Credit Terms, Credit Accessibility and Performance of Agricultural Cooperatives in Rwanda

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Abstract

The purpose of this study is to examine the empirical relationship between credit terms, credit accessibility and the performance of agricultural cooperatives in Rwanda. Drawn from the literature, independent variables, credit terms and credit accessibility- were formulated to link each research question together. A random sample of 196 active agricultural cooperatives was obtained from various districts in the southern province. Correlation and regression models were used to test whether the performance of agricultural cooperatives is affected by credit terms and credit accessibility and also if there is any relationship between the two.

The findings revealed a positive and significant relationship between credit terms, credit accessibility and the performance of agricultural cooperatives; the two independent variables explain about 17.6% of the performance of agricultural cooperatives. The study reveals that credit accessibility is the most significant determinant of the performance of agricultural cooperatives. To attain a higher performance level of agricultural cooperatives, better mechanism for accessing credit must be put in place and credit terms/lending policies must be simplified/ revised.

Key words: Credit terms, Credit accessibility, Performance.
1. Introduction

Agriculture in Rwanda is a major source of income; over 80% of the population survives by farming and livestock rearing (WB, 2010). In a bid to develop the agricultural sector, farmers have been encouraged to work together in small groups - agricultural cooperatives.

The Ministry of agriculture has implemented various programs such as training in storage techniques and encouraging Micro Finance Institutions (MFIs) to extend credit in the sector (Microfinance symposium report 2010).

‘Credit terms’ are the minimum conditions set by lending institutions to which borrowers must adhere in order to qualify for loan (Bohnstedt, 2000). Enforcing credit terms involves the screening of customers so that only those who are credit-worthy are allowed to do business (Baydas et al., 2004).

Kissinger (2002) notes that credit terms have been the key in the determination of capital requirements of SMEs as set by bank. Normally, due to the possibility of default and lack of effective contract enforcement mechanisms, lenders have additional incentives to restrict the supply of credit, even if they have more than enough to meet a given demand and the borrower is willing to pay a high interest rate (Avery 1981; Stiglitz and Weiss 1981).

It has, however, been found that large long-term loans have a comparative advantage over small loans because long term loans not only increase an enterprise’s capital base considerably but also give the enterprise longer grace and repayment (credit) periods, which have been found to support business growth (Myers, 1997).

‘Credit accessibility’ refers to the ease or difficulty of acquiring credit by borrowers for purposes such as to enhance business performance (Salahuddin, 2006). In order to ensure continuity and realized success, SMEs need to acquire the necessary financial resources/credit to allow them to invest now so that they will obtain income in the future (Audretsch, 2002). Acquisition of such credit is difficult for the SMEs because of high rates of interest on lending, and this has constrained private sector demand for the credit and limited their progress (Kikonyogo, 2000).

Access to credit also reduces the opportunity costs of capital-intensive assets relative to family labor, thus increasing labor-profitability and raising labor productivity, a crucial factor for development, especially in many African countries (Delgado 1995; Zeller et al. 1997).
The accessibility of credit is still fairly constrained, and particularly access to formal credit for small and medium farmers. These forces constrained borrowers to turn to more expensive and unreliable informal credit sources (Okurut et. 2004).

Over the last decade, Rwanda has produced about 140,000 liters of milk, an average consumption of 13 liters per year per head of population. The World Health Organization recommends drinking over 200 liters per year (Independent, 2009). Anecdotal evidence such as this highlights the insufficiency of the agricultural sector to meet the demand for output in various products lines - dairy products and coffee being among the most under-produced (Mazimpaka, 2009; BNR, 2008). Farmers’ productivity and profitability have continued to decline drastically (Plan for Modernization of Agriculture, 2000).

There is, therefore, a need to understand factors that affect agricultural performance and the measures that can be adopted to overcome them.

