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The Influence of Rural Savings and Credits Cooperatives Societies (SACCOS') Variables on Loans Default Risks: The Case Study of Tanzania

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Abstract
This study was done to evaluate the rural SACCOS' variables that influence the loans default risks in 37 SACCOS from Dodoma, Morogoro and Kilimanjaro regions in Tanzania between February and May 2013. The study used purposive sampling where the primary and secondary data were collected by using the structured questionnaire and SACCOS' financial reports. The multivariate regression model was used to examine the influence of SACCOS' variables on loans default risks measured by Non Performing Loans (NPL). The results from the multivariate regression model revealed that savings and deposits reduce the rural SACCOS loans default risks while the total assets, education of the manager and the number of borrowers increases the loans default risks. However, variables of age of the SACCOS, age of chairperson of the board, manager, chairperson loans committee and their education didn't influence the loans default risks for the rural SACCOS. This study recommend that rural SACCOS should sensitize their members to deposit and save more, loans limit criteria and geographical distance should be considered before issuing loans, SACCOS' management should repay their overdue loans, avoid embezzlement of funds and adhere to their regulations. Furthermore, the advanced training of credits risks management should be conducted, crop and livestock insurance cover for loans should be introduced and the government should keep on regulating and supervising the rural SACCOS in Tanzania.

Keywords: Rural SACCOS, Variables, Loans default risks, Tanzania

1.0 Introduction

Tanzania is located in the Eastern part of Africa. More than 70% of Tanzanian population live in rural areas where there are few formal financial institutions offering the financial services such as banks (Triodos Facet, 2011). Tanzania adopted the socialist economy up to late 1970s. After market liberalization in 1980s, the government of Tanzania prepared the financial policies which promoted the access of financial services in rural areas. SACCOS in Tanzania have been established since 1980s. According to Wenner (2007), since the majority of rural people engage in agriculture activities, most formal financial institutions find very risk to lend them. Hence the establishment of rural SACCOS in Tanzania helped to serve the rural population who are not served by the formal financial institutions due to high transactions costs (Maximambali et al, 1999; Wangwe, 2004). Rural SACCOS operates in a cooperative model. Haki Kazi (2006) defines a cooperative as a group of people who work together voluntarily to meet their common economic, social, and cultural needs through a jointly owned and democratically controlled enterprise. Cooperatives are operated under the principles of the values of self-help, self-responsibility, democracy, equality and solidarity (Krahne and Schmidt, n.d). For this case SACCOS is a type of cooperative formed for the purpose of providing finance services to its members. Triodos Facet (2011) finds out that still the rural Tanzanians have little access to financial services where nearly one third (10 million) have no access at all, 29% use non-monetary means to transact and 28% use informal financial service providers. Only 4% use semiformal providers, while 8% have access to a bank account or insurance policy. The study discloses that only 650000 rural Tanzanians were served by semi-formal service providers, 70000 were served by MFIs while SACCOS served only 320000 people. According to the 2012 census statistics the population of Tanzania was 45928923 people (NBS, 2012). Hence rural SACCOS are very essential in promoting the access of financial services to rural dwellers. Since SACCOS offer even small sized loans to members, act as a bridge between individual small borrowers and the formal financial institutions (Wangwe, 2004). Moreover, SACCOS offer opportunity for members to save their money and hence they act as rural banks (Bibi, 2006). Due to government effort to promote SACCOS in Tanzania, the number of SACCOS and members reached 5346 and 970665 in March 2013 and 2011 respectively (MOAFT, 2012; 2013).

SACCOS are scattered in all regions of Tanzania and they have been important financial provider for the rural people since their establishment. However, since their establishment, SACCOS face many challenges. Haki kazi (2006), Bibby (2006) and Maghimbi (2010) asserted that many cooperatives and SACCOS in Tanzania faced the problems inappropriate structures, corruption, embezzlement, lack of working capital, poor business practice,

high loan delinquency rates, lack of democracy, education and weakness of supporting institutions. The problem of non-performing loans (NPL) for SACCOS in Tanzania is very serious. Non-performing loans are loans which their customers have yet started to pay back their loans or have a major proportional of arrears (Mwakajumilo, 2011). Haki kazi (2006), Bibby (2006) and Mwakajumilo (2011) stressed that the problems of non-performing loans is caused by poor management and lack of effective loans follow-up by the SACCOS management. Karumuna and Akyoo (2011) revealed that Kibaigwa Financial Services and Credit Cooperative Society (KIFISACCO) in Dodoma region had outstanding loans of Tshs 762500000 (equivalent to $610,000) in 2009 due to management compassion in loans follow-up. Therefore this study was done to assess the influence of SACCOS' variables on NPL. This paper is structured as follows: The following section covers the problem statement and objectives of the study. Then, the empirical literature review on variables influencing the loans default risks and performance for Cooperatives, MFIs and SACCOS will be presented. The methodology of the study, the results and discuss will take place thereafter. Finally, the conclusion, recommendations and proposition for future study will be provided.

1.2 Problem statement and Justification

Despite SACCOS offer even small sized loans to their members compared to the formal financial institutions in Tanzania, most of the studies reveal that SACCOS face the problem of non- performing loans (Triodos Facet, 2011; Maximambali *et al* 1999; Wangwe, 2006; Karumuna and Akyoo 2011 and Kipesha 2012). In order the SACCOS to have low number of non-performing loans, they should apply the effective credit risk mitigation techniques because the risk of loans default is not only influenced by borrowers but also the SACCOS' management. Hence knowing the SACCOS variables that influence the credits' default risk might help the SACCOS to mitigate the credits' risks effectively. However, most of the empirical studies which analyze credit risks focus on borrowers' variables only. To the best of my knowledge, the empirical studies on the application of effective credit management techniques to reduce the loan default risks by SACCOS in Tanzania is missing. Therefore this study investigated the influence of SACCOS' variables specifically total assets, education of SACCOS' management team, savings and deposits, age of the SACCOS, age of the SACCOS' staff and the number of borrowers on loans default risks in Tanzania. The author believes that proper mitigation of credits risks will have implication of promoting accessibility of loans (capital) by rural SACCOS' members.

