THE CONTROLLING EFFECT OF FIRM SIZE ON THE NEXUS BETWEEN INTEREST RATE RISK AND VALUE OF THE FIRM: A CASE OF SAVINGS AND CREDIT COOPERATIVES IN KENYA

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ABSTRACT

The purpose of this study was to determine the controlling effect of firm size on the relationship between interest rate risk and value of the firm among Saccos in Kenya. The study was anchored on positivism research philosophy and utilised descriptive research design to determine the relationship. The study targeted all the 164 licenced SACCOs in Kenya. A sample made up of 115 respondents was selected using stratified random sampling method. The study utilized secondary data obtained from organization's published financial statements. Data analysis of was done using inferential analysis (correlation analysis and panel regression analysis). R2 was used determine the predictive power of the model, F-statistic was used to test the fitness of the model while P-values were used to test whether there is any significant relationship between interest rate risk and the firm value of Saccos in Kenya as well as the controlling effect of firm size on the relationship. Study results showed that a positive significant relationship existed between interest rate risk and value of the firm ($r=0.1827$; $P=0.0002<0.05$). Results also showed that a positive significant relationship existed between firm size and value of the firm ($r=0.0905$; $P=0.0000<0.05$). Further, it was established that interest rate risk had a significant positive effect on value of Saccos in Kenya ($\beta=0.22576$, $P=0.000<0.05$). Firm size had no significant controlling effect on the relationship between interest rate risk and value of Saccos in Kenya ($\beta=0.307521$, $P=0.000<0.05$). the study Therefore concluded that Firm size had no significant controlling effect on the relationship between interest rate risk and value of Saccos in Kenya.

Keywords: Savings and Credit Cooperatives, Interest Rate Risk, Firm Size Risk, Firm Value.

INTRODUCTION

Determination of value of the firm has been a major concern for investors shareholders practitioners and scholars a like (Papaioannou, 2015). In an attempt to solve the paradox on what actually influences the value of the firm, existing literature has pointed out that among the variables influencing the value of the firm include performance of the firm (Magnifique, 2013), liquidity, dividend policy (Matundura, 2012; Yuko, 2016), ability to generate free cashflows, leverage (Kamunde, 2011) and risk management (Mwangi, 2012; Krause & Tse, 2016, Kariuki, 2021). However, most of the existing studies have been conducted in public limited companies whose value determination can easily be determined as market value of equity. Since Saccos are private equity entities owned by members their valuation becomes even more complex. As such there is limited literature on what actually influences the value of private equity companies. This study sought to determine the effect of interest rate risk on the value of the firm. Moreover, there is limited evidence on the controlling effect on the firm size on the relationship between interest rate risk on the value of the firm which the current study sought to determine.

Saccos are by their nature vulnerable to financial risks such as interest rate risk arising from their weak organisational structures, weak regulatory environment and limited access to resources as they rely on member contribution for their capital (Sadgrove, 2016). Saccos often borrow money from the central bank and other commercial banks which is later disbursed to members in form of loans. Sometimes interest rates may increase or decrease exposing the Saccos to losses resulting from variation in interest rates. Moreover, there is little control and monitoring of risks among Saccos, which results to increased default among creditors. Additionally, many Saccos lack governance policies and strategies to ensure that interest rate risk processes provided are followed.

The first official Saccos was recognised in Germany where rural low-income earners who could not access banking services grouped themselves to address their financial needs. They were largely considered unbankable due to their low numbers and fluctuating cash flows. Since then, Saccos have spread worldwide and continue to improve the socio-economic status of their members (International Co-operative Alliance (ICA), 2016). WOCCU (2015) statistical report indicated that there are 57,000 SACCOs in the world distributed across the 6 continents, 105 countries. The co-operative movement in the world account for 1.5 trillion US dollars savings and an asset base of 1.8 trillion US dollars out of which 1.2 trillion US dollars constitute the loan portfolio. The average worldwide penetration rate of the Credit Union system stands at 8.2 percent.