1.2 Objectives of the Study

The objective of the study is to identify, analyze and critically examine different factors that affect performance of agricultural cooperative in Rwanda targeting the southern province. This study aims to provide two important contributions to the field of Finance and Banking with respect to the level of credit accessibility for agricultural cooperatives in Rwanda. More specifically, the objectives are as follows:

1. To examine and analyze the determinants of performance of agricultural cooperatives in Rwanda.
2. To make critical assessment of the relative importance of the factors in determining performance of agricultural cooperatives.

1.3 Conceptual frame work

Figure 1.1 presents a model of credit terms, credit accessibility and performance of agricultural cooperatives. The model describes credit terms as the independent variable, credit accessibility as a mediating variable and the performance of agriculture cooperatives as the dependent variable.

It is posted that credit terms influence credit accessibility, and access to credit improves the performance of agricultural cooperatives, all other factors remaining constant.

‘Credit terms’ was measured in terms of interest rate, grace period, and repayment period (Salahudin, 2004; Kakuru, 2007). ‘Credit accessibility’ was measured in terms of the demand and supply of credit and the frequency of borrowing. In this framework, the supply and demand
curves represent, respectively, the amount the lender is willing to lend and the amount the borrower is willing to borrow at exogenously given interest rates (Freixas and Rochet 1997, Chakra-borty 2006). ‘Performance’ of agricultural cooperative was measured in terms of profitability, and productivity (Bhattacharya and Thakor. 1998).

**Figure 1:** Conceptual framework showing relationship between Credit terms, Credit accessibility and Performance of agricultural cooperatives

![Conceptual framework showing relationship between Credit terms, Credit accessibility and Performance of agricultural cooperatives](image)


2. Literature Review

2.1 Relationship between credit terms and credit accessibility

In developing countries, commercial banks constitute the majority of formal lenders, yet access to these institutions is restricted to a small portion of the population who can meet their stringent requirements. Access to financial services by small holders is normally seen as one of the constraints limiting their benefits from credit facilities (Gockel et. 2002). This is reflected in the institutions’ strict lending policies, displayed in the form of collateral requirement, repayment period, first account operating requirement and maximum loan amounts.

Financial institutions’ lending policies often determine the access problem; when credit terms and provision of supplementary services do not suit borrowers they will not apply for loans or
their applications will be rejected (Guirkerger, 2006). The access problem is further complicated by the restriction of credit to a few sectors of the economy (Jaime, 2006). For example, in developing countries such as Rwanda, few formal institutions are willing to extend credit to the agricultural sector. They perceive this sector to be as a risky one with difficulties such as unpredicted return and seasonality factors.

Consequently, access to credit is restricted to a small proportion of the population who can overcome significant barriers to credit such as high minimum balance for account opening, onerous collateral requirements and a long and costly bureaucratic processes (Okurut, 2004).

For those SMEs with acceptable “credit histories” and sufficient collateral, access to bank credit appears to be satisfactory according the lending institutions. For start-ups, micro-enterprises, entrepreneurs from previously disadvantaged communities or any other group with limited collateral or weak (or limited) credit histories, access is more limited (Falkena et al, 2009). This may indicate a need for greater institutional variety, increased innovation and a greater emphasis on mentoring.

2.2 Relationship between credit accessibility and Performance of agriculture cooperatives

The growth of a farm is dependent on its productivity and the farmers’ effectiveness in the use of the inputs to operate it (Bolo, 1996). For small and medium scale farmers to improve their performance they have to improve their productivity by employing techniques such as the use of fertilizers, spraying their crops against pests and diseases, training labor, quality seeds and machinery (Klaus, 1994). Small and medium scale farmers have limited capital to afford such techniques and limited access to credit, putting the agricultural sector in a vulnerable situation.

Yet studies shows that improvement in rural credit encourages improved resource allocation. Loans also allow farmers to make better allowance for risks associated with the nature of the agricultural production such seasonality issues. They are also enabled to afford larger investments (Stevens et al, 2001). In addition, access to credit is an important instrument for improving the welfare of the poor directly (consumption smoothing that reduces their vulnerability to short term income shocks) and for enhancing the productive capacity through financing investments (Binswanger and Khandker, 1995).