1.3 Objectives

The Main objective of this article is to investigate the influence of SACCOS' variables on loans default risk while the specific objectives of this article are:

1. To describe the quantative variables of the SACCOS
2. To examine the influence of the total assets (size) of the SACCOS on the loans default risks
3. The assess the influence of education of the manager on loans default risks
4. To assess the influence of the savings and deposits on loans default risks
5. To evaluate the influence of Age of SACCOS and body members on the loans default risks
6. To inspect the influence of the number of borrowers on loans default risks

2.0 Literature review

2.1 Factors affecting loans default risks for rural MFIs borrowers

Majority of studies use multivariate regression, tobit and probit model and descriptive analysis to analyse the factors influencing loans default for borrowers in rural and cooperative MFIs. examples of these studies are Mashatola and Darroch (2003), Kohansal and Mansoori (2009), Oni et al (2005), Oladeebo and Oladeebo (2008), Ojiako and Ogbukwa (2012), Oke et al (2007), Haque et al (2011), Duy (2013) done in Ghana, South Africa, Iran, Bangladesh Nigeria, Australia, Bangladesh and in Vietnam respectively. However, many scholars in various countries in the world analyse the influence of borrowers' variables on loan default risks where the studies which focus on rural MFIs and SACCOS often target farmers, poultry keepers, small business' investors and housing borrowers. Borrowers' variables mentioned to influence the loan default risks for rural MFIs from empirical studies are the level of income, age, education, size of the loan, gender, marital status, geographical location, the loan activity, borrowers' years of experience, size of the business/loan activity, geographical distance from household to credit source, occupation, interest rates, type and value of collateral, forced savings and household size. Almost all researchers found out that the income of the borrowers influence positively on loans repayment performance and negatively on loans default risks. Different authors found out that age of borrowers influences the loans default risks negatively or positively depending on the situations. For examples if borrowers were having access to income, age influenced the loans repayment performance positively or vice versa. Most of

studies also noted the negative influence of family size on loans default, implying that the large the family size, the high the loans default risks. Few scholars studied the influence of forced savings on loans default risk. Haque et al (2011) noted the negative influence of the forced savings on loans repayment performance. Many scholars also found out that farm size, flock size and the size of business affects the loans performance negatively or has positively depending on the situation. For example, when the business and activity environments are conducive, the size of business affects positively to repayment performance or vice versa. Usually the years borrowing experience influence the loans repayment performance positively while collateral and number of loans installment both significantly influence the loans repayment performance. Moti et al (2012) revealed the significance influence of borrowers' years of experience on loans repayment performance for farmers in Kenya. Likewise, Kohansal and Mansoori (2009) revealed that collateral and gender of the borrowers influenced positively the loans repayment performance while number of installments and interest rate affected negatively the repayment of agricultural loans in Iran.

According to Sileshi et al (2012) the factors influencing the loans default risks for smallholder farmers in Ethiopia were agro ecological zone, off-farm activity and technical assistance from extension agents, production loss and misuse of loans. Trà, and Lensink, (n.d) revealed that informal lenders face a higher default risk than formal lenders and socio cohesion influence loans default negatively in Vietnam while Gómez and Santor (2008) found out that loans repayment was higher for group than individual borrowers and socio cohesion influenced loans default negatively in Nova Scotia-Canada. Duy (2013) found out that farmers have higher repayment performance than non-farmers in Vietnam while Addisu (2006) noted that the Government owned and NGOs microfinance institutions were found to have high default rate in Ethiopia. Al- Mamun *et al* (2011) revealed that more than 50% of the cooperative members fail to repay their loans because they misallocated their credits in Malyasia. Addisu (2006) found out that lack of risks mitigation strategies for borrowers lead to high loans default risks for informal sector borrowers in Ethiopia. Warue (2012) found out that age and of the business and diversion of funds by borrowers and MFIs corporate governance style, loan process, and recovery methods influenced the loans delinquency for MFIs in Kenya. Onchangwa et al (2013) asserted that misallocation of loans in non production activities by SACCOS' members reduced their investments and this posed the high probability of the loans default in Kenya. This section affirms that most scholars are interested to explain the factors affecting the loans default risk for MFIs in borrowers' context. The following section explains the studied done to examine the influence of Cooperatives and MFIs variables on efficiency and performance.

2.2 Variables influencing Cooperatives and MFIs efficiency and Performance

Many scholars identified the firm's variables affecting the efficiency and performance of production cooperatives. However, the variables affecting the efficiency and performance of production and microfinance institutions are related. Bond (2009) found out that large size of board reduced the performance of cooperatives in USA while McKee (2008) proved that outside investment help the cooperative to become more efficient. The study registered 50% of farm supply and grain marketing cooperatives which received at least 40% of net revenues from assets invested outside in North Dakota-USA between 2002 and 2005. The study suggested the relationship between net income, sales volume, profitability and total asset value. Conversely, Saleh (2012) revealed the positive association between the cooperative performance and self reliance ratio, annual sales and type of cooperative activities in Egypt. Misra (2006) recommended the appropriate size of the cooperatives for effective management while Krasachat and Chimkul (n.d) stated that the level of internal quality control influenced the inefficiency of agricultural cooperatives in Thailand.

Furthermore, numerous scholars explain the MFIs variables in efficiency perspective. Majumdar (1997), Masood and Ahmad (2010), Abayie et al (2011), Kipesha (2012) narrate that size of capital, costs of operations, geographical locations, age and model of regulations were the main factors that influence the efficiency and performance of MFIs in Mexico, India, Ghana, in East Africa and Tanzania respectively. González (2008) affirmed the effect of the structure of the board and ownership status on the MFIs performance in Mexico. The study noted also the influence of assets and age on MFIs profitability. Ahlin et al (2006) and Imai et al (2011) found out that profitability, operating expense and portfolio quality had positive impact on MFIs performance. Imai et al (2011) further noted that GDP and share domestic credit to GDP had positive impact on MFIs performance. Janda and Zetek (2013) found out that macroeconomic factors i.e unemployment rate, inflation rate, % of rural population, % of agriculture value added products and annual % of GDP growth rate in most cases have effect on average loan balance per borrower, gross loan portfolio, number of active borrowers, the percent of female borrowers (woman) and profitability return on assets which in turn affect the interest rate

policy of MFIs in Latin America. Conversely, Arrasen and Avoyidovu (n.d) asserted that financial expenses, wages and portfolio quality mainly influenced financial performance while lending methodology, form of institution and location influenced the socio performance of MFIs in Sub-Saharan Africa. Fernández et al (2012) found out that determinants of margin in MFIs in Spain are operating costs, solvency, risk, size, age, financial inclusion status, outreach (average loan balance per borrower and percentage of women borrowers), donations, deposits, type of entity and profitability while Tehulu (2013) revealed that the determinants of MFIs financial sustainability in East Africa are management inefficiency, portfolio at risk, loans intensity and size. Crombrugghe et al (2008) linked the determination of interest rate and MFIs performance. They recommended that MFIs in India can maintain the interest rate of 22% and become profitable if repayment of the loan is made according to the contract. They also revealed that MFIs in India do not cover costs because they were inefficient in loans processing. They insisted that increasing of loan size and the number of borrowers per loan officer can be a solution for improving efficiency and performance of MFIs in India. Moria and Olomi (2012) established that low awareness and lack of confidence of MFI board's members caused inefficiency when performing their roles and this negatively influenced the MFIs performance. They also revealed that females and local directors were the reason for superior financial and social performance of MFIs in Tanzania and Kenya. These empirical literature reviews suggest that the literature on how MFI variables affect the loans default risks is missing.

