Research Journal of Finance and Accounting
ISSN 2222-1697 (Paper) ISSN 2222-2847 (Online)
Vol.5, No.17, 2014

Financial Performance of Rural Saving and Credit Cooperatives in Tigray, Ethiopia

Aregawi Ghebremichael Tirfe
Department of Accounting and Finance, Mekelle University
(PhD candidate in School of Business Leadership, University of South Africa, UNISA)
E-mail: aregawigm@yahoo.ocm

Abstract
Saving and Credit Co-operatives are financial institutions that are owned, controlled and capitalized by their members. The overall objective of this study was to examine development and financial performance of Rural Saving and Credit cooperative Societies (RUSACOs) in Tigray, Ethiopia using PEARLS model. In this study both primary and secondary data was collected. Primary data was collected from the purposively selected 13 saving and credit cooperatives using structured questionnaire. The writer analyzed the data using ratios and tables in light of the PEARLS monitoring tool. The cooperatives were found successful in maintaining 100 percent protection against loan losses. Regardless of their weakness in terms of financial structure and profitability indicators, taking 2005 as base year, the RUSACCOs covered in this study registered substantial growth rates in terms of amounts of loan disbursement and saving deposits, members' share capital, number of membership, total assets, and profitability. However, they are weak in terms of their financial structure and profit generating capacity. They invested much of their financial resources in less productive/profitable asses (E1), and financed their asses using much capital from members' share capital (E7) which cannot be used for loan disbursement, instead of saving deposits (E5). The capacity of the RUSACCOs to generate adequate amount of profit was also found substantially below the standard (10 percent). Thus, as RUSCCOS in Tigray are not generating enough amounts of income to cover their operating and financial costs, their sustainability is in question.
Keywords: Financial Performance, PEARLS , Rural Saving and Credit Cooperatives (RUSACOs), Tigray-Ethiopia.

1. INTRODUCTION

The active poor in the world require a full set of microfinance services mainly in the form of saving and credit facilities. These services help the poor start new business or expand existing ones, improve productivity of farmers and micro enterprises, improve human and social capital throughout their life. Moreover these financial services help the poor to deal with vulnerabilities and poverty reduction. Microfinance, as an economic development approach, involves provision of financial and non-financial services to the poor and the self-employed, who are excluded by formal banking system for many reasons, including the collateral requirements; higher transaction costs to administer smaller amount of loans and credits; and high level of insecurity and risk. Microfinance activities usually involve: small loans, typically for working capital; informal appraisal of borrowers and investments; collateral substitutes, such as group guarantees or compulsory savings; access to repeat and larger loans, cased on repayment performance; streamlined loan disbursement and monitoring; and secured saving products.

After the defeat of the Derg regime in 1991, Ethiopia has made considerable efforts to avail loans to the poor, mainly to rural poor, largely in connection with the Country's overall development of Agricultural Development Led Industrialization (ADLI). For example, efforts have been made to develop working arrangements whereby formal banks provide input loans to the farmers. There have also been a number of initiatives in establishing, expanding and strengthening microfinance institutions, as well as cooperative societies in general and saving and credit cooperatives in particular. The government enacted Proclamation No 40/11996 for the institutionalized operation of MFIs and Proclamation No 147/98 for the creation and strengthening of cooperative society's including saving and credit cooperatives.

Financial services, such as saving, credit and insurance can be provided by formal and/or informal financial institutions/providers. Informal financial sector refers to economic entities (individuals, associations, non-financial business firms) that are engaged in saving mobilization and provision of credit outside the control of monetary and financial policies, that is, they are neither legally incensed, nor registered in the government agencies. Formal providers are those who are subject to banking laws of the country of operation. These include Central banks, development banks, Microfinance Institutions, Saving and Credit Cooperatives, Insurance Companies etc that are engaged in diversified financial intermediation. In Ethiopia there are six major sources of financial services: commercial banks, informal providers (money lenders, traders, suppliers, friends and family), semi-formal financial institutions such as Rotating Saving and Credit Associations- called Iquub in and Edit Ethiopia, NGOs and Deposit taking microfinance institutions (MFIs).

Saving and Credit Co-operatives are financial institutions that are owned, controlled and capitalized by their members. WOCCU (2004) defines saving and credit cooperatives as:

> " ... user-owned microfinance institutions that offer savings and credit services to their members ... Membership in a credit union is based on a common bond, a linkage shared by savers and borrowers that can be based on a community, organizational, religious or employee affiliation. SACCOs perform a critical function in financial intermediation. They offer savings and credit services to their members; i.e., they mobilize savings from members and return those to members in the form of loans

Modern credit union history dates to 1852, when Franz Hermann Schulze-Delitzsch consolidated the learning from two pilot projects, one in Eilenburg and the other in Delitzsch in Germany into what are generally recognized as the first credit unions in the world. Based on data from the World Council of Credit Unions (2004) at the end of 2006 there were 46,377 credit unions in 97 countries around the world. Collectively they served 172 million retail members and oversaw US $1.1 trillion in assets. In Africa, there were 43,147 SACOs with 136,299,943 members and US$1 billion assets in the year of 2004 (Mekonnen, 2004). Within Africa, Kenya is on the lead in terms of number of SACCOs and their membership base and assets. Ethiopia was only second to South Africa at the bottom in terms of penetration rate (0.05 percent in South Africa and 0.48 percent in Ethiopia). It has the lowest average membership per SACCO, 157 persons compared to the overall average of 912 for the African countries (WOCCU, 2004).

In Ethiopia the first saving and credit cooperative society was established by employees of the Ethiopian Roads Authority in 1957 (Dagnew, 2004) and the second in 1964 by workers of the Ethiopian Airlines (Abate, 1998). According to Wolday (2003) the number of SACOs increased from 35 in 1974 to 5437 in mid 2006 while the aggregate membership increased from 8,332 to 381,212 during this period. Besides, their capital increased from two million birr in 1974 to one billion birr[1] in 2006 (Wolday, 2006).