2.3 Relationship between Credit terms and Performance of Agricultural cooperatives

The high borrowing costs reflected by high interest rates are a perennial complaints among most borrowers and constrain credit accessibility because borrowers need a return on their investment. Many borrowers who proceed to access loans at such rates have under-gone liquidation or lost their highly valuable collateral to lenders as a result of defaulting on
Consequently credit constraints limit the size of firms as well as their growth, profits, activations and liquidations; the scope of operation may also be limited. Since agriculture is the backbone of most developing economies, credit constraints to the sector are of first-order importance for the performance of these economies. Capital market imperfections can impair the aggregate accumulation of capital, the rate of return on investment, innovation and accumulation (Jaime, 2006). This has led farmers in rural areas to rely on the less efficient and expensive informal credit markets and hence limited the exploitation of the agricultural sector.

When credit terms are favorable, they encourage borrowing and therefore the expansion of capital base, leading to increased business activity (Dietsch & Petey, 2002). In contrast, unfavorable credit terms not only discourage borrowing but also decrease the business growth of a borrowing enterprise because they become huge direct expenses without cash discount, which reduce revenue (Kaplan, 2006c).

2.4 Conclusion

Generally the literature indicates how the credit terms set by lending institutions determine the level of the enterprise’s accessibility to credit and, in so doing, affect the performance achieved by agricultural commercial units. The literature however, articulates not only how this factor affects credit accessibility but also its effect on the performance of enterprises. This therefore implies that the performance of enterprises can not be considered in terms of profitability and productivity alone but must also take into account the fact that enterprises’ access to credit and attractive credit terms will play a vital role in their performance. However, the existing literature does not include any studies of the relative contribution of different variables to the performance of enterprise in Rwanda. This study aims to fill the gap in knowledge, with a particular focus on cooperative farming as an agricultural commercial unit.

3. Summary of results

3.1 Credit terms and Performance of agricultural cooperatives

Results revealed a significant positive relationship between credit terms and performance of agricultural cooperatives ($r = 0.301^{**}, P< 0.01$). This means that credit terms are highly related with the performance of agricultural cooperatives.

3.2 Credit terms and Credit accessibility

There was a significant positive relationship between credit terms and credit accessibility ($r= 0.453^{**}, P< 0.01$). This implies that credit terms are also highly associated with credit accessibility.
3.4 Credit accessibility and performance of agricultural cooperatives

The findings revealed that there was a significant positive relationship between credit accessibility and performance of agricultural cooperatives (r = 0.419**, P< 0.01). This means that credit accessibility highly enhances the performance of agricultural cooperatives.

3.5 Regression Analysis

Regression was used to determine the level of prediction of the independent variable (grace period, interest rates, credit period, required credit worthiness and loan size) for credit terms, (amount of credit supplied, amount of credit demanded and frequency of borrowing) for credit accessibility on dependent variable (profitability and productivity) for performance of agricultural cooperatives.

Table 1: Results of Multiple Regression Analysis

<table>
<thead>
<tr>
<th>Unstandardized Coefficients</th>
<th>Std. Error</th>
<th>Standardized Coefficients</th>
<th>T</th>
<th>Sig.</th>
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</thead>
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<tr>
<td>(Constant)</td>
<td>1.008</td>
<td>.355</td>
<td>2.837</td>
<td>.005</td>
</tr>
<tr>
<td>Credit Accessibility</td>
<td>.514</td>
<td>.143</td>
<td>.358</td>
<td>3.590</td>
</tr>
<tr>
<td>Credit Terms</td>
<td>.165</td>
<td>.130</td>
<td>.127</td>
<td>1.270</td>
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<tr>
<td>R = .437</td>
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<td>R Square = .191</td>
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<td>Adjusted R Square = .176</td>
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<td>a Dependent Variable:</td>
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<td>Performance of Agricultural</td>
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Results from table 1 above show that the combination of credit terms and credit accessibility was significant and predicted up to 17.6% of the performance of agricultural cooperatives. A combination of these two independent variables appears as a statistically significant predictors of performance of agricultural cooperative (at p<0.001.)