2.3 Variables influencing SACCOS' efficiency and performance

Some scholars assert that the performance of SACCOS is influenced by innovativeness of the board in adopting the effective techniques which foster their performance. Lagat et al (2013) noted that majority of the SACCOs in Kenya have adopted largely risk management practices as a means of managing their portfolio where the components of risk identification, evaluation, analysis, monitoring and mitigation were integrated into management processes. Since Ikomi (2012) related risk taking with firm's profitability, adoption of effective risk management techniques by SACCOS lead to the reduction of loans default risk and hence increase their profitability. Furthermore, recruitment of staff with entrepreneurship, marketing and business skills is vital for SACCOS' performance. Makori, et al (2013) revealed that political interference, high investment in non-earning assets and inadequate managerial competencies hindered the profitability of SACCOS in Kenya. Mwau (2013) found out that 88.9% of the SACCOs in Kenya had received external funding and hence concluded that financing diversification positively affects the performance of SACCOS. Mosongo et al (2013) affirmed that high financial performance of the SACCOS depended on adopting institutional, product and process innovations respectively. Chahayo et al (2013) found out that financial shortage negatively affects the SACCOS' performance. They noted that the financial mismatch was caused by poor leadership, poor record keeping, outdated cooperative laws, lack of cash flow management and low interest loans. Similarly, Olando et al (2012) found out that growth of SACCOS' wealth depended on financial stewardship, capital structure and funds allocation strategy. Olando et al (2013) narrated that the growth of SACCOS' wealth depended on loans management, institutional strengths and innovativeness of SACCO Products. Auka and Mwangi (2013) revealed that despite SACCOS were not effective and competitive in providing financial products and customer relations; large number of SACCOS' members took loans because they provided low- interest loans. Mwangi and Wanjau (2013) found out SACCOS contributed to the growth of capital, entrepreneurship and business management skills among youth in Kenya. On the other hand the study noted that the recruitment and sensitization of SACCOS' members to borrow loans had positive impacts on SACCOS' performance. Mpiira et al (2013) found out that participation in SACCOS' activities in Uganda was mainly done by members with regular incomes and with dependants in secondary schools. The study also revealed that earning salary and spouse with rented houses were less likely to participate in SACCOS activities while long distance from the household to SACCOS reduced household's participation because of increased transaction costs. Conversely, Sebhatu (2012) revealed that SACCOS in Ofla Wereda Tigray region in Ethiopia faced the problems of lack of information and high interest on loans while Kushoka (2013) found out that employee-based SACCOS in Dar es salaam Tanzania had insufficient funds to meet members' credit needs and thus discouraged their members. The literature indicates that most of SACCOS in Africa lack business and entrepreneurship skills to sensitize new members to join the SACCOS and also lack techniques to motivate members not to leave the SACCOS. Likewise, they lack techniques and skills which might help them to use the available capital effectively and the skills which will help them to seek right capital from external financial sources which could benefit both SACCOS and members.

Some studies depict the influence of corporate governance and regulations on SACCOS' performance. Ondieki et al (n.d) revealed that financial performance of the SACCOS in Kenya was influenced by financing and investment policies and portfolio quality financing. Otieno et al (2013) noted that government financial

regulations contributed only 26.2% to the financial performance of SACCOS in Kisii Central, Kenya while Olando et al (2012) found out that SACCOS which didn't comply with their by-laws were operating at loss. Similarly, Orlando et al (2013) found that inadequately compliance with by-laws hinders better allocation of incomes and ultimately make the SACCOS fail to cover the operating costs. Onsase et al (n.d) revealed that that some SACCOS' commercial managers in Kenya had little basic knowledge on SACCOS' philosophy and functioning hence they didn't perform their roles according to the performance management standards and this negatively influenced the SACCOS' financial performance.

To the best of my knowledge, there are few scholars who empirically investigated the influence of quantative variables on SACCOS' performance in the Horn of Africa and Tanzania specifically. Ndiege et al (2013) studied the relationship between sources of funds and SACCOS' outreach in Tanzania. Their findings indicate that both external and internal sources of funds influenced the SACCOS' outreach. Nonetheless, their results portrayed a threat to saving behaviour for SACCOS' members because the external source of funds was becoming the major source of the SACCOS' loan portfolio. Nyamsogoro, (2010) studied the determinants of financial sustainability of rural microfinance institutions (NGOs, SACCOS and SACAS) and noted that age, capital structure, interest rates, lending type, cost per borrower, product type, size, number of borrowers, yield on gross loan portfolio, level of portfolio risk, liquidity level and staff productivity affect the efficiency and sustainability of rural MFI in Tanzania. Tesfamariam et al (2013) analyzed the variables which influence the efficiency of rural SACCOS in Ethiopia and they revealed that loans, income and expenses positively influenced the efficiency of SACCOS in Ethiopia. Similarly, Marwa and Aziakpono (2013) examined the variables which influence the technical and scale efficiency of SACCOS in Tanzania and noted that loans and assets have an effect on the efficiency of SACCOS in Tanzania. Conversely, Temu and Ishengoma (2010) studied how financial linkage affects the performance of rural SACCOS in Tanzania and found out that internal finance capacity of SACCOS were influenced positively by loan size, interest income and membership size. Also they revealed that high costs of accessing loans from commercial banks and large MFIs affect SACCOS' financial linkage negatively. Based on discussion from literatures, the empirical studies on how SACCOS' variables influence the loans default risks in Tanzania is missing. Therefore this study was done to fulfill the gap.

3.0 Methodology

This study was conducted for 37 rural SACCOS in Morogoro, Dodoma and Kilimanjaro regions, specifically Morogoro rural, Mvomero, Kongwa, Rombo, Hai, Moshi rural and Siha districts between February and May 2013. The study used purposive sampling where rural SACCOS were selected for an interview by using the structured questionnaire while the secondary data were collected within SACCOS from their financial and operational reports. Data analysis was done by SPSS software where the quantative variables of age of the SACCOS, male, female, group and institutions members, total members, age of SACCOS chairperson, manager and chairperson loan committee, year of schooling of chairperson, manager and chairperson loans committee, loans issued, loans repaid and defaulted were computed by using the descriptive statistics. Also the frequencies of the education of SACCOS' chairperson, manager and chairperson loans committee were computed by using the descriptive statistics.