Currently Cooperatives in Ethiopia are governed by the comprehensive and multi-sectoral cooperative promotion Proclamation No. 147/1998. This Proclamation was based on internationally accepted cooperative principles. It laid the ground for the development of all kinds of cooperative societies at different levels, and is comprehensive in its coverage.

According to this Proclamation, a minimum of ten individuals can form a cooperative society. Individuals are eligible for membership at age fourteen. A member is allowed to hold a maximum of 10 percent of the total paid up share capital of the society. The Proclamation stipulates that cooperative societies can borrow from members based on their bylaws and at rates not exceeding the prevailing interest rate of the commercial banks. Cooperative lending is restricted to members only. However, the law permits a cooperative to lend to another society. While lending, cooperatives are not restricted with regard to the interest rate they charge. SACCOs in Ethiopia are semi-formal financial institutions in the sense that they are registered entities and subject to all general rules, but are not subject to the same prudential standards applicable to formal financial institutions. Unlike the commercial banks and MFls, savings and credit cooperatives are not subjected to the rigorous supervision and regulatory rule of the NBE. The Cooperative Proclamation allows SACCOs to operate as self-regulated entities with a few restrictions such as the allocation of profits and the maximum shareholding to a single member. Internal monitoring and controlling generally provides the checks and balances of the operation of the cooperatives.

The Government has set-up cooperative promotion bodies at Federal, Regional, City administrations, Zonal and Woreda (district) levels. At the Federal level, the Federal Cooperative Agency (FCA) is responsible, among others, for cooperative promotion, institutional capacity building and human resource development, and registration and supervision of societies organized at the national level. It is headed by a Director General assisted by a deputy. There are also Cooperative Promotion Bureaus/Departments in each of the nine national regional states and in Addis Ababa and Dire Dawa city administrations. In addition, there are Woreda Cooperative Promotion Desks and in some regions zonal Cooperatives Promotion desks. Such an extensive structure is intended to ensure that cooperatives societies are widely promoted and properly supervised. In Tigray there were 1,417 cooperatives (nearly 7 percent of total) with total membership of about 360 thousand (7.8 percent of total) at the end of 2006.

The first rural Saving and Credit Cooperative established in 1978 E.C. (1986) by employees of Tigray Agricultural Bureau in Tigray was the oldest one in the region. Its operations were interrupted between 1983 and 1985 E.C. due to the political crises the country. It was reorganized in 1986 E.C., about 3 years after the defeat of the military regime. With regard to Rural Saving and Credit Cooperative, Tembien Terie, established in 1994 E.C. (2002) in Hagerselam (Degua Tembien) is the oldest one in Tigray. At the end of 2001 E.C. (2009) there were 371 Saving and Credit Cooperatives in 32 Woredas (Districts) with 25075 members. The penetration of membership or outreach of membership in Tigray is 68 per Cooperative against 157 members per cooperative at national level at the end of 2004. The outreach in membership is too low compared to the total population of

[1] Birr is official currency of Ethiopia whose exchange rate is approximately birr 16.7865 per US dollar

Tigray, it only approximately accounts 0.5percent of the total population. The 371 RUSCCOs had 24,013,503.00 assets; financed by Birr 18,216,927.00 saving capital, Birr 5,348,388.00 share capital, and Birr 448,188.00 institutional capital, which is the sum of reserves, donated capital and revolving funds.

2. STATEMENT OF THE PROBLEM

The establishment and expansion of MFIs and saving and credit cooperatives, in particular rural ones, constitute a step forward as hitherto fragmented and sporadic practices and interventions in the provision of micro credit by NGOs and Government departments would now be streamlined. Despite these efforts, financial services to the poor, particularly the rural poor appear to be severely limited. Banking services are virtually inaccessible to the majority of the rural population and the Microfinance Institutions' outreach to the rural areas, despite their remarkable growth and performance, is limited (CSA, 2007). One third of Ethiopian households have to travel 20 kilometres to reach the nearest Microfinance Institution (Mekonnen, 2007).

Saving and Credit cooperatives, particularly RUSCCOs, are likely to be the most viable and sustainable institutions to provide accessible and affordable financial services to the vast majority of the rural poor. In order to expand their outreach and sustainability, a number of measures are required. This in turn, requires investigation of the status and performance of these financial institutions for appropriate intervention. Therefore, assessing the existing research gap, the writer of this paper was motivated to examine the institutional development and financial performance of saving and credit Cooperatives in Tigray, with special emphasis in rural saving and credit cooperatives. To the knowledge of the writer, such study was not conducted in the region.

3. Objectives of the study

The overall objective of this study was to examine development and financial performance of Rural Saving and Credit cooperative Societies (RUSACOs) in Tigray, Ethiopia.
The specific objectives of study include:

1. To assess and document the institutional development of rural saving and credit cooperatives in Tigray.
2. To evaluate the growth potential and sustainability of rural saving and credit cooperatives using the PEARLS performance monitoring system developed by WOCCU.

4. REASERCH METHODS

4.1. SOURCE OF DATA AND DATA COLLECTION METHODOLOGY

In this study both primary and secondary data was collected. Primary data was collected from the purposively selected 13 saving and credit cooperatives using structured questionnaire. A field survey has been made in 13 rural saving and credit cooperatives to gather information about the selected rural saving and credit cooperatives. A review of relevant policy and regulatory documents, financial reports of Cooperative Promotion Office of Tigray Regional state as well as previous study reports were consulted in order to examine historical development, current status of cooperatives in Ethiopia and Tigray, with specific emphasis to rural saving and credit cooperatives was undertaken. Besides, data was collected through interviews and discussions with the management committee and/or accountants of the selected cooperatives as well as officials at the Tigray Cooperatives Promotion office at head office, Mekelle

4.2. SAMLING

Using the available list of rural saving and credit cooperatives in the region, 13 sample cooperatives have been purposely selected in consultation with the regional cooperative promotion office. To be included in the sample a saving and credit cooperative must (i) have been in operation for at least three years, (ii) have financial records (iii) be relatively accessible.

