Research Article

Financial Leverage and Financial Performance of Savings and Credit Co-operative Societies in Tanzania

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Abstract

The purpose of this study is to examine the relationship between financial leverage and financial performance of Savings and Credit Cooperative Societies in Tanzania (SACCOS). The study used a panel data set of 115 SACCOS in Tanzania in the period 2011–14 and fixed-effects models for analysis. The study considered the direct relationship between financial leverage and financial performance and the moderating effect of board meetings on the relationship between financial leverage and the SACCOS's financial performance. The results show that financial leverage is negatively and significantly related to SACCOS financial performance. Also, board meetings have the significant and positive moderating effect on the financial leverage–financial performance relationship. Finally, the study suggests that SACCOS in Tanzania need to embrace more on mobilising internal funds from their members instead of relying on debt. This can reduce the dependence on debt which has been one of the operational costs' drivers of the SACCOS in Tanzania.

Keywords

Board meetings, financial leverage, financial performance, SACCOs

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Introduction

Previous researchers have highlighted that Savings and Credit Co-operative Societies (SACCOS) have evolved as important institutions for economic growth intended to provide financial services to people who do not have access to conventional banking services. According to FinScope (2017), financial exclusion in Tanzania by the banking system is about 83%. SACCOS provide financial services such as credit, savings deposits, sight deposits and of recent some of them have started to offer fixed deposit services to their members which enable them to meet their social and investment needs. Despite the benefits, lack of sufficient internal funds for on lending act as a barrier to the ability of SACCOS to provide financial services to their members (Ishengoma 2013; Towo et al. 2019).

In Tanzania SACCOS operates in a traditional model which involves taking share capital and deposits from members and issuing loans based on collective savings. In this model share capital is non-transferable and it is redeemed at par value when a member exits the SACCOS, and members residual claims are linked to patronage instead of investment (McKillop and Wilson 2015). Likewise, Nyamsogoro (2010) points out that, most SACCOS in Tanzania do not pay interest on members' savings deposits. Further the principle of democratic membership provides members equal voting rights (one member-one vote) regardless of the share ownership. Consequently, limited interest payments coupled with a lack of additional voting power, transferability (liquidity) and appreciation in the value of member shares are disincentives for additional member investment (Alexandra et al. 2016). In response to these challenges, some SACCOS resolve to borrowing from conventional financial institutions.

In financing decisions, the pecking order theory, by Myers and Majluf (1984) and Myers (1984), suggest that firm financing follows hierarchy: Internal financing, then debt and finally external equity. SACCOS in Tanzania present a different setting since regulations prohibit them from raising external equity. Therefore, SACCOS use debt as the main option of external financing. Borrowing from conventional financial institutions have enabled SACCOS to expand their product offering, attracting new members and increasing their volume of operations (Kaleshu and Temu 2012; Piprek 2008). However, the use of debt financing places significant pressure on liquidity and can limit growth, especially for SACCOS with limited collateral or financially weak or shrinking member base (Alexandra et al. 2016). Further, the use of debt is associated with high costs of accessing loans and high transaction costs which could lead to higher delinquency and default rate (Ishengoma 2010; Temu and Ishengoma 2010).

The relationship between financial leverage and a firm's performance has been a puzzling issue in literature. From agency theory perspective, Jensen and Meckling (1976) assert that the use of debt is associated with increased agency costs resulting from conflict of interest between the owners and the lenders. On the other hand, Jensen (1986) contend that leverage may improve a firm's

performance by encouraging managers to alter their discretionary behaviour so as to act more in the best interest of the shareholders. While there are enormous studies which have mainly focused on large, publicly traded companies (Abeywardhana and Krishanthi 2015; Abor 2005; Appiadjei 2014; Ben-gal 2005; Danso et al. 2020; Dawar 2014; Ebaid 2009; Gharsalli 2019; Margaritis and Psillaki 2010), examining the consequences of financial leverage on a firm's performance, empirical evidence has been contradictory especially about whether debts have a positive or negative effect on firm performance. Relatively few studies have examined the influence of financial leverage on the performance of SACCOS (Ndiege et al. 2014; Temu and Ishengoma 2010; Towo et al. 2019). Thus, little is empirically known about such relationship in SACCOS which are associated with higher level of information asymmetry than conventional financial institutions especially in Tanzania. This study aims at testing the relationship between financial leverage and financial performance of the SACCOS.