The multivariate linear regression model was used to evaluate the influence of the SACCOS variables on loans default risk. The regression analysis tested the influence of savings and deposits, size, measured by log of total assets, year of schooling of the manager and the number of borrowers on loans default risks where the dependent variable (Y) was measured by log of Non Performing Loans (NPL). NPL is the sum of borrowed money upon which the debtor has not made his or her scheduled payments for at least 90 days. In this study NPL was considered as loans delayed for 180 days i.e 6 months from their due date. Regression was constructed as follows:

$Y = b_0 + x_1 b_1 + x_2 b_2 + x_3 b_3 + x_4 b_4 + \mu$, Where b_0 is the Y-intercept, $b_1 - b_4$ are the Beta coefficients of X_1-X_4 which are the independent variables and μ is the error term. X_n variables are defined as follows:

X_1- Savings and deposits
X_2- Total assets
X_3-Year of schooling of the manager
X_4-Number of borrowers with outstanding loans (X_1, X_2 and X_4 were transformed into logarithmic form)
The study also tested the influence of age of the SACCOS, age of the manager, chairperson of the board and chairperson loans committee and year of schooling of chairperson of the board and chairperson loans committee

on loans default risk in a separate model.

4.0 Results

4.1 Education qualitative variables and default risks

Results from Table 1 show that the education levels of the SACCOS' board members where the chairperson, manager or secretary and the chairperson loans committee act as representatives for the all SACCOS' board members. This is because the chairperson is the Chief Executive Officer of the SACCOS, the manager or secretary is the chief administrator of SACCOS' internal functions and the chairperson loans committee is the one who lead the responsibilities of loans repayment. Hence their education levels might influence the loans default risks. Many scholars have found the relationship between the education and loans default risks or loans repayment performance (Addisu 2006; Oke et al 2007; Acquah and Addo 2011). The results from the Table 1 show that 81.1%, 45% and 89.2% of the SACCOS' chairperson, manager/sectary and chairperson loans committee were having primary education. The results indicate that majority of the SACCOS' board members possessed the minimum level of education hence this might affect their decisions and roles and ultimately affect the loans default risks. The results show that only 18.9%, 35.1% and 5.4% of chairperson, manager/sectary and chairperson loans committee were having secondary education while it was revealed that no chairperson of the board had college education in any SACCOS. Possession of college and university education only by manager and chairperson loans committee in some SACCOS was observed as threat for proper management of funds and in some cases it fueled the embezzlement of funds. Likewise lack of enough skills by chairperson resulted into improper record keeping by their subordinates, since they failed to supervise them effectively.

Table 1: Education level of the board members

Variables	Percent	Frequency
Education level of chairperson of the board		
Primary	30	81.1
Secondary	7	18.9
Total	37	100.0
Education level of the manager		
Primary	17	45.9
Secondary	13	35.1
College	5	13.5
University	2	5.4
Total	**37**	**100.0**
Education level of chairman loan committee		
Primary	33	89.2
Secondary	2	5.4
College	2	5.4
Total	**37**	**100.0**

4.2 Quantative SACCOS' variables

Table 2 shows the quantative variables for the rural SACCOS where the minimum age for the SACCOS was 5 while the maximum age was 20. The results show that at least every SACCOS had experience with operation procedures and they might use this opportunities to improve their efficiencies and prevent the loans default risk. The results indicate that most of the SACCOS were having experiences of more than 10 years. Hence they could apply well the accumulated experiences to improve their performance. The results also show that the SACCOS composed of male, female, group and institutional members. The study revealed that female members were about 40% of all SACCOS' members. The findings indicate that both females and males were sensitized enough to join the SACCOS and they might be benefited by SACCOS' activities. It was also revealed that in every SACCOS there were groups members while institutions members were found only in 2 SACCOS. It was revealed that the minimum age for the chairperson, manager and chairperson loan committee was 36, 21 and 29 while the maximum age was 74, 58 and 74 and the average age was 53.35, 42.14 and 52.49 respectively. The results show that people of all age categories were included in the board and this could help to share skills and experiences which could reduce the loans default risks. The results show that majority of board's members were aged since the mean ages were 53.35, 42.14 and 52.49 implying that the board possessed the experience people who could apply their skills and experiences to reduce the loans default risks.

The findings show that the minimum and maximum years of schooling of the chairperson, manager and chairperson loan committee were 7 and 15 respectively with a mean of 7.76, 9.59 and 7.38 for the chairperson, manager and chairperson loan committee indicating that majority of chairpersons of the board and chairpersons loan committee possessed the primary education with 7 years of schooling. Rural SACCOS issued loans based on to their amounts of capital and by considering the number of applicants. It implies that the loan size per borrower was large if the SACCOS had enough capital or vice versa. However, the capital was maintained or increased if the rural SACCOS managed the credits well by applying the effective credit risks mitigation techniques to reduce the loans default. The findings show that the minimum amount of loan issued was 3765000[1] Tshs while the maximum amount was 800000000 Tshs.

Failure to prevent loans default risk has implication with sustainability and performance for rural SACCOS. If the SACCOS had large number of overdue loans implies that borrowers hold the capital of the SACCOS, hence this denied their operations. The study noted that 17 SACCOS (about 46%) in Morogoro and Dodoma regions were not issuing new loans; some for two years because they had large number of NPL and this affected their operations. However, the situation was different in Kilimanjaro region where all SACCOS were working. The study revealed that only 1 (among 9) SACCOS in Kongwa district i.e Chambasho SACCOS was active and operated properly. Despite KIFISACCO was partially operating, it had large number of NPL and it was not active. In Morogoro regions 9 SACCOS were not active and stopped to offer new loans for 2 years like Dodoma's SACCOS. The remaining SACCOS in Morogoro region, despite were working, they had large amount of NPL where almost in all SACCOS, some members stopped to repay their overdue loans for two years and more.

The minimum amount of repaid loans was 500000 Tshs while the maximum amount was 600000000 Tshs. The minimum amount of Non-performing loans (loans delayed for more than six months after its due date) was 903000 Tshs while the maximum amount was 300000000 Tshs. The findings show that the average of minimum and maximum amount of Non-performing loans was 24% and 33% respectively. The results indicate that the large size loan has higher risk of default than the small one. Hence the SACCOS should offer large size of loan to their members after deep analysis of credit risks mitigation techniques. The minimum and maximum number of borrowers was 8 and 648 while the minimum and maximum number of borrowers defaulted their loans for more than six months were 3 and 186 respectively. The results indicate on average that 22% of the borrowers defaulted their loans, although the default was more than 30-40% or even 90% for some SACCOS for in Dodoma and Morogoro regions depending on the credits risks mitigation techniques used by individual rural SACCOS. However, it was noted that the number of NPL was low, if a rural SACCOS were committed in follow-up of overdue loans from their members.