4.3. METHODS OF DATA ANALYSIS

The writer tried to analyze the institutional development, service delivery, outreach, and financial performance of the rural saving and credit cooperatives using percentages, ratios and tables in light with the PEARLS monitoring tool.

5. LIMITATION OF THE STUDY

The study findings should be considered in the light of some limitations pertaining to the scope and quality of secondary data and primary information that were gathered within the limits of the allocated time and budget. As the cooperatives did not have adequate financial record necessary for financial performance analysis, the writer has used the financial records prepared by the accounting and financial officers at the head office of Tigray Cooperatives Promotion Office who prepare consolidated financial information of entire rural saving and credit cooperatives. These financial statements are subject to inflationary effects. Therefore, as the assets, liabilities, income and expense reported in these financial statements were not adjusted for inflationary effects, the monetary values used for analysis purpose might have been overstated or understated.

6. RESULTS AND DISCUSSIONS

6.1. FINANCIAL SERVICES PROVIDED BY RUSACCO IN TIGRAY

6.1.1 SAVING SERVICES

This section analyzes the saving and credit cooperatives' saving products, savings mobilization and savings outreach. All the saving products offered by all the RUSACCOs under the present survey are limited to compulsory saving and voluntary saving. Compulsory saving are regular savings of fixed amount that is agreed up on by the general assembly while voluntary saving is decided by the individual member and can be withdraw at anytime, at times with an advance notice to the society. Only compulsory savings are those used for loans to members.

As most of the samples RUSACCOs in the study regions have been operating for a short period of time, they did not provide sufficient information which could be used as basis for under taking a detailed analysis of the amount of savings mobilized. Because of such limitations, an attempt is made to provide a broad picture of the amount savings mobilized by RUSACCOs in the region as a whole. Table 10 provides saving mobilization by RUSACCOs as of June2009 (Sene 30 2001 E.C.). Overall saving mobilized during the period reached Birr 18,216,927.00 million, suggesting a deposit per member of Birr 711.00 and Birr 49,102.00 per Cooperative**.**

The RUSACCOs were serving a large number of very small deposit savings and share accounts. Given the level of income is low in rural area and that the RUSACCOs were established very recently, this level of average saving per member is encouraging. Ganta-Afeshum, Emba-Alaje, and Adwa are among the cooperatives with highest saving per cooperative respectively. During the four years, they had Birr 327, 158, Birr249, 141 and Birr 162,671 saving per cooperative, respectively, perhaps reflecting the relatively high sense of awareness with regard to the benefits of savings and credit cooperatives.

6.1.2. LENDING SERVICES

Members of RUSACCOs become eligible for loans after making regular time deposits, mostly an average of six months. The amount of loan extended depends on the amount of the saved moneys as well as the borrower's repayment capacity. In many cases, lending is limited by the size of deposit resources, and maybe delayed until such time the size of deposit reaches a certain level. At average a member may obtain a loan 3 times of his/her saving balance. A loan is secured with 100 percent collateral. The collateral for loan is the borrower's saving balance, while additional guarantors are required securing the remaining value of loans. The collateralized saving cannot be withdrawn until the completion of loan repayment. This is likely to encourage low-income clients into saving habit and cash management, in addition to serving as a safety net. Loans are disbursed to member according to the criteria that are stated in the bylaws of the saving and Credit Cooperative. The rural saving and credit cooperatives provide loans to their members mainly for productive purpose, such as purchase of agricultural inputs (seeds, fertilizer, tools, etc), animal fatting, animal rearing, off-farm activities such as spinning and weaving, and food and beverage preparation.

At the end of 2001 Ethiopian fiscal year there were 371 rural saving and credit cooperatives in 32 Weredas with 25075 members. The outreach in membership is too low compared to the total urban population of Tigray, it only approximately accounts 0.7percent of the total population. The 371 cooperatives distributed more than 14 million birr loan to 7660 members (about 30percentof total members). This indicates that at average each cooperative have distributed Birr 1842 for each member.

6.2. FINANCIAL PERFORMANCE OF RUSACCO IN TIGRAY

In this section attempts have been made to analyze the financial performance of RUSACCOs in Tigray using the PEARLS performance Monitoring system developed by WOCCU. The PEARLS system has become an efficient and effective tool for monitoring the progress of saving and credit cooperatives and operates by using standardized financial ratios and formulas. Financial performance analysis indicated in this section was on the basis of financial statements prepared by the Tigray Cooperatives Promotion Office which summarized the annual financial reports by wereda and cooperative.

6.2.1. PROTECTION (P)

Loan loss provisions are the first line of defense against any loss due to loan delinquency (default of members to repay their loan). Protection is about making allowances for loan losses or the adequacy of the institution's provision for loan losses.

The World Council of Credit Unions, Inc. promotes the principle that the allowance for loan losses is the first line of defense against non-performing loans. Adequate protection of assets is a basic principle of the new credit union model. Protection is measured by comparing the adequacy of the allowances for loan losses against the amount of delinquent loans and comparing the allowances for investment losses with the total amount of non-regulated investments. Protection against loan losses is deemed adequate if a credit union has sufficient provisions to cover 100percent of all loans delinquent for more than 12 months (P1), and 35percent of all loans delinquent for 1-12 months (P2).

TABLE 1: EFFECTIVE CAPITAL STRUCTURE RUSACCO IN TIGRAY

Indicators of capital structure	WOCCU's Standard In percent	Ratios of SACCOs in Tigray* (PERCENT)				
Description (Formula)		2005	2006	2007	2008	2009
P1: Allowance for Loan Losses / Allowances Required for Loans Delinquent >12 months	**100**	100	NA	100	100	100
P2: Net Allowance for Loan Losses / Allowances Required for Loans Delinquent less than 12 months	35	100	NA	100	100	100

Year 1997-2001 E.C. = 2005-2009 G.C.