According to Song and Nguyen (2020) the magnitude and direction of financial leverage–performance relationship can vary depending on the effectiveness of the board of directors. Board of directors is the internal corporate governance mechanism which has the role of monitoring managers and reducing conflict of interest between principal and agent (Alsartawi 2019). Boards therefore may play an important role in reducing conflict of interest between the firm and lenders thereby lowering the cost of debt (Bhojraj and Sengupta 2003). Empirical studies on financial leverage show that board characteristics including board independence, CEO duality, board size and ownership are factors which moderate financial leverage–firm performance relationship (Chao 2012; Javeed et al. 2017; Song and Nguyen 2020). However, the possible moderating effect of board of directors' characteristics on financial leverage–financial performance relation in SACCOS has received little attention. To bridge this gap, this study examines the effects of frequency of board meetings on the financial leverage–financial performance relation of SACCOS in Tanzania.

Four years balanced panel data from 115 SACCOS in Tanzania borrowing from conventional financial institutions has been used to examine the relationship between financial leverage and financial performance of SACCOS. This study contributes to the literature on financial leverage and firm performance in two ways: Firstly, the study looked at the financial leverage–financial performance relationship in the SACCOS context thereby providing new insights regarding SACCOS borrowing from conventional financial institutions. Secondly, it contributes to the agency theory by showing how financial leverage influences financial performance of SACCOS.

The remainder of the article is structured as follows. The next section presents a review of theoretical and empirical work, followed by a description of the methodology applied in this article. The following section presents the findings and discussion and finally conclusions, implications and suggestions for future research are presented.

Literature Review and Hypothesis Development

According to perspectives of the agency theory, there is a conflict between a firm's manager, shareholders and debtholders because their interests are not perfectly aligned (Jensen and Meckling 1976). They opined that conflict between debtholders and shareholders may give rise to agency costs of debt. Nevertheless, the existing literature provides different views on the effect of agency costs on firm financing. One view claims that the presence of higher levels of debt generate higher agency costs due to the conflicts between shareholders and debtholders (Jensen and Meckling 1976). According to this perspective, higher level of financial leverage (a lower equity capital ratio) leads to higher agency costs and consequently a negative relationship between financial leverage and firm performance. On the other hand, higher debts reduce the moral hazard problem and limit the amount of free cash flow that managers could use by obliging managers to use cash-flow for payment of debt rather than following their own goal (Jensen 1986). Grossman and Hart (1982) demonstrate that failure to meet debt obligations will cause managers to suffer personal losses, reputation and give up control of the firm. In such circumstances, higher leverage increases pressure to managers and encourages them to act more in the interests of shareholders rather than indulge in discretionary behaviour (Jensen 1986). Thus, increasing leverage can lower costs of debt and have a positive effect on a firm's performance.

Furthermore, agency theory advocates that conflict of interest between the principal and managers can be mitigated by introducing an effective board monitoring system and provision of incentives to managers (Jensen and Meckling 1976). Hartarska and Mersland (2012) and Strøm et al. (2014) assert that an effective board is essential in improving the effectiveness of monitoring and supervision of managerial behaviour. Board meetings are considered as one of the board monitoring mechanisms whereby it exercises control over management decisions (Melyoki 2005). There are, though, different views regarding board meetings. Lipton and Lorsch (1992), contended that board meetings allow directors to properly take their monitoring function which could lead to greater performance. In an opposing view, Jensen (1993) postulates that in a well-functioning organisation the board should be relatively inactive; which implies that frequent board meetings are an indication of poor performance.

Financial Leverage and SACCOS Financial Performance

Empirical studies in non-financial firms have reported contradictory results. Researchers have reported positive relationship between financial leverage and firm performance (Abor 2005; Appiadjei 2014; Forte and Tavares 2019). On the other hand negative relationship has been reported (Danso et al. 2020; Dawar 2014; Gharsalli 2019; Yazdanfar and Öhman 2015). Ebaid (2009) learnt that there is no significant relationship between financial leverage and firm performance. Despite the distinct features, evidence from studies on the effect of financial leverage on the performance of SACCOS is mixed. Temu and Ishengoma (2010),

analysed the effect of financial leverage on the performance of rural SACCOS using a survey data from 51 rural SACCOS in 13 districts from four regions in Tanzania. They found out that, financial leverage has an insignificant effect on the performance of SACCOS. Ndiege et al. (2014) found out that the increase of financial leverage lowers performance of SACCOS. However, these studies have some limitations. For instance, Temu and Ishengoma (2010) used a sample of 51 rural SACCOS and Ndiege et al. (2014) relied on data from 60 SACCOS. In response, the current study extended from the previous studies by using a sample of 115 SACCOS borrowing from conventional financial institutions from five regions in Tanzania.