4.3 Results from the Regression model

Table 3 presents the multivariate regression results of the influence of SACCOS' variables (savings and deposits, total assets, year of schooling of the manager, total number of borrowers on the SACCOS) on loans default risk (measured by Non performing Loans). The results show that the R-square is 0.706 suggesting that about 71% the model is strong and variables fit the model well. R-square indicates that about 71% variations of the NPL from rural SACCOS can be explained by the variations of the total assets, year of schooling of the manager, savings and deposits and number of members borrowed from SACCOS. Table 3 also shows that the model is significant at 99% where the F-statistics is 19.196. The findings moreover show that savings and deposits influences negatively on NPL. It implies that the high the amount of savings and deposits the borrower possess, the lower the amount of NPL for rural SACCOS. It was noted that during default cases, some rural SACCOS used the members' savings and deposits to recover the NPL. This result is in line with Ndiege et al (2013) who revealed that SACCOS in Tanzania don't save much but they rely more on external capital to provide loans. Savings culture in rural SACCOS can be promoted if the SACCOS have the policy of fixing certain amount of savings and deposits before issuing loans and adhere to it. The study noted that most of the SACCOS were having this policy by didn't abide by their regulations. Hence savings and deposits didn't help them to cover NPL. Also it was noted that some SACCOS used members' savings and deposits to operate the SACCOS. Members with no overdue loans in the respective SACCOS complained that they requested the SACCOS to pay their savings money but SACCOS didn't pay them.

[1] 1 USD was equivalent to 1610 Tanzanian Shillings (Tshs)

Table 2: The SACCOS quantative variables

Variables	N	Minimum	Maximum	Mean	Std. Deviation
Age of SACCOS	37	5	20	10.95	3.858
Male members	37	0	1934	309.03	374.670
Female members	37	12	1400	209.19	314.624
Group members	37	0	258	32.27	57.772
Total members	37	40	3567	550.49	697.023
Age of chairperson	37	36	74	53.35	9.618
Age of the manager	37	21	58	42.14	9.514
Age of chairperson loan committee	37	29	74	52.49	11.897
year of schooling of chairperson	37	7	11	7.76	1.588
year of schooling of manager	37	7	15	9.59	2.862
Year of schooling of chairperson loan committee	37	7	13	7.38	1.320
Loans issued	37	3765000	800000000	143000000	194200000
Loans repaid	37	500000	600000000	102000000	150600000
Non Performing Loans	37	903000	300000000	35800000	640400000
Members borrowed	37	8	648	193	200
Members with outstanding loans	37	3	186	40	37
Total assets	37	950000	1000000000	153000000	260800000

The results from Table 5 show that total assets, year of schooling of the manager and total number of borrowers influence positively on NPL. The results indicate that increase of the year of schooling of the manager increased the amount of NPL. The study noted rural SACCOS having diploma and graduate managers were having large amount of NPL. The results are contrary to the theory which recognizes the importance of high skills of the manager for reducing the risk of loans default. Theoretically, a skilled staff can perform their duties and responsibilities well than non skilled ones. Large number of NPL despite high education level of manager occurred either because managers didn't apply their education fully to prevent the loans default or performed their roles in the ways which promote the loans default risk. For example in some SACCOS managers and other management team were having large amount of NPL. This discouraged other members to repay their defaulted loans. The negative influence of education on loans repayment performance or default risks were also noted by Oladeebo and Oladeebo (2008) and Oni et al (2005) for farmers in Nigeria while Acquah and Addo (2011) and Addisu (2006) revealed the positive influence of education on loans repayment performance for fishermen and informal sector borrowers in Ghana and Ethiopia respectively. The results from the Table 3 also show that total assets influenced positively to loans default risk. Since loans issued are the component of the total assets, it implies that the more the amount of loans issued the more the risk. This result is contrary with Haque et al (2011) in Oladeebo and Oladeebo (2008), Ojiako and Ogbukwa (2012) and Kohansal and Mansoori (2009) in Nigeria who find that the size of loan influences the repayment performance positively in Bangladesh, Nigeria and Iran respectively. Similarly, total assets are used as a proxy for the SACCOS' size. Misra (2006) affirmed that convenient size of the cooperative is vital for efficient management. Similarly, Majumdar (1997) found out that larger firms are found to be more productive and less profitable in India while Kipesha (2012) reported the influence of that size of capital on the performance of MFIs in Tanzania and East Africa.

The findings from Table 3 also reveal that the number of borrowers increases the loans default risks. It means that more the number of borrowers, the more the default risks. This is an indication of inadequate credits risks management by the rural SACCOS. It implies that issuance of loans to many members of the SACCOS of wide geographical coverage posed the risks of default if the SACCOS had no enough resources to make the loans follow-up. For example MAMI, KWO and KIFISACCOS covered the whole district of Kongwa in Dodoma

region and hence had large amount of overdue loans because they failed to make follow-up for members who live far away from SACCOS because of high costs of follow-up. This scenario could be avoided if the SACCOS concentrate on the convenient geographical coverage. Failure of loans follow-up is also an indication of inadequate cost-benefit analysis evaluation during the loans processing. Moreover, if the SACCOS issue loans for many members, means it will employ more number of staff to carry out daily activities and this has implication with costs increase. Temu and Ishengoma (2010) found out that the number of members influence the performance of SACCOS in Tanzania. Their results are in line with Kipesha (2012) found that the size of MFIs in terms of having many employees reduces their profitability and efficiency.

Table 3: Estimated value of Regression coefficients

Independent variables	Estimated value of coefficients	t-value
Log of savings and deposits	-0.566*	-2.069
Log of Total assets	0.931**	3.357
Year of schooling of manager	0.280*	2.619
Log of borrowers with NPL	0.490*	4.984
R-square	0.706	-
Adjusted R-square	0.669	-
Value of F statistics	19.196*	-
Durbin Watson	2.470	-
Mean VIF	4.7025	-
Standard Error of Estimate	0.36345	-

*Significant at 1% level; **significant at 5% level

The findings from Table 4 shows that age of the SACCOS, manager, chairperson of the board chairperson loans committee and their education levels don't fit the multivariate regression model. It implies that neither age of the manager nor the age of the chairperson of the board and chairperson loan committee and their years of schooling lead to the increase or decrease of NPL for rural SACCOS. These results are contrary with Kipesha (2013) who found out that age of the MFI has positive impact on financial revenue but not profitability in Tanzania. Similarly, Majumdar (1997) noted that older firms are more profitable and less productive in India.