According to ICA (2016), the turnover for the 300 largest SACCOs in the world grew by 11.6% in 2018 to reach 2.2 trillion US Dollars. The overall turnover of nearly 2,000 cooperatives in the 65 countries surveyed by the Monitor totals $2.6 billion. Data for collected from 2,575 entities indicated that 1,157 of them had a turnover of more than 100m US Dollars. The top 300 cooperatives comprise of Saccos in insurance sector (32%), agriculture (35%), wholesale and retail trade (19%), banking and financial services (8%), industry and utilities (2%), health, education and social care (2%) and other services (2%).

In Africa, some 39,447 SACCOs serving 35,783,426 members in the region which, the well-established ones are situated in 28 countries (WOCCU, 2018). The membership of SACCOs in these countries is estimated at 8% of the world membership. With savings of 62% of total savings and loans portfolio of 65% of total loans in the continent, the Sacco movement in Africa becomes the 3rd largest in the world after Asia and North America with approximately 36 million and 102 million respectively. Africa mobilizes savings and shares amounted to 9,595,813,824 US Dollars in 2018, loans stood at 8,132,652,469 US Dollars, reserves amounted to 1,059,830,173 US Dollars with assets 10,779,858,693 US Dollars with a penetration rate of 13.80%. The region's savings level and loans represent 0.4% of the worldwide savings and loans respectively (WOCCU, 2018).

In Kenya, the establishment of Lumbwa Cooperative Society by European colonists in 1908 marked the beginning of Sacco movement in Kenya (Njenga & Jagongo, 2019). Saccos are critical in Kenya in financial deepening and inclusivity particularly among the low-income earners. According to SASRA (2018), in 2018 Saccos mobilises savings and assets of 490 billion shillings accounting for 55% of the national budget. Further, Saccos in Kenya lend 65% of total credit and mobilise 62% of total savings in Africa which make the movement undoubtedly, the most influential movement in Africa. The total assets, total deposits and gross loans of the deposit taking Saccos grew by 13.7%,

15.3% and 13.0% to reach Kshs 342.8 billion, Kshs 258.1 billion and Kshs 237.4 billion respectively in 2015 emphasising the critical role of Saccos in the mobilization of savings and the provision of credit to Kenyans (SASRA, 2015). The Sacco movement in Kenya is dominated by five Saccos (Mwalimu, Harambee, Stima, Kenya Police and Afya with an accumulated savings and assets worth Sh149.9 billion by December 2018 (Nyamai, 2019).

Statement of the problem

In spite of the critical role played by Saccos in Kenya, have perennially faced numerous challenges such as stiff competition from the more established commercial banks and micro finance institutions (World Bank, 2016), liquidity problems, loan defaults and low member loyalty especially due to loan defaults and delayed disbursement of borrowed funds (SASRA, 2017). Additionally, in an attempt to improve their liquidity, many saccos borrow money from the central bank and other financial institutions such as commercial banks. These loans attract interest rates which sometimes are floating or fixed. When the central bank adjusts the base rate, the lenders also adjust their rates exposing Saccos to interest rate risks (SASRA, 2017). These variations in interest rate which is a function of financial risk makes the firm experience financial distress, which in the end affects the firm value (Sadgrove, 2016).

Attempts by previous scholars to establish factors influencing the value of the firm shows that the value of the firm is influenced by variables such as income level, levered level, operational efficiency, liquidity level, growth capacity, tax rate, cash flows from investment projects, cost of capital, interest rate risk and technology (Saunders and Allen 2010; Minnis, 2011; Christoffersen, 2012; Kipruto, 2014; Yuko, 2016; Kariuki, 2021). It is thus noted that despite attempts by previous researchers to determine the value of the firm, most studies considered other variables such as liquidity level, income level, levered and efficiency. It was also established that most studies especially on financial risk focused on individual risks such as interest rate risk, credit risk, capital management risk and liquidity risk (Kariuki, 2021. Moreover, existing literature shows that most studies on the value of the firm were conducted in listed firms whose value is easily determined as equity market capitalization. Thus, the existing literature fails to show the controlling effect of firm size on the relationship between interest rate risk on value of the firm in equity firms such as Saccos which was the focus of the current study.