The above table shows that in all of the study years RUSACCOs in Tigray complied with this WOCCU's protection standards because both P1 and P2 are within the protection range set by WOCCU. This shows that the RUSACCOs have adequate protection/provision against any possible bad debt losses. These result suggests that members' savings are in safe condition, assets and earnings of the saving and credit cooperatives covered in the study area are not overstated, provision for loan losses is not lacking, dividend payments were correct. The reason behind this result is due to the fact that the RUSCCOs did not report any delinquent loan and loan loss provisions account records because the RUSACCOs have relied on members' guarantee. As loans are 100percent protected by borrower's saving and a member guarantor, the possibility of loan losses is very rare.

6.2.2. EFFECTIVE CAPITAL STRUCTURE (E)

According to the WOCCU (2004) guideline, the financial structure of the credit union is the single most important factor in determining growth potential, earnings capacity, and overall financial strength. The WOCCU Model expects a credit union to finance its loan portfolio mainly from voluntary savings deposits. The PEARLS system measures assets, liabilities and capital, and recommends an "ideal" structure for credit unions. According to WOCCU (2004), assets are classified as productive and non-productive based on their capacity to generate revenue. A non-productive or non-earning asset is one that does not generate income. An excess of non-earning assets affects credit union earnings in a negative way. According to WOCCU assets of any given SACCO should consist 95percent productive assets composed of 70-80percent loans, 10-20 liquid investments 5percent unproductive assets composed of primarily fixed assets (land, buildings, Equipment etc.).With regard to financing structure, the financial sources of cooperatives are expected to consist 70-80percent member deposit savings, 10-20percent member share capital, and 10percent institutional capital (undivided reserves).

A healthy percentage of deposit savings indicates that the credit union has developed effective marketing programs and is well on its way to achieving financial independence. It also indicates that members are no longer "saving" in order to borrow money, but are instead saving because of the competitive rates offered (WOCCU, 2004). The ratios calculated in relation to the effective capital structure of RUSCCOs in Tigray are briefly discussed below in this section.

(i). Net Loans /Total Assets (E1)

This ratio measure the percentage of total assets invested in the loan portfolio. Credit unions are encouraged to maximize productive assets as the means to achieve sufficient earnings. Since the loan portfolio is the most profitable asset of the credit union, the World Council of Credit Unions, Inc. recommends maintaining 70-80percent of total assets in the loan portfolio, productive asset. Non-Earning assets are discouraged because once purchased, they are often difficult to liquidate. The only effective way to maintain the ideal balance between productive and unproductive assets is by increasing the volume of productive assets.

TABLE 2: Effective Capital Structure of Saving and Credit Cooperatives in Tigray

Indicators of capital structure		Proposed Standard	Ratios of SACCOs in Tigray*				
Code	**Description (Formula)**		**2005**	**2006**	**2007**	**2008**	**2009**
E1	Assets invested in loan portfolio	70-80 %	33 %	NA	64 %	70 %	64 %
E2- E4	Assets in short term investment	>=20%	NA	NA	NA	NA	NA
E5	Assets financed by Saving deposits	70-80%	61%		62%	72%	74%
E7	Assets financed by share capital	10-20%	39%	NA	22%	24%	24%

Year 1997-2001 E.C. = 2005-2009 G.C.

Though there is no data in relation to the provision of loan losses to determine the net loan portfolio, the writer tried to calculate the ratio by taking the gross loan outstanding for the four years, 2005, 2007, 2008, and 2009. The survey indicates that the percentage of assets invested in loan portfolio was 33 percent, 64 percent, 70 percent, and 64 percent in 2005, 2007, 2008, and 2009, respectively which are below the benchmark of 70-80percent, though the ratio increase from year to year. Ratio below the industry average suggests: (a) Loan portfolio is the most profitable asset of saving and credit cooperatives, thus, lower ratio of E1 indicates that too much fund is tied up in non productive assets. In principles excess investment in non earning assets (such as cash on hand, fixed asset, prepaid expenses etc) should be as low as possible because, once purchased, they are often difficult to liquidate. Beside, investing excess capital in such non-earning assets implies that the cooperatives have incurred an opportunity cost. (b) Some of the saving and credit cooperatives might be new which might not yet started extension of loan or have lent small loans very recently. (c) The credit unions have ineffective marketing programmes to maximize loan disbursement, which is the main source of income, and (d) Members are saving either to earn a competitive interest rate from their saving or deposit their money for safety purpose (or both), instead of borrowing for productive purpose.

The ratio of E2,E3,and E4 measure the percentage of total asset invested in short term investment, long term investment, and non-financial investments (such as super marts, pharmacy residential housing development) respectively. As per the data collection from the survey, all saving and credit cooperatives invested neither in financial investments nor in non-financial investment. Therefore, the management of the cooperatives should search ways to diversify their source of income. As indicated in E1, almost all cooperatives have less percentage of investment in productive assets, loan portfolio. This means they have idle capital or capital invested in less productive assets (mainly in fixed assets) that could have been invested in some investment opportunities such as groceries or shops, grinding mills etc.

(ii). Saving Deposit to Total Asset (E5)

According to the separate entity concept, the amount of saving deposits and members share capital are considered as liability of the cooperative. This ratio measures the percentage of total assets financial by saving deposit (Liability of the cooperatives) which is calculated by dividing the total assets of the year by total members' saving of the year. The WOCCU set 70-80percent as a standard ratio. Loan could not be disbursed to members from the amount of share contribution, rather from members' saving deposits. Thus, a given SACCO is expected to maintain adequate amount of capital in the form of saving deposits if it wants to satisfy the demand of member borrowers. The logic behind WOCCU's 70-80 percent standard ratio emanates from this fact. A healthy percentage of deposit savings indicates that the saving and credit cooperative has developed effective marketing programmers and is well on its way to achieving financial independence. It also indicates that members are no longer 'Saving' in order to borrow money, but are instead saving because of the attractive interest rates offered by their cooperative.