In fact, the conventional financial institutions are incentivised to monitor SACCOS which are characterised by information asymmetry due to lack of transparency. The conventional financial institutions have been observed to use several monitoring mechanisms including fixed deposit receipt as a loan security, information communication technology facilities, supervision and provision of auditing and accounting services (Kaleshu 2013). Consequently, the monitoring costs may be passed over to SACCOS in terms of loan application fees and higher interest expenses. Accordingly, lenders are more likely to emphasis on their profitability objective which could lead to higher interest. This study proposes the following hypothesis:

*H*1: Financial leverage is negatively related to SACCOS financial performance.

Financial Leverage, Board Meetings and SACCOS Financial Performance

According to Mangena and Tauringana (2008) and Ntim et al. (2017) frequent meetings allow directors more time to execute their monitoring role effectively which helps them in making rational decisions, leading to improved performance. Vafeas (1999) argued that the limited time directors spend together is not used for meaningful exchange of ideas among themselves. Also, there are costs associated with board meetings, including managerial time, travel expenses, and directors' meeting fees which may contribute to negative performance. Empirical literature reports mixed evidence on the impact of board meetings on firm performance. Several studies support the positive relationship between board meetings and firm performance (Brick and Chidambaran 2010; Garcı´a-Ramos and Garcı´a-Olalla 2011; Ntim and Osei 2011). In contrast, some studies report that higher frequency of board meetings results in lower performance (Alsartawi 2019; Benjamin and Zain 2015; Fich and Shivdasani 2006; Vafeas 1999).

However, frequency of board meetings in SACCOS needs to be examined separately from other institutions because directors are elected among the members who own, finance, control and use the services (Bijman et al. 2014). SACCOS board members are users who benefit from patronising it, and as owners, they provide equity capital and receive a return on investment (Bijman et al. 2013), and also are co-liable for any of its debt (Alexandra et al. 2016).

Evidence from SACCOS shows that while number of board meetings has a negative relationship with their performance in terms of loan holder benefit, it is positively related to interest spread when used as a measure of performance (Unda et al. 2017).With the need of SACCOS board members to obtain benefits and strengthening their institution they have strong incentive to monitor and control managers in order to protect members interests through board meetings. Thus, frequent board meetings may result in an efficient utilization of debt by managers, reduces credit risk, resulting to lower cost of debts from conventional financial institutions. The following has therefore been hypothesized:

> **H2**: Board meetings positively moderates the effect of financial leverage on the financial performance of SACCOS.

Methodology

Data Sources and Sample Selection

The population of the study consists of 5 275 SACCOS which had already been set up in Tanzania in 2014. A sample of SACCOS borrowing from external sources was used. Data were collected from the annual reports of the SACCOS audited by the Co-operative Audit and Supervision Corporation (COASCO). This makes their annual financial reports a reliable source of data. The sample consists of 160 SACCOS, however, only 115 SACCOS had data on all dependent, independent, moderating and control variables. Therefore, data for all variables were collected from 2011 through 2014 for 115 SACCOS.

Definition and Measurement of Variables

Dependent Variables. Following the empirical studies reviewed (e.g., Ndiege et al. 2014). Operational Self-Sufficiency (OSS) is used as a main measure of SACCOS financial performance. OSS is computed as the ratio of operating revenue to financial expenses, loan loss provision expenses and operating expenses (SEEP 2005). The ratio of net income over total assets (ROA) is utilised as an alternative financial performance measure. ROA was used by other studies as a measure of financial performance in SACCOS (Almehdawe et al. 2020; Mathuva 2016b; Yitayaw 2021).

    Independent Variables. In this study financial leverage indicates the proportion of SACCOS capital financed by loans from external sources. Leverage (LEV) is computed as total loans from external sources divided by total assets (Ndiege et al. 2014; Towo et al. 2019). Debt to equity ratio (DER) is a standard measure for the long-term health of an organization which indicates the extent to which the business relies on debt financing (Kar 2012). It is calculated as total debt to members equity (Henock 2019). Capital to asset ratio (CAR) which has been employed by other studies (e.g., Kar 2012; Mathuva 2016), is used as an inverse

measure of leverage. It is computed as members' equity to total assets. In this study members' equity includes members share capital, reserves and retained earnings.

Control Variables. To control differences due to SACCOS specific characteristics, we include liquidity ratio, size and age, similar to most of the empirical studies reviewed. The liquidity ratio (LIR) is defined as the proportion of SACCOS liquid assets to total deposits. It measures the ability of the SACCOS to satisfy members deposits withdrawals requirement, funding loan requirement, and payment of liabilities and expenses. According to Gharsalli (2019) a SACCOS with higher liquidity could meet its commitment which suggests a positive relationship with financial performance whereas, a SACCOS with excessive liquidity can engage in unprofitable investments that could have a negative impact on its performance. Size is defined as the natural logarithm of total assets. Size of the SACCOS is used to control the effect associated with the different scales of operations, technology, investment opportunities and diversification. Age is used as a control variable which is defined as the natural logarithm of years since start-up of a SACCOS. Almehdawe et al. (2020) pointed out that age could affect financial performance because older SACCOS might enjoy performance advantages over the younger ones.