However, it should be noted that only credit accessibility can predict performance of agricultural cooperatives by itself. It means that a positive change in credit accessibility leads to 0.514 positive changes in performance of agricultural cooperatives.
4. Discussions and conclusions

4.1 The level of credit accessibility by agricultural cooperatives in Rwanda

The findings revealed that the level at which agricultural cooperatives access credit is generally very low, loans are unreliable and obtaining them is difficult. Farmers are forced to reinvest the small profits they make. This implies that the capital of these cooperatives is their own indicating the lack of long term loans in the enterprise capital base. So the argument raised by Kaplan (2006c) and Berger et al.(1995) that the availability of long term loan finance in an enterprise’s capital account is one of the indicators of credit accessibility is in line with these findings. Since farmers cannot obtain credit every time or whenever it is needed, that means the frequency of access is limited, consistent with Barnett’s (2000) observation that the frequency of borrowing from financial institutions is often low for most of the small and medium scale enterprises. In this case farmers will be discouraged to from going for these financial institutions’ services and will end up using the little they have to run the business, or visit the informal lending source; as found out by Okurut et al, (2004), accessibility of credit is still fairly constrained, particularly from formal credit sources to small and medium farmers, forcing overwhelmingly constrained borrowers to turn to rather more expensive, unreliable, informal credit sources.

This make the cost of operating very high for agricultural cooperatives who already claim that interests from financial institutions is high, hence sustainability becomes almost impossible, as it is argued by Delgado (1995) and Zeller et al. (1997). That access to credit reduces the opportunity costs of capital-intensive assets relative to family labor, thus increasing labor profitability and raising labor productivity, is a crucial factor for development, especially in many African countries

4.2 Credit terms and Performance of agricultural cooperatives

The findings showed a significant positive relationship between credit terms and performance of agricultural cooperatives. This implies that attractive credit terms may improve the performance of agricultural cooperatives and less attractive credit terms may lower performance. Poor credit terms may also limit the size of cooperatives as well as their growth, liquidation and activities. This is in agreement with the studies of Dietsch & Petey (2002) and Kaplan (2006c) who argue that when credit terms are favorable they encourage borrowing and therefore the expansion of the capital base leading to increased business activity. In contrast, unfavorable credit terms not only discourage borrowing but also decrease the business growth of a borrowing enterprise because they become huge direct expenses without cash discount, which reduces revenue.
4.3 Credit terms and credit accessibility

The results indicated a positive significant relationship between credit terms and credit accessibility. This means that favorable credit terms encourage borrowing while unfavorable credit terms limit borrowing. Therefore this relationship is linear and significant which is in conformity with the findings of Kasekende & Opondo (2004), Bohnstedt (2000), De Boodt & Stantnik (2002), Degreyse & Van Cayseele (2000), Dietsch & Petey (2002), Guiso et al., (2002) and Kasibante (2000), each of whom pointed out that these terms are condition set by financial institutions for loan applicants and discourages borrowing when unfavorable. This result again concurs with the findings of Guirkerger (2006), and Gockel et. (2002), who have shown that access to credit by SMEs is a constraining limit from financial institutions as a result of lending policies which determine the access problem; where credit terms and provision of supplementary services do not suit borrowers they will not apply for loans even where they might be granted and when they do their applications will be rejected.

4.4 Credit terms, Credit accessibility, and performance of agricultural cooperatives

The regression analysis (Table 1) addressed relationship between independent variables and the dependent variable. The analysis indicated the there were reliable combined effect of the independent variables on the dependent variable, 17.6% of the variance was explained. This means that credit terms and credit accessibility influences changes in the performance of agricultural cooperatives in the Southern province of Rwanda.