However, ratio of saving deposit to total asset of the RUSCCO in Tigray has been found to be 61percent, 62 percent, 72 percent, 74 percent. The ratios, though lower in 2005 & 2007 than the standard, are within the range set by WOCCU. Besides, the ratio of saving to total asset is increasing from year to year. Saving of members is a base for loan to be extended to members. Ratio below the industry average suggests: (i) the saving and credit cooperatives might be new which might not yet started extension of loan or have lent small loans very recently; (ii) the credit unions have ineffective marketing programmed to maximize loan disbursement, which is the main source of income; (iii) members are saving either to earn a competitive interest rate from their saving or deposit their money for safety purpose (or both), instead of borrowing for productive purpose. Besides, lower ratio may also imply that a cooperative can fail to meet the loan requested by members because saving deposits are the only source of loan disbursement.

(iii). Members shares to Total Assets (E7)

The purpose of this ratio is to measure the percentage of total assets financed by members' contribution. It is calculated by dividing Share capital by total assets, and the industry average set as a benchmark is maximum of 20 percent(10-20 percent), that is, 10-20 percent of assets of a given SACCO should be financed using share capital. The ratios for the credit unions in Tigray indicated as 39 percent, 22 percent, 24 percent, 24 percent for 2005, 2007, 2008 and 2009, respectively. This may suggest that large portion of the SACCOs' capital is members' contributed capital which clashes with the new capitalization system, members share are de-emphasized and replaced with institutional capital.

6.2.3. QUALITY OF ASSETS (A)

A non-productive or non-earning asset is one that does not generate income. An excess of non-earning assets affects credit union earnings in a negative way. The following PEARLS indicators are used to identify the impact of non-earning assets:

Delinquency Ratio: The delinquency ratio is the most important measurement of institutional weakness. If delinquency is high, it usually affects all other key areas of credit union operations. By calculating the delinquency ratio credit unions are properly informed of the severity of the situation before a crisis develops. *The ideal goal is to maintain the delinquency rate below 5percent of total loans outstanding.*

Percentage of Non-Earning Assets: A second key ratio is the percentage of non-earning assets owned by the credit union. The higher the ratio, the more difficult it is to generate sufficient earnings. The goal also limits non-earning assets to a maximum of 5percent of the total credit union assets (WOCCU, 2004).

Financing of Non-Earning Assets: While reducing the percentage of non-earning assets is important, the financing of those assets is just as important. Traditionally, credit unions use member share capital to finance the purchases of fixed assets. Under the WOCCU model, the objective is to finance 100percent of all non-earning assets with the credit union's institutional capital, or with other liabilities that have no explicit financial cost. By using no-cost capital to finance those assets, credit union earnings are not unduly affected. This is one of the strong arguments supporting the capitalization of all net earnings--to upgrade old buildings and worn-out equipment.

Due to lack of adequate information (data), the writer could not calculate any one of the ratio used to measure quality of assets. The balance sheet prepared by the Tigray Cooperatives Promotion Office, which was sources of data for calculation of the different ratios, provides only the total assets of all cooperatives in Tigray, classified by wereda. It did not show the classifications of different asset category.

6.2.4. RATES PF RETURN AND COSTS (R)

PEARLS calculate yields on the basis of actual investments outstanding. These indicators measure the average income generated for each of the most productive assets of the SACCOs. This methodology assists management in determining which investments are the most profitable. It also permits the credit unions to be ranked according to the best and worst yields. By comparing financial structure with yields, it is possible to determine how effectively the credit union is able to place its productive resources into investments that produce the highest yield. These powerful analysis techniques help management stay abreast of the financial performance of the credit union. In order to measure the ratios in this group the following accounts were considered

a. ***Loan Portfolio:*** All interest income, delinquent interest penalties and commissions from lending operations.
b. ***Liquid Investments:*** All income from bank savings accounts and liquidity reserves deposited in either the National Association or regulatory body
c. ***Financial Investments:*** Many credit unions invest liquidity into financial investments (e.g. government securities) that pay higher yields than bank savings accounts.
d. ***Other Non-financial Investments:*** Any investment that does not fit into the previous categories is classified as "other" non-financial investments. For many credit unions, this includes investments in supermarkets, pharmacies, schools, and residential development projects.

TABLE 3: RATES OF RETURN AND COST OF RUSACCO IN TIGRAY

Indicators of capital structure		**Proposed Standard**	**Ratios of SACCOs in Tigray***				
Code	**Description (Formula)**		**2005**	**2006**	**2007**	**2008**	**2009**
R1	Yield on loan portfolio	10%	17%	NA	5%	6%	7%
R8	Gross margin on total Assets	10%	4%	NA	4.5%	3.9%	4%
R9	Operating expenses as percentage of total Assets	10%	1%	NA	1%	1%	1%
R12	Return on Assets	10%	4%	NA	3%	3%	4%

Year 1997-2001 E.C. = 2005-2009 G.C.

(i). Total loan income to Loan Portfolio (R1):

This ratio measures the yield on the loan portfolio. Total loan income (Including commission, fees, and delinquent interest, penalties) during the year is divided by average net loan portfolio of a given year to determine the ratio of loan income to total loan portfolio. It measures the amount of birr income or profit generated from each Birr of loan extended to members. The ratio of RUSCCOS in Tigray was 17percent, 5percent, 6percent, and 7percent for the four years of 2005, 2007, 2008, and 2009 respectively. On the other hand as per the WOCCU'S standard, saving and credit cooperatives are expected to earn at least 10percent income on their loans disbursed to their members. However, except in 2005 (17percent), the rate of return on loan portfolio are below the standard, which are 5percent, in 2007, 6percent in 2008 and 7percent in 2009. This means, the RUSCCOS in Tigray are not generating enough amount of income to cover their operating and financial costs. Sustainability of a cooperative depends on its ability to generate adequate income not only to cover its costs but also enough amounts of retained earnings (reserves or surplus). Such reserve capital, which is left after deducting dividend from the net income of the period, can be used as source of funds for expansion, absorbing losses from loan delinquency and/or operational deficits. It has also powerful effect on the credit union's capacity to generate net income and hence, additional capital is lent out at market interest rates provided a 100percent return on credit union. Such a practice enhances the growth and satiability of a cooperative. However, the RUSCCOSs in Tigray, as they are earning too low rate of return, their sustainability and growth potential is in question.