Moderating Variable. Board meetings are used as a moderating variable. Board meetings are indicator of the board members' ability to control and monitor the SACCOS borrowing and lending activities. In accordance with (Alsartawi 2019; Benjamin and Zain 2015) board meeting is measured as the total number of board meetings (excluding committee meetings) in a year.

Model Specification

A linear equation used to test the direct relationship between financial leverage and SACCOS financial performance is specified as follows:

$$FP_{it} = \alpha_{it} + \beta_1 LEV_{it} + \beta_2 DER_{it} + \beta_3 CAR_{it} + \beta_4 LIR_{it} + \beta_5 Age_{it} + \beta_6 Size_{it} + \varepsilon_{it} \quad (1)$$

Where, FP_{it} is the dependent variable financial performance represented by OSS and ROA of SACCOS i (i = 1, 2, 3, 4…115) in year t, which takes the value of 2011 to 2014; LEV is Loans from external sources divided by total assets, DER stands for debt to equity ratio of a SACCOS i in year t, CAR represent capital to asset ratio of a SACCOS i in year t, LIR is liquid assets to deposit ratio of a SACCOS i in year t, age is age the of SACCOS i in year t, size is the size of a SACCOS i in year t and ε_{it} error term for SACCOS i at time t.

To explore the hypothesized moderating role of board meetings, the hierarchical regression is utilised. Following Warner (2008) the existence of moderating effect is tested through three levels. In the first level, the effect of the independent variable on the dependent variables is tested. At the second level, moderating variable (number of board meetings) is entered in the model. Lastly in the third level, the product term of the moderating variables and the independent variables (interaction) is entered in the model. In accordance with Jaccard et al. (1990), to

avoid the problem of multicollinearity and to make the coefficients more interpretable, mean scores were centred.

The moderating relationship is modelled in the following equation:

$$FP_{it} = \alpha_{it} + \beta_1 \text{ Finlev }_{it} + \beta_2 MET_{it} + \beta_5 \text{ Finlev } \times MET_{it} + \beta_4 X_{it} + \varepsilon_{it} \tag{2}$$

In equation 2 *FP* represent financial performance, *Finlev* represented LEV DER and CAR of a SACCOS *i* in year *t*. MET is number of board meetings, *Finlev ×* MET represents interaction effect which is the product of financial leverage and number of board meetings, *X* is control variables (LIR, size and age) and ε_{it} represents error term.

Findings and Discussions

Descriptive Statistics

Table 1 presents the summary statistics of the variables used in this study for the whole sample. On average OSS is 1.25 which is lower compared to 1.41 reported by Ndiege et al. (2014). The average ROA is 2.7% which is higher than that of Kenyan deposit-taking SACCOS (1.4%) according to Mathuva (2016). The leverage ratio (LEV) in SACCOS averages 17% which is higher than that of credit union (15.69%) according to Bogan (2012) and 10.73% for deposit-taking SACCOS in Kenya according to Mathuva (2016). Further, the findings show that the average capital to assets ratio is 9.1%, which is lower than that of SACCOS in Kenya (19.82%) according to Mathuva (2016). The results in Table 1 show that the average debt to equity ratio is 5.27 which is higher compared to that of SACCOS in Ethiopia (2.16) according to Henock (2019). This suggests that SACCOS are leveraged than financed through equity capital. As shown in Table 1, on average SACCOS liquidity ratio is 25.7%. The average age of SACCOS is 12.8 years, the minimum is 4 years and the maximum is 48 years. Furthermore, the size of SACCOS varies considerably. The average total asset is TZS 929 million. The minimum size of total assets is TZS 13.9 million and maximum size is TZS 24 billion. The average number of board meetings is 8 per year. This is lower compared to 12.84 meetings per year for Australia credit unions according to Unda et al. (2017).

Pairwise Correlation Analysis

Table 2 reports the results of the Pearson correlation analysis. OSS and ROA have statistically significant negative relationship with LEV. DER is negatively correlated with ROA and OSS whereas, CAR is positively correlated to OSS. Among the specific SACCOS variables, LIR is significantly positive correlated with OSS and ROA while, age and size are negatively correlated with ROA.

According to Table 2 the correlation between variables and the variance inflation factor (VIF) are low implying that multicollinearity is not a problem.

Regression Results

Table 3 model 2 and 6 show the results of the direct relationship between financial leverage and SACCOS financial performance. The results show that leverage has a negative and significant relationship with both measures of SACCOS financial

Table 1. Summary Statistics.