LITERATURE REVIEW

The study was anchored on the trade-off theory of capital structure developed by Kraus and Litzenberger (1973) to show the relationship that exists between debt level and value of the firm. The theory explains that the management of the organisation makes the decision to use an appropriate level of debt financing that can bring the most tax benefits and the least agency and bankruptcy costs (Harris, 2015). According to the theory a rise in the debt-to-equity ratio provides a higher trade off in the bankruptcy costs and the tax shield benefits which improves the value of the firm. Since large companies have access to fixed assets to use as collateral, they are more likely to have a high gearing level. However, the firm becomes more exposed to bankruptcy, which motivates shareholders to invest in agency costs to avert any occurrence of such events. The model further purports that increased borrowing increases the risk of bankruptcy costs which makes debt financing less attractive.

Therefore, when a firm is designing its capital structure it must reach a compromise between the advantages and disadvantages of debt financing (Eckbo & Kisser, 2015). As such, the value of a firm utilising debt finance is a function of debt value, equity value, tax shield benefits as well as agency and bankruptcy costs (Frank & Goyal, 2009). Since Saccos are not able to raise adequate equity to meet their daily cash needs and demand for cash in form of borrowings from their members, they find themselves borrowing from other financial institutions such as commercial banks. Excessive reliance on this source of capital may therefore expose SACCOs to bankruptcy and agency costs. Since these costs have been found to have adverse effects on the value of the firm, these SACCOs are forced to strike a balance between the value of the firm and bankruptcy costs, agency costs as well as interest tax shield benefit. The study finds this theory relevant in explaining the effect of debt level in the capital structure on the value of the firm and the controlling effect of size of the firm on the relationship.

When Saccos lend money to their members, there is usually mutual agreement on the amount of interest rates to be charged. However, in some instances the interest rates on borrowed money may vary due to various factors. Interest rate risk is defined by Landier, Sraer and Thesmar (2013) as the uncertainty on interest rates as a result of unpredictable movements in interest rates. This variation in interest rates may adversely affect performance of financial institutions such as banks, microfinance institutions and SACCOs. Movements in interest rates influence financial performance of commercial banks by changing the expected net interest income and expenses.

When interest rates change, the current value and timing of expected cash flows also change (Basel Committee, 2015). An organization with more corporate debt is therefore highly exposed to changes in interest rates thus lowering its value as a result of increased financial risk (Fitzpatrick, 2004). This informed by the fact that interest rate risk influences financial risk. This emanates from the uncertain and volatile nature of interest rates within the economy. In a free economy, interest rates are subject to unpredictable economic conditions, which adversely influence interest rates.

Interest rates in Kenya are reviewed by the Central Bank of Kenya (CBK)’s, Kenya bank's reference rate is influenced by the rate of inflation and exchange rate (ROK, 2015). A small change in Kenya Bank's Reference Rate (KBRR) leads to increase or lowering of the interest rate. The risk in this case rises since the shifts in these rates are unpredictable and it can happen anytime from the lending time to the point of closing the loan. During inflationary times, credit facilities are often mispriced while deposits taken during high inflation regimes might appear expensive when interest rates decline. The interplay between interest rates offered by banks on their term deposits and those charged on loans has an impact on the value of the firm (Lishenga, 2015).

Employing a utility function Memmel et al. (2017) investigated exposure to interest rate risk among German banks and found a weak relationship between interest rate risk and interest yield. The study also found a positive relationship between higher expected returns and interest rate exposure. However, the study focused in interest rate risk but did not show the controlling effect of firm size on the relationship between interest rate risk and value of the firm. Additionally, this study was conducted in German banking industry, which is a developed economy, and therefore its findings may not be inferred on Saccos in the Kenya.

