869
Adjusted R-squared	0.598	S.D. dependent var		0.145
S.E. of regression	0.125	Akaike info criterion		-1.162
Sum squared residuals	11.765	Schwarz criterion		-0.351
Log likelihood	674.731	Hannan-Quinn criterion.		-0.852
F-statistic	2.950	Durbin-Watson stat		2.010
Prob(F-statistic)	0.000			

Conclusion and Recommendations

Since there is a positive and significant influence of credit management on financial intermediation efficiency of DT SACCOs in Kenya, there is need for DT SACCOs to enhance their credit evaluation criterion to manage the odds for adverse selection and moral hazard that may injure their financial intermediation efficiency. Further, it can be concluded that there is need for DT SACCOs to enhance their surveillance of customers who are seeking for credit services and ensure they vet their credit worthiness prior to loan disbursement to minimize odds of increasing proportion of non-performing loans.

There was a positive and significant influence of credit management and financial intermediation efficiency of DT SACCOs. Therefore, there is need for continued monitoring of the quality of loan portfolio in DT SACCOs. Respective SACCOs management ought to develop measures aimed at minimizing odds of increasing levels of non-performing loans. DT SACCOs ought to continuously evaluate their credit policy framework and adopt dynamic credit appraisal process. This may ultimately minimize odds of moral hazard and adverse selection due to reliance on information for decision making.

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