Variables	Observations	Mean	Standard Deviation	Minimum	Maximum
Operational self sufficiency	460	1.254	0.899	0.040	9.350
Return on assets	460	0.027	0.053	−0.272	0.422
Leverage	460	0.170	0.198	0	0.984
Capital asset ratio	460	0.091	0.078	0.002	0.493
Debt equity ratio	460	5.268	77.04	−66.28	1,638
Liquidity ratio	460	0.257	0.809	−3.386	6.335
Age	460	12.81	9.462	4	48
Size	460	929	1,885	13.9	24,000
Meetings	460	8.176	3.778	1	24

Source: Own computation (2021).

Note: Size is in millions of Tanzanian Shillings (TZS) at the time of writing this article, the exchange rate was $1 = 2,300 TZS.

Table 2. Pairwise Correlation.

	OSS	ROA	LEV	CAR	DER	LIR	AGE	SIZE
ROA	0.473***							
LEV	−0.219***	−0.148***						
CAR	0.231***	0.001	−0.221***					
DER	−0.022	−0.059	0.120**	−0.059				
LIR	0.142***	0.466***	−0.109**	0.318***	−0.018			
Age	−0.008	−0.171***	−0.045	−0.223***	−0.024	−0.114**		
Size	0.013	−0.098**	0.253***	−0.205***	0.003	−0.071	0.483***	
MET	0.034	0.023	0.095**	0.111**	0.024	0.005	−0.059	0.077*
VIF			3.07	1.44	3.53	1.19	1.61	1.53

Source: Own computation (2021).

Note: The variable definitions are as described in Table 1. ***, **, and * denote the significant level of < 0.01, < 0.05, and < 0.10, respectively.

Table 3. Regression Results for the Full Sample.

	Operational Self-Sufficiency (OSS)				Return on Assets (ROA)			
	1	2	3	4	5	6	7	8
Leverage		-0.767***(0.129)	-0.800***(0.123)	-2.293***(0.544)		-0.046***(0.011)	-0.049***(0.013)	-0.104*(0.053)
Capital asset ratio		-1.360**(0.561)	-1.021**(0.499)	2.997(2.648)		-0.049(0.079)	0.025(0.086)	0.229(0.230)
Debt equity ratio		-0.005(0.004)	-0.003(0.004)	0.008(0.001)		-0.001**(0.004)	-0.007*(0.004)	-0.006(0.003)
Meeting			0.119(0.132)	0.163(0.129)			0.008(0.016)	0.015(0.020)
Leverage × meeting				0.366*(0.196)				0.007(0.018)
Capital asset ratio × meetings				-1.483*(0.863)				-0.077(0.078)
Debt equity ratio × meetings				-0.002(0.001)				0.001***(0.000)
Liquidity ratio	0.169**(0.079)	0.163**(0.078)	0.163*(0.078)	0.144**(0.071)	0.036***(0.008)	0.035***(0.008)	0.029***(0.008)	0.033***(0.007)
Age	-0.272(0.195)	-0.484**(0.210)	-0.530**(0.206)	-0.536***(0.197)	-0.065***(0.022)	-0.071***(0.019)	-0.086***(0.024)	-0.087***(0.014)
Size	0.205**(0.088)	0.285***(0.084)	0.298***(0.085)	0.283***(0.089)	0.014(0.011)	0.018**(0.007)	0.024**(0.010)	0.023***(0.007)
Constant	-3.522***(1.547)	-4.136***(1.331)	-4.473***(1.519)	-4.225***(1.636)	-0.104(0.187)	-0.149(0.113)	-0.252(0.176)	-0.241*(0.145)
F statistics	1.84*	16.92***	22.10***	46.27***	3.71**	7.04***	6.94***	6.70***
R-squared	0.026	0.207	0.189	0.249	0.064	0.224	0.130	0.167
Observations	460	460	460	460	460	460	460	460

Source: Own computation (2021).

performance (OSS and ROA) at the 1% level. The coefficient on capital to asset ratio (CAR) as an inverse measure of leverage is positively and significantly related to OSS ($\beta = 1.360$, $p < .05$). This suggests that SACCOS with low capital ratio (high leverage) have low performance while those with high capital ratio (low leverage) perform better financially. Turning to debt-to-equity ratio (DER), the findings in Table 3 model 6 depict that it is negatively related to SACCOS financial performance when measured by ROA. This effect is statistically significant at the 5% level. The results from the estimated models provide support for H_1 that financial leverage has a negative relationship with financial performance of the SACCOS.