(ii) Gross Margin on Total Assets (R8)

The purpose of this ratio is to measure the gross income of margin generated, expressed as a yield on all assets before subtracting operating expense provision for loan losses, and other extraordinary items. In other words it helps to determine the amount of income or revenue generated by each birr invested in assets, which should be at least 10percent. For RUSCCOS in Tigray, this rate has been found to be substantially below the standard,5percent in all three years of 2005, 2007 and 2009 and 4percent in 2008 E.C. This ratio signals that each birr invested in asset is generating only five cents or four cents against the standard of 10 cents. This is obvious because, as observed by E1, the RUSCCOS in Tigray kept large amount of their capital in non productive assets instead of loan portfolio.

(iii). Operating Expenses to Average total Assets (R9)

The ratio intends to evaluate the cost associated with management of all credit union assets or the amount of expenses incurred to manage each birr of asset. This cost is measured as percentage of total assets and indicates the degree of operational efficiency or inefficiency. As a standard, WOCCU set that credit union's ratio should be less than 10percent - ten cents expense incurred per birr of assets. During the study it was discovered that except in 2005 expenses incurred per birr of asset have been one cent in the RUSCCOs in Tigray. This is favorable ratio which might be as a result of cost efficiency of the cooperatives or because of lower costs are incurred for rent of offices, salaries and associated administrative costs. This is because, as almost all of the cooperatives are managed by elective and non-salaried volunteer members, there was no any salary expense. Besides, because the SACCOs examined in this study have either their own building (office) or an office granted by local governmental administration, they had no any rental expenses. Their major expenses were stationery expenses, interest expenses paid to savers. These all can substantially reduce the amount of operating expenses which in turn reduce the operating expense to total asset ratio.

(iv). Net Income /Average total Assets (R12)

The purpose of this ratio is to measure the adequacy of earnings and also the capacity to build institutional capital. It is calculated by dividing the net income after dividing by total assets to earn at least the standard of 10percent. To determine this ratio for RUSCCOs in Tigray the amount of net income before dividend, not net income after dividend, was used as numerator because there was no any reported dividend during the period covered by the study. Accordingly the rate of return on assets (ROA) or the Return on Investment (ROI), the other name of this ratio, has been found to be 4percent in 2005 and 2008 and 3percent in 2007 and 2008 against the standard of 10percent. This is obvious because the cooperatives' gross margin ratios and E1 (the RUSCCOS in Tigray kept much of their assets in non productive assets instead of loan portfolio) were substantially below the industry average set by WOCCU.

6.2.5. Signs of Growth (S)

The indicators of this section measure the percentage of growth in each of the most important accounts on the financial statement, as well as growth in membership. In inflationary economies, real growth (after subtracting inflation), is a key to the long run viability of the Credit Union. The only successful way to maintain asset values is through strong, accelerated growth of assets, accompanied by sustained profitability. Different signs of growths for RUSCCOs in Tigray has been calculated and depicted and discussed below.

TABLE 4: SIGNS OF GROWTH OF DIFFERENT VARAIBLES

Code	Indicators of Growth	Figures of base Year (2005)	Percentage growth to-date	WOCCU's Benchmark
S1	Loan Disbursed	297,873	4692percent	Greater than S11 (Dependent on E1)
S5	Saving Deposit of Members	551,843	2884percent	Greater than S11 (**Dependent on E5**)
S7	Members' Share capital	349,952	1441percent	Greater than S11 **(Dependent on E7)**
S10	Membership	3737	571percent	Greater than 12percent
S11	Growth in total Assets	901,795	2370percent	Greater than inflation rate
	Profit	32,826	2602percent	

Source: Survey data

(i).Growth in Total Assets (S11)

Growth in total assets is one of the most important ratios. Strong, consistent growth in total assets improves many of the PEARLS ratios. By comparing the growth in total assets to other key areas, it is possible to detect changes in the balance sheet structure that could have a positive or negative impact on earnings. The ideal goal for all credit unions is to achieve real positive growth (i.e., net growth after subtracting for inflation) each year.

The yearly growth of assets was 78percent, 73percent and 62percent for 2007 2008 and 2009, respectively. This means, while assets of 2008 were 73percent more than assets of 2007, assets of 2009 were 62percent more than that of 2008, which are more than the proposed benchmark set by WOCCU. With regard to S2, S3 and S4 measure investment in liquid assets, financial assets and non-financial assets, respectively. But, as none of the RUSACCOs in the study area made any investment in such assets, it was not possible to calculate these ratios.

(ii). Growth in Loans (S1)

The loan portfolio is the most important and profitable assets of credit union. Taking 2005 as base year, loan disbursement of 2009 has grown by 4692percent. On the other hand the year by year growth of loan disbursement was 1615percent, 89percent, and 48percent for 2007, 2008, and 2009, respectively. For example, loans disbursed during 2007 were greater than that of 2005 by 1615percent, while that of 2008 was 89percent more than the loan disbursement of 2007c. These growths are substantially more than the benchmark set by WOCCU (12percent). If growth in total loans keeps pace with growth in total assets, there is a good likelihood that profitability will be maintained. As it can be observed from the above information, though there was increment of loan disbursement during the four years, the year by year growth was declining. The reason behind this decline has to be investigated further.

(iii). Growth in Savings Deposits

With the new emphasis on savings mobilization, savings deposits are the new cornerstones of growth. The growth of total assets is dependent on the growth of savings. Amount of saving of the RUSCCOs in Tigray grew from Birr 551,843 in 2005 to Birr 18,216,094 in 2009, which was 2884percent increase. The rationale for maintaining aggressive marketing programs is that it stimulates growth in new savings deposits that in turn, affect the growth of other key areas.

(iv).Growth in Share Capital:

Contribution of members or Share capital of the credit unions grew from Birr 349,952 to Birr 5,391,386, (14441percent), which is substantial by any measurement.