Table 4: Insignificant variables

Independent variables	Estimated value of coefficients	t-value
Age of SACCOS	0.071	.375
Age of the manager	-0.261	-1.496
Age of body chairperson	-0.135	-0.698
Age of chairperson loan committee	-0.046	-0.232
Year of schooling of chairperson	0.172	0.972
Year of schooling of chairperson loan committee	0.204	1.214

R-square = 0.177, F=1.078 and Durbin Watson =1.738

4.4 Testing multivariate regression assumptions

In order to accept the multivariate regression results, we have to test the model against the existence of multicollinerity, heteroscedasticity and autocorrelation. According to Gujarat and porter (2010) the presence of multicollinearity can be diagnosed by analyzing the values of tolerance and Variance Inflation Factors (VIF) and if value of VIF>10 indicates the presence of serious problem of multicollinerity. The results show that there is no multicollineality problem in the model since the mean VIF is 4.7025. The results from appendices also show that Durbin Watson (DW) coefficient which measures the presence of autocorrelation in the regression model is 2.470 proving the absence of autocorrelation in the model. According to Gupta (2000) and Gujarat and Porter (2010), heteroscedasticity can be diagnosed by comparing the coefficients of calculated and observed chi square. The results show that the chi square calculated, NXR2 →0.706*37=26.122 at 0.05 significance level is $<\chi^2(37) = 50.998$ [2] from chi square table, therefore the presence of heteroskedasticity in the model cannot be confirmed.

[2] Available from: http://www.medcalc.org/manual/chi-square-table.php

5.0 Conclusion, recommendations and future research

This article shows that there is influence of SACCOS' variables on the loans default risk for the rural SACCOS in Tanzania. The results from the multivariate regression model revealed that savings and deposits reduce the rural SACCOS loans default risks while the total assets, education of the manager and the number of borrowers increase the loans default risks. However, variables of age of the SACCOS, age of chairperson of the board, manager and chairperson loan's committee and the education levels of chairperson of the board and loans committee don't influence the loans default risks for the rural SACCOS. This study recommend that SACCOS should sensitize their member to deposit and save more in the rural SACCOS, loan limit criteria and geographical distance should be considered before issuing loans to SACCOS members. Loan limit as found by Wenners (2007), it helped to reduced the default risks in Latin America. Similarly, the SACCOS management should repay their overdue loans in order to encourage other members to repay their overdue loans too. Moreover, SACCOS' management also should avoid embezzlement of funds and adhere to their regulations to reduce the loans default risks and advanced training on investment analysis and management of loans for both borrowers and management should be conducted. Furthermore, the crop and livestock insurance cover should be introduced as practiced in Near East and North Africa region as found out by Mustapha et al (2011). Finally, I strongly recommend that the government should keep on regulating and supervising the rural SACCOS in Tanzania and I recommend that detailed empirical study with large sample size, on why the rural SACCOS' management fails to manage credits effectively should be conducted.

6.0 References

Acquah, H.D. and J. Addo, J. (2011). Determinants of Loan Repayment Performance of Fishermen: Empirical Evidence from Ghana: *Cercetări Agronomice în Moldova Vol. XLIV , No. 4(148) / 2011.*

Addisu, M. (2006). Micro-finance Repayment Problems in the Informal Sector in Addis Ababa. *Ethiopian Journal of Business & Development Volume 1 Number 2 August 2006, pp 29-50.*

Ahlin, C., Lin, J. and Maio, M. (2010). Where does Microfinance Florish? : Microfinance institution Performance in macroeconomic context. *Journal of Development economics, Journal in Press; doi: 10.1016/j.jdeveco.2010.04.004.*

Arrasen,W. and Avouyidovi (n.d). The determinants of MFIs performance in Sub-Saharan Africa: As Mission Drift Occurred?

Auka, D. O. and Mwangi, J. K. (2013). Factors Influencing Sacco Members to Seek Services of Other Financial Service Providers in Kenya. *International Review of Management and Business Research Vol. 2 Issue 2.*

Bibi, (2006). Tanzania's Cooperatives Look to the Future. Retrieved from, http://www.andrewbibby.com/pdf/Tanzania.pdf, on 26/11/2013.

Bond, J. K. (2009). Cooperative Financial Performance and Board of Director Characteristics: A Quantitative Investigation. *Journal of Cooperatives, Volume 22, Page 22-44.*

Chahayo, S. A., Bureti,F., Juma, Maende, C. M., Douglas, M. and Aketch R. A. (2013). Analysis of Financial Mismatch in Co-Operative Societies: A Case of Kakamega County, Kenya". *International Journal for Management Science and Technology, Vol. 1; Issue 5.*

Crombrugghe,A., Tenikue, M. and Sureda, J. (2008). Performance Analysis for a Sample of Microfinance Institutions in India. *Annals of Public and Cooperative Economics 79:2 2008 pp. 269–299.*

Duy, V.Q. (2013). Is The Repayment Performance of Farmers Better Than That of Non-Farmers? A Case Study of Borrowers of Formal Bank Credit in the Mekong Delta, Vietnam. *CAS Discussion Paper No 88.*

Fernández, B.C., Callén, Y. F., Cinca, C. S. and Nieto B. G. (2012). Determinants of Margin in Microfinance Institutions. *JEL Classifications: G21, C23, R51, CEB Working Paper N° 12/030.*

Gómez, R. and Santor, E. (2008). Does the Microfinance Lending Model Actually Work? *The Whitehead Journal of Diplomacy and International Relations. Pgs 37-55.*

Gujarat, D.N. and Porter, C.P. (2010). Basic Econometrics, Fifth Edition, McGraw-Hill Company and China Renmin University Base.

Gujarat, D.N. and Porter, C.P. (2010). Essentials of Econometrics, Fifth Edition, McGraw-Hill Company and China Renmin University Base.

Gupta (2000), Regression Explained in Simple Terms. A Vijay Gupta Publication.
Haki kazi, (2006). Cooperatives and Development in Tanzania: A Simplified Guide to the Cooperative Development Policy and the Cooperative Societies Act of Tanzania Mainland. Retrieved from, http://www.hakikazi.org/papers/Cooperatives.pdf , on 26/11/2013.

Haque, M. S., Akter, R. and Laoubi, K. (2011). Effectiveness of Community Based Organization (CBO) Microcredit Programme of Concern Worldwide: A Case Study of Bangladesh: *African Journal of Business Management Vol. 5(24), pp. 10101-10107, 14 October, 2011.*

Ikandilo K.(n.d). Sustainability of an Employee Based Savings and Credit Co-Operative Society: A Case of Dar es Salaam City Council SACCOS Tanzania*. American Based Research Journal, Volume 2, Issue 7.*

Ikomi, F.S. (2012). The Role of Insurance in Managing Microfinance Program Risks: In *Cooperative Finance in Developing Economies, 2012 International year of Cooperatives.*

Imai, K.S., Gaiha, R., Thapa, G., Annim, S.K. and Gupta, A. (2011). Performance of Microfinance Institutions-A Macroeconomic and Institutional Perspective. RIEB Kobe University, Discussion Paper 2011-22.