The negative relationship between financial leverage and SACCOS financial performance may be explained as follows. The Tanzanian SACCOS sector is characterised by lack of transparency which makes monitoring by the lenders difficult, hence generating higher agency costs. Moreover, SACCOS lack physical collateral, so, conventional financial institutions require them to deposit a percentage of applied loan as collateral (Ishengoma 2013). Consequently, SACCOS are abstained from using the retained amount for on lending which could lead to financial distress. Accordingly, SACCOS cannot set interest spread sufficient to cover their operational costs because it may result in charging higher interest rates which their members cannot afford, leading to inefficiency. Mathuva (2016) contends that when SACCOS pay higher interest rates on their borrowing while charging lower interest rates to their members, they cannot cover their costs and retain surplus. Thus, it can be deduced that SACCOS in Tanzania which borrows from conventional financial institutions are likely to be exposed to financial distress and higher costs of debt. Therefore, financial leverage could lead to lower financial performance of SACCOS. The findings of this study confirms the agency theory prediction, that leverage has agency costs due to the conflict of interest between the owners and the lenders which may lead to low performance (Jensen and Meckling 1976). This finding is consistent with Ndiege et al. (2014) who found that leverage is negatively related to SACCOS performance. However, the result is contrary to the findings of (Yitayaw 2021) who found that leverage has a positive effect on financial sustainability of SACCOS.

The estimation results of interaction effect obtained for Leverage × Board meetings, capital asset ratio × board meetings and Debt equity ratio × board meeting are presented in Table 3 model 4 and 8. The significant and positive effect of Leverage × Board meetings ($\beta = 0.366$, $p < .1$ for OSS), capital asset ratio × board meetings ($\beta = -1.483$, $p < .1$ for OSS) and Debt equity ratio × board meeting ($\beta = -0.001$, $p < .01$ for ROA) indicates the moderating effect of board meetings on the financial leverage–financial performance relationship is significant. These results suggest that the financial performance for leveraged SACCOS improves if their board meet more frequently. Thus, the board meetings help to monitor the effectiveness of the usage of loans from conventional financial institutions, hence minimising its negative effect on SACCOS financial performance. The findings support the perception that, boards which meet more frequently are likely to increase monitoring of the management (Vafeas 1999). The findings are in line with the study by Song and Nguyen (2020) which showed that board of directors'

characteristics moderates the financial leverage–firm financial performance relationship using data of firms listed on Vietnam's stock market. Theoretically, the findings are in conformity with Lipton and Lorsch (1992), prediction, that board meetings allow directors to properly take their monitoring function which could lead to greater performance.

With regard to the control variables, liquidity is positively related to OSS at 5% and ROA at 1% significant level, implying that greater liquidity leads to better SACCOS financial performance. The positive relationship is in line with the descriptive results suggesting that SACCOS improve their financial performance by not maintaining too much liquidity or investing in non-earning assets. Also, findings in Table 3 shows that size of the SACCOS exhibits a significant positive relationship with OSS and ROA. The positive relationship connotes that larger SACCOS are able to raise debt at low cost than smaller SACCOS which in turn influence their financial performance positively. This is particularly true because larger SACCOS might have developed advanced means of monitoring their loan portfolio and other operations and thus lenders presume these SACCOS to be credible. Accordingly, Reddy and Locke (2014) advocate that larger co-operatives have better resources to engage in monitoring and are better at utilising resources. The result confirm study by Almehdawe et al. (2020) who find a positive relationship between size and financial performance of Canadian credit unions. On the other hand, age has a negative and significant relationship with financial performance in all models. This indicate that SACCOS age reduces the extent of SACCOS financial performance, implying that younger SACCOS tend to be efficient than older ones.

Robustness Checks

To assess the robustness of the results, this study examines whether the financial leverage–financial performance vary across rural and urban SACCOS in the sample. The descriptive statistics results in Table 4 suggest that, rural SACCOS have better financial performance than urban SACCOS. Leverage ratio in average is higher in the urban SACCOS than in rural SACCOS. Also, rural SACCOS are young and small compared to urban SACCOS. The results of the paired t-test show that means of most of the variables are significant at the 5% level, suggesting that there is a statistically significant difference between rural and urban SACCOS characteristics.

Regression Results for Rural and Urban SACCOS

Table 5 presents the regressions results of rural SACCOS. According to the results in model 2 and 6 there is a significant and negative association between leverage and financial performance in terms of OSS and ROA at the 5% level. Capital to asset ratio as an inverse of leverage is positive and significant (OSS at 5% and ROA at 1%). The significant and positive effect of leverage × meetings in model

Table 4. Summary Statistics for Rural and Urban SACCOS.