(v). Institutional Capital: Institutional capital includes retained earnings, donated capital and other sources of capital other than saving and share capital. It is found by the subtracting the saving deposits and share capital of members from total assets. Institutional capital growth is the best indicator of profitability within credit unions. A cooperative with higher growth in this capital has more growth potential than the cooperative with lower percentage. Static or declining growth trends in institutional capital usually indicate a problem with earnings or less growth potential. While profit of the credit unions covered by the study grew by 2602percent, year by year institutional capital of the credit unions declined by 62percent from 2007 to 2009.

7. SUMMARY, CONCLUSSION AND RECOMMENDATION

7.1. SUAMMARY AND CONCLUSION

The overall objective of this study was to examine development and financial performance of Rural Saving and Credit cooperative Societies (RUSACOs) in Tigray, Ethiopia using PEARLS model. SACCOs in Ethiopia operate within the framework of the Proclamation No. 147/98. According to this Proclamation, a minimum of ten individuals can form a cooperative society. Individuals are eligible for membership at age fourteen. A member is allowed to hold a maximum of 10 percent of the total paid up share capital of the society. The Proclamation stipulates that cooperative societies can borrow from members based on their bylaws and at rates not exceeding the prevailing interest rate of the commercial banks. Cooperative lending is restricted to members only. However, the law permits a cooperative to lend to another society. While lending, cooperatives are not restricted with regard to the interest rate they charge.

7.1.1 FINANCIAL INTERMIDIATION OF RUSCCOs TIGRAY

Members of RUSACCOs become eligible for loans after making regular time deposits, mostly an average of six months. Overall saving (voluntary and compulsory savings) mobilized during the period reached Birr 18,216,927.00 million, suggesting a deposit per member of Birr 711.00 and Birr 49,102.00 per Cooperative. A loan is secured with 100 percent collateral-member's Saving and a member guarantor. The collateralized saving cannot be withdrawn until the completion of loan repayment. The 371 cooperatives distributed more than 14 million birr loan to 7660 members (about 30percentof total members). This indicates that at average each cooperative have distributed Birr 1842 for each member.

7.1.2. FINANCIAL PERFORMANCE OF RUSCCOs TIGRAY

In this section attempts have been made to analyze the financial performance of RUSACCOs in Tigray using the PEARLS performance Monitoring system developed by WOCCU.

1. Protection (P). Protection against loan losses is deemed adequate if a credit union has sufficient provisions to cover 100percent of all loans delinquent for more than 12 months, and 35percent of all loans delinquent for 1-12 months. RUSACCOs in Tigray complied with this WOCCU's protection standards. This shows that the

RUSACCOs have adequate protection/provision against any possible bad debt losses, members' savings are in safe condition, assets and earnings are not overstated, provision for loan losses is not lacking, dividend payments were correct.

2. Effective Financial Structure (E)

2.1. Net Loans / Total Assets (E1) ratio measure the percentage of total assets invested in the loan portfolio. The survey indicates that the percentage of assets invested in loan portfolio was 33percent, 64percent, 70percent, and 64percent in 2005, 2007, 2008, and 2009, respectively which are below the benchmark of 70-80 percent, though the ratio increase from year to year. Ratio below the industry average suggests: (i) the saving and credit cooperatives might be new which might not yet started extension of loan or have lent small loans very recently; (ii) the credit unions have ineffective marketing programmed to maximize loan disbursement, which is the main source of income; (ii) members are saving either to earn a competitive interest rate from their saving or deposit their money for safety purpose (or both), instead of borrowing for productive purpose

2.2 Saving Deposit to total Assets (E5): This ratio Measures the percentage of total assets financial by productive resources or resources that can be used for profitable activities, saving deposit (Liability of the cooperatives). The ratio of saving deposit to total asset of the RUSCCO in Tigray has been found to be 61 percent, 62 percent, 72 percent, and 74 percent while the WOCCUs standard is 70-80percent. The ratios, though lower in 2005 & 2007 than the standard, are within the range set by WOCCU. Besides, the ratio of saving to total asset is increasing from year to year.

2.3. Members Shares to Total Assets (E7). The purpose of this ratio is to measure the percentage of total assets financed by members' contribution and the WOCCU's standard is a maximum of 20 percent. The ratios for the credit unions in Tigray indicated as 39 percent, 22 percent, 24 percent, 24 percent for 2005, 2007, 2008, and 2009, respectively.

3. Rates of Return and Cost.

PEARLS calculate yields on the basis of actual investments outstanding. This methodology assists management in determining which investments are the most profitable.

3.1. ***Total loan income to Loan Portfolio (R1:*** This ratio measures the yield on the loan portfolio, WOCCU's Standard being 10percent.

The ratio of RUSCCOS in Tigray was 17 percent, 5 percent, 6 percent, and 7 percent for the four years of 2005, 2007, 2008, and 2009, respectively. This means, the RUSCCOS in Tigray are not generating enough amount of income to cover their operating and financial costs. Sustainability of a cooperative depends on its ability to generate adequate income not only to cover its costs but also enough amount of retained earnings (reserves or surplus). Such a practice enhances the growth and satiability of a cooperative. However, the RUSCCOSs in Tigray, as they are earning too low rate of return, their sustainability and growth potential is in question.

3.2. ***Gross Margin on Total Assets (R8):*** The purpose of this ratio is to measure the amount of income or revenue generated by each birr invested in assets, which should be at least 10percent as per WOCCU's standard. For RUSCCOS in Tigray, this rate has been found to be substantially below the standard, 5percent in all three years of 2005, 2007 and 2009 and 4 percent in 2008. This ratio signals that each birr invested in asset is generating only five cents or four cents against the standard of 10 cents. This is obvious because, as observed by E1, the RUSCCOS in Tigray kept much of their assets in non productive assets instead of loan portfolio.

3.3. ***Net Income /Average total Assets (R12)*** measure the amount of profit generated per Birr of investment in assets. The other name of this ratio is known as return on investment (ROI) or return on assets (ROA). The ratio for RUSCCOs in Tigray has been found to be 4percent in 2005 and 2009 and 3 percent in 2007 and 2008, against the standard of 10 percent.