In a descriptive study to examine the effect of risk management on financial performance of commercial banks in Kenya Mwangi (2014) utilised secondary data from the bank's financial reports and central bank data. The study conducted by analysed data with the help of a multiple regression model and the results indicated a strong and negative relationship between interest rate sensitivity and financial performance of commercial banks. However, the study was done among commercial banks while this study was conducted among Saccos in Kenya.

Another study by Setiadharma and Machali (2017) sought to analyse the effect of firm size on the firm value. Using descriptive and inferential statistics, the study found that firm size has no direct effect of on the firm value while at the same time capital structure had no intervening effect on the relationship between firm size and firm value. Thus, it was concluded that capital structure does not mediate the relationship between asset structure and firm size on the firm value. However, this study was based on listed firms, which are heavily regulated by the market regulator, and therefore the findings may not perfectly match the current context of private capital SACCOs. Additionally, the study was conducted in Indonesia in Southeast Asia and therefore, the findings of the study may not be applicable in Kenya.

A study was conducted by Purwohandoko (2017) on agricultural companies listed on the Indonesia Stock Exchange from 2011 to 2014 to examine the effect of size, growth, and profitability on corporate value as mediated by capital structure. A sample of 14 companies was purposively selected. Data were analysed using smart pal in order to capture the effect capital structure as a mediator. The study found that firm size and firm growth have no effect on capital structure but profitability negatively affects the capital structure. This study was conducted on listed firms, which are under scrutiny by the stock market regulator unlike the unlisted Saccos considered in this study. Furthermore, this study was conducted among companies in the agricultural sector and therefore the findings cannot be inferred in Saccos, which are in the financial sector.

Lumapow and Tumiwa (2017) studied the effect of dividend policy, firm size, and productivity on the firm value. The study was conducted among manufacturing company listed on the Indonesia Stock Exchange between 2008 and 2014. A sample of 15 companies were selected using purposive sampling technique. Secondary data collected was analysed using panel data regression with Random Effect Model (REM) approach. The test results showed that dividend policy has a negative but significant effect on firm value, firm size has a positive and significant impact on firm value while productivity of the company has a positive and significant effect on the firm value. Although the findings in this study, provide an insight into the relationship that exist between value of the firm size and the value of the firm, the results are based on listed manufacturing firms which have significant operational dynamics from Saccos which are the financial sector. The study also finds that the sample used in the study was very small to make inferences. Additionally, the study used purposive sampling technique to select the sample, which means that the sample was not random and some bias may have occurred.

Studying the effect of corporate size on profitability and market value of listed firms in Kenya Mule, Mukras and Nzioka (2015) focused on companies, which were active in Nairobi Securities Exchange (NSE) between 2010 and 2014. Panel correlation and multiple regression methods were

used in the empirical estimations. Results showed that there exists a positive significant relationship between firm size and profitability. The results imply that firm size significantly affects return on equity of firms listed at the Nairobi Securities Exchange but insignificantly predicts return on asset.

In addition, the results show that corporate size has no statistically significant effect on firm market value under random effects specification. However, although, the study was conducted in Kenya, it was based on listed firms while the current study was based on private equity firms.

In an attempt to establish the effect of company size on the financial performance of agricultural firms listed in the Nairobi securities exchange. Odalo, Achoki and Njuguna (2016) used secondary data extracted from the annual reports comprising of financial statement from the period 2003 to 2013 and analysed using a pooled OLS model. Company size was measured using the total assets while financial performance was measured by return on assets (ROA), return on equity (ROE) and earnings per share (EPS). The regression results showed a positive and significant relationship between the size of the company and financial performance. The results in this study, though relevant only linked the size of the firm and its profitability while the current study sought to establish the linkage between firm size and value of the firm. Moreover, the study was based on agricultural firms, which operate in a significantly different sector from Saccos. Finally, the study was conducted on firms listed in the Nairobi securities exchange while the current study was conducted on Private equity Saccos.