Janda, K. and Zetek (2013). Macroeconomic Factors Influencing Interest Rates of Microfinance Institutions in Latin America. MPRA Paper No. 49973.

Karumuna, L. and Akyoo, A. (2011). Rural Finance Challenges in Tanzania – The case of Kibaigwa Financial Services and Credit Cooperative Society (KIFISACCOS) in Kongwa District. Business Minds Africa, Case series, number 2 June 2011.

Kohansal, M.R. and Mansoori, H. (2009). Factors Affecting on loan Repayment Performance of Farmers in Khorasan-Razavi Province of Iran. *Conference on International Research on Food Security, Natural Resource, Management and Rural Development*. University of Hamburg Tropentag, October 6-8, 2009.

Kolapo, T. F. Ayeni, R. K. and Oke, M. O. (2012). Credit Risk and Commercial Banks' Performance in Nigeria: A Panel Model Approach. *Australian Journal of Business and Management Research Vol.2 No.02 (31-38).*

Kushoka, I. (2013). Sustainability of an Employee Based Savings and Credit Co-Operative Society: A Case of Dar Es Salaam City Council SACCOS Tanzania. *American Based Research Journal, Volume 2, Issue 7.*

Krahnen, J. P. and Schmidt, R. H. (n.d). On The Theory of Credit Cooperatives: Equity and Onlending in a Multi-Tier System-A Concept Paper. Poverty-Oriented Banking Working Paper N° 11. International Labour Office, Geneva.
Lagat**,** F.K., Mugo, R. and Otuya R. (2013). Effect of Credit Risk Management Practices on Lending Portfolio Among Savings and Credit Cooperatives in Kenya. *International journal of Science Commerce and Humanities, Volume No 1 No 5.*

Maghimbi, S. (2010). Cooperatives in Tanzania mainland: Revival and growth. CoopAFRICA Working Paper No.14. *Series on the status of cooperative development in Africa.* International Labour Organization Office in Dar es Salaam, Tanzania.

Makori, J., Munene, C. and Muturi, W. (2013). The Challenges Facing Deposit-Taking Savings and Credit Cooperative Societies' Regulatory Compliance in Kenya. A Case of the Gusii Region. *Interdisciplinary Journal of Contemporary Research In Business, April 2013 Vol 4, No 12.*

Mashatola M.C. and Darroch, M.A.G. (2003). Factors Affecting the Mortgage Loan Repayment Status of New Freehold Growers in the KwaZulu-Natal Sugar Industry, South Africa: *Agrekon, Vol 42, No 4 (December 2003).*

Maximambali, F., Lwoga, C. and Rutherford, S. (1999). Client Exits (Drop-outs) Amongst Tanzanian Microfinance Institutions, Microsave, Kampala, Uganda.

Marwa, N. and Aziakpono, M. (2013). Technical and Scale Efficiency of Saving and Credit Cooperatives: Evidence from Tanzania. University of Stellenbosch Business School, South Africa.

McKee, G. (2008). The Financial Performance of North Dakota Grain Marketing and Farm Supply Cooperatives. *Journal of Cooperatives Volume 21, Page 15-34.*

Ministry of Finance, Tanzania (MOF 2013). Speech by the Minister for Finance Hon. Dr. William Augustao Mgimwa (Mp). Introducing to the National Assembly, the Estimates of Government Revenue and Expenditure for the Fiscal Year 2012/2013 and 2013/2014.

Misra,B. S.(2010). Performance of Primary Cooperatives in India: An Empirical Analysis. MPRA Paper No. 21890.

Mori, N. and Olomi, D. (2012). Effect of Boards on the Performance of Microfinance Institutions: Evidence from Tanzania and Kenya, REPOA, Dar es salaam, Tanzania.

Mosongo, E., Gichana, I., Ithai, J. and Nguta,M. (2013). Financial Innovation and Financial Performance: A Case of SACCOS in Nairobi County. *International Journal of Research in Management, Issue 3, Vol.5 (September2013).*

Moti, H,O., Masinde, J.S. and Mugenda, N. G. (2012), Effectiveness of Credit Management System on Loan Performance: Empirical Evidence from Micro Finance Sector in Kenya. *International Journal of Business, Humanities and Technology Vol. 2 No. 6; October 2012.*

Mpiira, S., Kiiza, B., Katungi, E., Staver, C., Tabuti, J. S., Kyotalimye, M. Muwumba, P., Karamura, E. and Tushemereirwe, W. K. (2013). Factors Influencing Households Participation in The Savings and Credit Cooperative (SACCO) Programmes in Uganda. *African Journal of Agricultural Research, Vol. 8(43), pp. 5276-5284, 7 November, 2013.*

Muriu, P. (2011). Microfinance Profitability: Does financing choice matter? University of Birmingham, *JEL classification:* F3, G21, G32.

Mustafa, M.R., Ali, M.A.S., Awaideh, M. and Miller, C. (2011). Study on risk management in rural and agricultural finance in the Near East and North Africa (NENA) Region. Food and Agriculture Organization of the United Nations Rome, Italy.

Mwakajumilo, (2011). The Role of Informal Microfinance Institutions in Saving Mobilization, Investment and Poverty Reduction. A Case of Savings and Credit Cooperative Societies (SACCOS) in Tanzania from 1961-2008. PhD Thesis, St. Clements University.

Mwangi,I.W., and Wanjau, K. L. (2013). The Role of SACCO in Growth of Youth Entrepreneurship in Kenya: A Case of Nairobi County. *Greener Journal of Business and Management Studies ISSN: 2276-7827 Vol. 3(3), pp. 113-118, April 2013.*

Ndiege, B. O., Haule, T.B. and Kazungu, I. (2013). Relationship between Sources of Funds and Outreach in Savings and Credits Cooperatives Societies: Tanzanian case. *European Journal of Business and Management,*

Vol.5, No.9, 2013.

Nyamsogoro, D. (2010). Financial Sustainability of Rural Microfinance in Tanzania. Unpublished PhD Thesis, University of Greenwhich.