4. Signs of Growth (S).

The indicators of this section measure the percentage of growth in each of the most important accounts on the financial statement, as well as growth in membership.

4.1. Growth in total Assets: The ideal goal for all credit unions is to achieve real positive growth (i.e., net growth after subtracting for inflation) each year. The percentage growth of assets of 2009, compared to 2005 base year, was 2370 percent. On the other hand, the yearly growth of assets was 783 percent, 73 percent and for 2007, 2008 and 2001. This means, while assets of 2000 E.C. were 73 percent more than assets of 2007, assets of 2009 were 62 percent more than that of 2008.

4.2. Growth in Loans: The loan portfolio is the most important and profitable credit union assets**.** Taking 2005 as base year, loan disbursement of 2009 has grown by 4692 percent. On the other hand the year by year growth of loan disbursement was 1615 percent, 89 percent, and 48 percent for 2007, 2008, and 2009. If growth in total loans keeps pace with growth in total assets, there is a good likelihood that profitability will be maintained. As it can be observed from the above information, though there was increment of loan disbursement during the four

years, the year by year growth was declining. The reason behind this decline has to be investigated further.
4.3. Growth in Saving: With the new emphasis on savings mobilization, savings deposits are the new cornerstones of growth. The growth of total assets is dependent on the growth of savings. Amount of saving of the RUSCCOs in Tigray grew from Birr 551,843 in 2005 to Birr 18,216,094 in 2009, which was 3201 percent increase.
4.4. Growth in Number of Cooperatives: The number of Cooperatives has grown from 103 in 1997 to 371 in 2001 which is a 260 percent growth**.**

5.5. Growth in membership: Membership has grown by 571percent, from 3737 in 2005 to 25075b in 2009.
5.6. Growth in Share Capital: Contribution of members or Share capital of the credit unions grew from Birr 349,952 to Birr 5,391,386, (14441percent).

7.2. RECOMMENDATION

Based on the findings of this study the following recommendations are forwarded for further action to be taken by concerned body, such as the Tigrya Cooperatives Promotion Office.

1. The outreach in membership is too low compared to the total population of Tigray. It approximately accounts only 0.5percent of the population. On the other hand the rural poor lack access to financial services. Therefore, concerned bodies should make intensive promotional and awareness creation services or programs in order to increase the number of members.
2. There is no any cooperative that make provision for loan losses. Regardless of the collateral mechanism used, it is natural that all loans extended could not be recovered. Therefore, for proper protection of members' saving deposits, certain mechanism should be designed in order to institutionalize the loan loss provisions. This in turn needs capacity building programs for relevant officers at head office, woreda and cooperative level
3. The leaders at cooperative level had no adequate professional skill to develop or prepare financial reports of their cooperatives. Thus, capacity building training programs should be given. The following training programs are proposed: basic Bookkeeping and Accounting; loan analysis; Internal Control systems; materials management (procurement and materials handling procedures); Entrepreneurship and small business management; Provide simplified operational and financial manuals and train relevant staff
4. According to the PEARLS 70-80 percent assets of a cooperative must be in the form of productive assets, loan portfolio. However, the percentage of loan portfolio of RUSCCOs in Tigray was between 33 percent and 70 percent during the study period (2005-2009). This indicates that the cooperatives had less demand for loan products or they had idle capital that could be used in other profitable investments. Therefore, the writer advises the cooperatives to use their capital productively by investing their capital in the following areas: open groceries or retail shops that could supply consumer or durable goods to its members and surrounding community; establish Grinding Mills; Engage in animal fattening etc
5. The financial statements prepared at head office lack proper classifications. For example, the balance sheet shows only balance of total assets without detail balance of each asset accounts-balance of cash, receivables, inventories, fixed assets, investment in financial assets etc are not indicated. For this reason, the writer could not analyze the quality of assets. Therefore, it is advisable to prepare classified balance sheet, income statement, cash flow statement both at cooperative and head office level, though this may demand adequately trained personnel (accountant)
6. Rates of returns of the RUSSCOs in Tigray have been found below the standard ratios set by WOCCU: Therefore, the cooperatives are not generating enough amount of income necessary for their sustainability. Thus, the cooperatives should make effective marketing activities to extend loans to their members at reasonable rate of interest rate, invest any capital left after laon disbursement in profitable investment opportunities such as: lend their capital to multi-purpose cooperatives; buy financial investment securities such as government bonds; apply any idle capital in non-financial investments such as shops, grinding mills, etc.

References

Abate Mitiku and Abebe Alemu (1998), *Status of Saving and credit Cooperatives in Ethiopia*, Unpublished.
Dagnew Gessesse (2004), *Saving and Credit Cooperatives in Ethiopia*, AEMFI, Microfinance Development Review, Vol 3, No. 2.
______Development of Rural Financial Market in Sub-Sahara Africa, the world bank.
Federal Democratic Republic of Ethiopia, *Cooperative Societies Proclamation No. 147/1998*
Federal Democratic Republic of Ethiopia, *Rural Financial Intermediation Program (RUFIP*), Appraisal Report Vol 2, Working Papers 1&2.

IFAD (2000) Ethiopia: *Rural Financial Intermediation Program (RUFIP),* Appraisal Report.
International Coopertive Alliance, Statement on Cooperative Industry: Background Paper to the statement on Identity: http://www.wisc.deu/uwcc/icic/issues/prin/21-cent/background.html.
Ledgerwood J. (1999), Sustainable Banking with the Poor, Washington D.C., the World Bank
National Bank of Ethiopia *Quarterly Bulletin: Fiscal Year series*, Vol 16 No.4, Fourth Quarter 2001
Wolday Amaha (2005), *Prudential Regulation of the Microfinance Industry: Lessons from Ethiopia*, AEMFI, Occasional Paper N0. 15
World Council of Credit Unions, Inc. WOCCU (2001) Credit Unions: Vehicles for Providing Sustainable Microfinance,
http://www.saccol.org.za/printdocs/saccos.html.
World Council of Credit Union (2002), *PEARLS Monitoring System*, Toolkit Series No 4 http://www.woccu.org.