Therefore as performance progresses, credit terms and credit accessibility have a combined effect. The model indicates that cooperatives/enterprises with both predictor variables are likely to improve performance than their counterparts. This is a sustainable effect since credit terms and credit accessibility positively associate with the performance of agricultural cooperatives. Easy access to loans encourages resource allocation which improves the performance of agricultural cooperatives. Coupled with this, large long term loans lower interest rates, sufficient grace period and credit period plus simple requirements for creditworthiness work jointly with credit accessibility to predict a vibrant performance of agricultural cooperatives in terms of profitability and productivity.
Enterprises that are considered less creditworthy often encounter loan size issues because as they anticipate obtaining large loan amounts; lending institutions feel the need to restrict on the amounts to supply, and credit constraint in turn affects the enterprise’s performance. This concurs with the work of (Berger et al, 1998), which asserts that many SMEs have no financial statement in existence, which makes it difficult to assess their creditworthiness and thus extend required loans to them, and they have been earmarked as the enterprise that find it difficult to meet the criteria for accessing the loan finance needed to enable them achieve growth.

5. Conclusions

5.1 According to the preceding discussion the following are the conclusion:

In general, the study looked at credit terms, credit accessibility and performance of agricultural cooperatives. It was observed that there was a significant positive relationship between the study variables. It is therefore evident that the combination of credit terms and credit accessibility has an impact on the performance of agricultural cooperatives in Rwanda.

It was also established that farmers have the desire to get credit to boost the business but every time they try to apply their applications are rejected. Secondly they are discouraged by the unattractive credit terms or lending policies. In the end the capital used is self-generated, which minimizes their ability to invest/venture into business opportunities and adapt to changing and uncertain environments, hence lowering the performance of agriculture.

The findings revealed that access to credit was generally low; this is because most of the agricultural cooperatives could hardly qualify on the terms and or criteria set by the lending institutions not forgetting that the credit limits set are reviewed only periodically. This concurs with the argument of Bataa Ganbold (2008) that if the credit limit is reviewed periodically and tendencies towards slow or prompt payments are found, then that can be used to revise the credit limit set. Whereas access to credit in reality may not be the only determining factor, inaccessibility of external finance is a major impediment to business performance.

Even though the results indicated that there is a linear association between credit terms and performance of agricultural cooperatives, it should be noted that credit terms do not matter to borrowers; it is credit accessibility that matters. This Implies that once credit is available agricultural cooperative farmers will be willing to come for it no matter the terms imposed on them.
5.2 Research limitations and direction for further research

5.2.1 Limitations and possible Extension

The researcher did encounter the following limitations:

The study covered only one Province (The Southern province) and therefore a nationwide study covering the variables presented in this study is required.

Rwanda being a Francophone country formerly, answering an English questionnaire was a problem for the majority, but this was overcome by providing a Kinyarwanda translated Version.

Some cooperatives listed by the Rwanda Cooperative Agency were non-existent although registered, because of lack of financial capacities. Despite these limitations, the researcher believes that the findings of this study will be useful in filling the knowledge gap that it set out to fill.

The results of the study created an area for further academic and business research.

There is a need for further research on the external factors that have an impact on credit access by the agricultural cooperatives factors such as entrepreneurial competence, managerial competence, and financial performance.

With lower correlation and predictive effect, credit terms components vary from country to country overtime. Future longitudinal studies therefore should examine trends in credit terms and the financial performance of agricultural cooperatives.

Credit terms were explained by 12.7 percent variance and respondents lacked enough training and skills, which is not a high figure. Therefore a need to investigate non financial aspects such as: human capital, psychological capital, working capital management, and the performance of the agricultural cooperatives in Rwanda.

6. Recommendations

6.1 In light of the study objectives set, findings and the conclusion therefore:

There is a strong need to improve credit accessibility for the small and medium enterprise, and especially the agricultural cooperatives, since the level is below average; financial institutions must devise mechanisms that will facilitate the process.

Financial institutions should introduce SME-tailored products to meet the needs of these agricultural cooperatives which are favorably constituted in order to bring SMEs (Agric-coops) on board as bankable businesses.
Microfinance institutions should strategize and extend a customized product to their clients, especially agriculturally based enterprise in order to help drive the economies of developing countries.

Agricultural cooperatives should find means of selling their products at a profitable rate, which means processing the products themselves and having little sold as raw material to other industries. This will improve the profits generated and also boost their capacity to repay loans.

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