Mwau, M. J. (2013). Does Financing Diversification Matter? An Evaluation of the Performance of Savings and Credit Cooperative Societies: A case of Kakamega County, Kenya. *International Journal of Management and Information Technology, Vol.4, No.3, 324-333.*

Ojiako, I. A. and Ogbukwa, B. C. (2012). Economic Analysis of Loan Repayment Capacity of Smallholder Cooperative Farmers in Yewa North Local Government Area of Ogun State, Nigeria. *African Journal of Agricultural Research Vol. 7(13), pp. 2051-2062.*

Oke, J.T.O., Adeyemo, R. and Agbonlahor, M.U. (2007). An Empirical Analysis of Microcredit Repayment in Southwestern Nigeria. *Humanity & Social Sciences Journal 2 (1): 63-74, 2007.*
Okwoche,V. A., Asogwa, B.C. and Obinne,P.C. (2012). Evaluation of Agricultural Credit Utilization by Cooperative Farmers in Benue State of Nigeria. *European Journal of Economics, Finance and Administrative Sciences, Issue 47 (2012).*

Oladeebo, J. O. and Oladeebo, O. E. (2008). Determinants of Loan Repayment among Smallholder Farmers in Ogbomoso Agricultural Zone of Oyo State, Nigeria. *Kamla-Raj 2008 Journal of Socio Science, 17(1): 59-62.*

Olando,C.O., Jagongo, A. and Mbewa, M. O. (2013). The Contribution of SACCO Financial Stewardship to Growth of SACCOS in Kenya. *International Journal of Humanities and Social Science Vol. 3 No. 17; September 2013.*

Olando,C.O., Martin, O. and Jagongo, A. (2012). Financial Practice as a Determinant of Growth of Savings and Credit Co-Operative Societies' Wealth. *International Journal of Business and Social Science, Vol. 3 No. 24 (Special Issue – December 2012).*

Onchangwa, G. A. and Memba, F. S. (2012). Does Savings And Credit Cooperative Societies (Saccos) Have Any Effect on Members' Investment Culture in Kenya? *International Journal of Arts and Commerce Vol. 1 No. 6 November 2012.*

Onchangwa, G. A., Odhiambo, A. A. Sagwe, O. and Osinde,S. (2013). Influence of Consumption on Savings and Credit Cooperative Society (SACCO) Members' Investment Culture in Kenya. *Interdisciplinary Journal of Contemporary Research June 2013 Vol 5, No 2, 97-105.*

Ondieki, A. N., Okioga C., Okwena, D. K. and Onsase, A. (n.d). Assessment of the Effect of External Financing on Financial Performance of Savings and Credit Cooperatives in Kisii Central District, Kenya.

Oni, O.A, Oladele, O.I and Oyewole, I. K. (2005). Analysis of Factors Influencing Loan Default among Poultry Farmers in Ogun State Nigeria. *Journal of Centre European Agriculture, Volume 6, No. 4 (619-624).*

Onsase, A., Okioga, C., Okwena, D. K. and Ondieki, A. N. N. (n.d). Assessment of the Effects of Performance Management Practices on Provision of Financial Services by Savings and Credit Cooperative Societies: A Case of Gusii Mwalimu Sacco, Kisii Central District, Kenya.

Otieno, S., Okengo, B.O., Ojera, P. and Mamati, F. (2013). An Assessment of Effect of Government Financial Regulations on Financial Performance in Savings and Credit Cooperative Societies (SACCOs): A study of SACCOs in Kisii Central, Kenya. *International Journal of Business and Social Science Vol. 4 No. 3; March 2013.*

Saleh , A. S.E.(2012). A Study of the Socioeconomic Determinants of the Performance of the New Lands Cooperatives. *Topics in Middle Eastern and African Economies Vol. 14, September 2012.*

Sebhatu, K.T (2012). The Impact of Savings and Credit Cooperatives in Ofla Wereda Tigray Region of Ethiopia. *European Journal of Business and Management, Vol 4, No.3, 2012*.

Tanzania National Bureau of Statistics (NBS 2012). Population and Housing Census 2012. Retrieved from: http://www.nbs.go.tz/, on 19/11/2013.

Tehulu,T. A.(2013). Determinants of Financial Sustainability of Microfinance Institutions in East Africa. *European Journal of Business and Management, Vol.5, No.17, 2013.*

Temu, S.S. and Ishengoma, E.K. (2010). Financial Linkages and Performance of Rural Microfinance Cooperatives: Tanzanian Case. *Indian Journal of Economics and Business*, Vol. 9. No.2.

Tesfamariam, K., Tesfay H. and Tesfay, A. (2013). Relative Efficiency of Rural Saving and Credit Cooperatives: An Application of Data Envelopment Analysis. *International Journal of Cooperative Studies Vol. 2, No. 1, 2013, 16-25.*

Trà, P.T.T and Robert Lensink, R. (n.d). Household borrowing in Vietnam: A comparative study of default risks of informal, formal and semi-formal credit. University of Groningen. *JEL Numbers: G21, C24, O16 and O17.*

Triodos Facet, (2011). Tanzania Microfinance Country Scan, Final report. Zeist, The Netherlands, Washington, D.C.Sustainable Development Department, Best Practices Series May 2007.

Wachira, W. E.(n.d). Effect of the financial regulations on the profitability of SACCOS: a case study of SACCOS in Nyeri Town, Kenya.

Wangwe, S. (2004). Innovation in Rural Finance in Tanzania. Paper prepared for The Third Annual Conference on Microfinance held from 15th to 17th March 2004 at the AICC, Arusha, Tanzania.

Warue, B. N. (2012). Factors Affecting Loan Delinquency in Microfinance Institutions in Kenya. *International Journal of Management Sciences and Business Research, 2012, Vol. 1, Issue 12.*

Wenner, M., Navajas, S., Trivelli, C. and Tarazona, A. (2007). Managing Credit Risk in Rural Financial Institutions in Latin America, Inter-American Development Bank.

7. Appendices

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.840[a]	.706	.669	.36345	2.470

a. Predictors: (Constant), Log of borrowers with NPL, log of savings and deposits, year of schooling of manager, Log of Total assets

b. Dependent Variable: Log of NPL

ANOVA[b]

Model 1	Sum of Squares	df	Mean Square	F	Sig.
Regression	10.143	4	2.536	19.196	.000[a]
Residual	4.227	32	.132		
Total	14.370	36			

a. Predictors: (Constant), Log of borrowers with NPL, log of savings and deposits, year of schooling of manager, Log of Total assets

b. Dependent Variable: Log of NPL

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	2.398	.705		3.403	.002		
log of savings and deposits	-.429	.208	-.566	-2.069	.047	.123	8.151
Log of Total assets	.818	.244	.931	3.357	.002	.120	8.364
year of schooling of manager	.062	.024	.280	2.619	.013	.805	1.242
Log of borrowers with NPL	.714	.143	.490	4.984	.000	.949	1.053

a. Dependent Variable: Log of NPL