	Rural SACCOS		Urban SACCOS		Two Sample t-Test	
Variables	Mean	Standard Deviation	Mean	Standard Deviation	t-Value	Sig
Operational self sufficiency	1.406	1.043	1.344	1.104	2.040	0.043
Return on assets	0.031	0.065	0.025	0.046	0.815	0.416
Leverage ratio	0.115	0.151	0.192	0.212	–4.048	0.000
Capital asset ratio	0.243	0.165	0.198	0.146	2.821	0.006
Debt equity ratio	0.746	7.900	7.317	92.77	–1.055	0.293
Liquidity ratio	0.332	1.029	0.213	0.682	1.555	0.122
Age	10.67	8.007	13.79	9.915	–3.469	0.000
Size	324	551.6	1,205	2,190	–8.837	0.000
Meetings	9.306	4.230	7.661	3.439	3.133	0.002
Observations	144	144	316	316		

Source: Own computation (2021).

Note: Size is in millions of Tanzanian Shillings (TZS) at the time of writing this article, the exchange rate was $1 = 2,300 TZS.

4 ($\beta = 0.119$, $p < .05$ for OSS) implies that frequency of board meetings has the significant and positive effect on the financial leverage–financial performance relationship.

With regards to urban SACCOS, the coefficient on leverage as indicated in Table 6 by model 10 and 14 (i.e., direct relationship) is negative and significant at the 1% level. Turning attention to capital to asset ratio, the study finds that capital to asset ratio (as in model 14) is positively associated with SACCOS financial performance. This effect is statistically significant at the 5% level. With respect to the debt-to-equity ratio model 14 portrays a statistically significant negative influence on ROA ($\beta = -0.008$, $p < .05$). The significant and positive effect of Leverage × Board meetings in model 12 ($\beta = 0.732$, $p < .05$ for OSS) and Debt equity ratio × board meeting ($\beta = 0.005$, $p < .01$ for OSS and $\beta = 0.004$, $p < .01$ for ROA) indicate the moderating effect of board meetings on the financial leverage–financial performance relationship for urban SACCOS is significant and positive.

Comparing results reported in Table 3, with the results in Table 5 and 6, it is observed that they are consistent to the main findings. The coefficient of leverage as reported in Table 3 remains negative and significant. On the other hand, the coefficients of capital to asset ratio as an inverse measure of leverage are positive and significant. This confirms the findings that financial leverage leads to lower SACCOS financial performance. With respect to moderating effect, the results show a significant and positive effect of board meetings on the financial leverage–SACCOS financial performance relationship. The direction and significance of the control variables in Table 5 and 6 is largely similar to those reported in Table 3. Overall, the findings reported in Table 5 and 6 suggest that earlier results in Table 3 are less likely to be driven by the geographical area of SACCOS operations.

Table 5. Regression Results for the Rural SACCOS.

	Operational Self-Sufficiency (OSS)				Return on Assets (ROA)			
	1	2	3	4	5	6	7	8
Liquidity ratio	0.340***(0.121)	0.216*(0.115)	0.215*(0.116)	0.239*(0.129)	0.041***(0.013)	0.029**(0.012)	0.028**(0.011)	0.025**(0.011)
Age	−0.340(0.339)	−0.679*(0.362)	−0.666**(0.353)	−0.644**(0.256)	−0.054*(0.029)	−0.092***(0.030)	−0.091***(0.031)	−0.097***(0.033)
Size	0.104(0.165)	0.242(0.173)	0.240(0.171)	0.234*(0.122)	0.003(0.014)	0.022(0.014)	0.021(0.014)	0.026(0.016)
Leverage		−1.164**(0.563)	−1.171**(0.573)	−1.209***(0.408)		−0.091**(0.044)	−0.092**(0.045)	−0.079(0.052)
Capital asset ratio		0.633***(0.293)	0.610*(0.306)	0.546(0.530)		0.144***(0.055)	0.142***(0.056)	0.204***(0.068)
Debt equity ratio		0.001(0.001)	0.001(0.001)	−0.001(0.008)		0.005(0.005)	0.004(0.004)	0.001(0.001)
Meeting			0.094(0.254)	0.011(0.075)			0.002(0.009)	0.008(0.009)
Leverage × meeting				0.119*(0.068)				−0.006(0.012)
Capital asset ratio × meetings				−0.001(0.136)				−0.029(0.018)
Debt equity ratio × meetings				0.004(0.012)				−0.001(0.001)
Constant	−0.985(2.516)	−2.920(2.563)	−3.183(2.931)	−2.818(1.969)	0.0871(0.227)	−0.207(0.229)	−0.206(0.230)	−0.287(0.253)
F statistics	0.64	12.31***	17.29***	7.22***	2.21*	3.88***	47.67***	271.90***
R-squared	0.027	0.180	0.223	0.232	0.059	0.186	0.216	0.231
Observations	144	144	144'	144	144	144	144	144

Source: Own computation (2021).

Note: Robust standard errors are reported in parentheses, ***, ** and * represent significance at the 1%, 5% and 10%.

Table 6. Regression Results for the Urban SACCOS.

	Operational Self-Sufficiency (OSS)					Return on Assets (ROA)		
	9	10	11	12	13	14	15	16
Liquidity ratio	0.025(0.121)	−0.017(0.058)	−0.018(0.059)	0.019(0.061)	0.032***(0.010)	0.023***(0.006)	0.023***(0.009)	0.022**0.009
Age	−0.266(0.209)	−0.639***(0.196)	−0.617***(0.197)	−0.551***(0.195)	−0.071***(0.022)	−0.088***(0.019)	−0.087***(0.019)	−0.079***(0.020)
Size	0.201**(0.094)	0.375***(0.084)	0.377***(0.083)	0.337***(0.087)	0.026**(0.010)	0.033***(0.009)	0.033***(0.009)	0.029***(0.009)
Leverage		−1.301***(0.218)	−1.282***(0.218)	−3.213***(0.929)		−0.044***(0.016)	−0.043***(0.016)	−0.062(0.066)
Capital asset ratio		−0.048(0.300)	−0.032(0.303)	−2.411(2.122)		0.101**(0.041)	0.102**(0.042)	−0.099(0.171)
Debt equity ratio		0.002(0.000)	0.002(0.006)	0.004***(0.001)		−0.008**(0.004)	−0.007**(0.003)	−0.003***(0.001)
Meeting			0.145(0.126)	−0.266(0.232)			0.004(0.010)	−0.006(0.018)
Leverage × meeting				0.732**(0.318)				0.009(0.024)
Capital asset ratio × meetings				0.832(0.729)				0.069(0.053)
Debt equity ratio × meetings				0.005***(0.002)				0.004***(0.001)
Constant	−3.180*(1.656)	−5.649***(1.399)	−6.123***(1.344)	−4.391***(1.735)	−0.313(0.165)	−0.437***(0.150)	−0.451***(0.147)	−0.363***(0.181)
F statistics	2.42*	12.64***	12.09***	103.96***	3.85**	13.68***	10.11***	155.58***
R-squared	0.042	0.265	0.266	0.297	0.122	0.298	0.327	0.335
Observations	316	316	316	316	316	316	316	316

Source: Own computation (2021).

Note: Robust standard errors are reported in parentheses, ***, ** and * represent significance at the 1%, 5% and 10%.

Conclusions and Implications

This study investigates the relationship between financial leverage and financial performance of SACCOS in Tanzania. Further, the study examines whether the SACCOS board meetings influenced the relationship between financial leverage and financial performance. The results provide empirical evidence of a negative relationship between financial leverage and financial performance of SACCOS. In addition, the results reveal that the effect of SACCOS board meetings on the financial leverage–financial performance relation is significant.

This study has both theoretical and practical implications. Theoretically the findings show that the use of debt is associated with agency costs of debt resulting from the conflict of interest between the owners and the lenders leading to low performance (Jensen and Meckling 1976). The results also showed that increasing financial leverage leads to better financial performance of SACCOS when frequency of board meetings is high. This suggest that more frequent board meetings play useful roles in enhancing the effectiveness of debt use. The findings confirms the theoretical perspectives that board meetings allow directors to properly play their monitoring role which could lead to improved performance (Lipton and Lorsch 1992). Thus, the agency theory perspectives appear to be relevant in explaining the relationship between financial leverage and financial performance in the SACCOS. Practically, the findings suggest that SACCOS need to embrace more on mobilising internal funds from their members instead of relying on debt. This can reduce the dependence on debt which has been one of the operational costs' drivers of the SACCOS in Tanzania. From the policy perspective, the government and co-operative sector needs to improve the governance and management practices in SACCOS, to enhance monitoring and transparency. This could lead to the existence of board members who exert pressure on SACCOS managers and employees to work towards higher financial performance while maintaining the social objective. Affirmative action is also needed to implement policies aimed at building capacity of the SACCOS as they are important in enhancing financial inclusion and economic growth. For instance, the government should direct its efforts toward promoting establishment of co-operative banks and enabling SACCOS to access capital markets. In this way SACCOS will be less dependent on high interest loans from the existing few lenders. Moreover, they will be able to raise funds through the issuance of debt instruments in the capital markets.

The results of the current study are associated with several limitations. The maturity period of the loans is not taken into account in this study. Thus, future studies can investigate how different loan maturity periods might influence financial leverage–financial performance relationship in SACCOS. Due to limited access to data, the study was based on only board meetings as a moderating variable; future study could use multiple board characteristics as moderator.

Declaration of Conflicting Interests

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