In determining the effect of firm size on financial performance of commercial banks in Kenya, Muhindi and Ngaba (2018) used a descriptive survey of all the 42 registered commercial banks in Kenya classified in to large, medium and small banks. Panel data was collected from the banks' financial reports and central bank supervision reports for 5 years from 2012 to 2016 and analysed using multiple and linear regression methods. The results showed that bank size as measured through the number of branches, customer deposits, capital base and loan portfolio have a significant effect on financial performance as measured through return on assets. However, the results of this study were based on commercial banks majority of which are listed at the Nairobi stock exchange. This study was purely based on private equity Saccos. In addition, operational scope of majority of banks is wider since they have a higher capital base.

In conclusion, it was established that there exists a lot of literature on the relationship that exist between firm size and other constructs such as value of the firm (Setiadharma & Machali, 2017; Purwohandoko, 2017; Mule, Mukras & Nzioka, 2015) while other studies have shown the relationship between firm size and firm growth and dividend policy (Lumapow & Tumiwa, 2017). Additionally, literature has also shown the relationship between firm size and financial performance of the firm (Odalo, Achoki & Njuguna, 2016; Muhindi & Ngaba, 2018). However, majority of the studies were based on listed companies, agricultural companies, manufacturing firms and commercial banks whose results may not be applicable to Saccos.

RESEARCH METHODOLOGY

The philosophical foundation of this study was positivism research philosophy which allows the researcher to investigate a certain phenome independently through of test of hypothesis empirically

to discover the underlying relationship between variables reliably (Ojukwu (2013). This study adopted a descriptive research design to determine the relationship between interest rate risk and value of Saccos as well as the controlling effect of firm size on the relationship as recommended by Sekaran and Bougie (2016). The target population for the study consisted of 164 Savings and Credit Co-operative Societies in Kenya. A sample size of 115 deposit taking SACCOS was selected using stratified random sampling techniques.

This study exclusively utilized secondary data obtained from audited and published financial statements that are available online in their websites, brochures, journals, periodicals, and other relevant sources such as SASRA. Where the information was not obtained from published sources, the affected SACCOs were contacted for the requisite data. Inferential data analysis was conducted using Pearson correlation coefficient and panel regression model involving cross-sectional data from SACCOs registered by SASRA for a period of eight years.
Coefficient of determination R^2 was used to test the extent to which the variation in firm value is explained by the variations in interest rate risk. F-statistic was used to test the fitness of the model at 5% significance level while P-values were used to test whether there is any significant relationship between interest rate risk and the firm value of Saccos in Kenya as well as the controlling effect of firm size on the relationship.

Results and Discussions

The study relied on both correlation and regression analysis to make inferences.

Correlation Analysis

Correlation analysis was conducted using Pearson's correlations analysis at 95% confidence interval and 5% confidence level 2-tailed test. The results were summarised in Table 1.

		Value of the firm	Interest rate risk
Value of the firm		1.0000	
Interest rate risk	r	0.1827*	1.0000
	Sig	0.0002	
Firm size	r	0.0905*	0.0559*
	Sig	0.0000	0.0000

The results in Table 1 above show that the correlation coefficient between interest rate risk and the value of the firm was 0.1827. this relationship was significant at 0.05 significance level (P=0.0002<0.05). The correlation coefficient between firm size and value of the firm 0.0905 which was significant (P=0.0000<0.05).

Regression Analysis

The objective of the study was to establish the controlling effect of firm size on the relationship between interest rate risk and value Sof the firm among Saccos in Kenya. To achieve the objective, the study tested the null hypothesis that interest rate risk has no significant effect on the value of the firm among SACCOs in Kenya. To test the effect of interest rate risk on the value of the firm, value of the firm was regressed on interest rate risk and the results in Table 2 were obtained. The study

then introduced firm size as a control variable in the panel regression model and the results were as shown in Table 3.

Table 2: Association between Interest Rate Risk and Value of the Firm

Source	**SS**	**Df**	**MS**	Number of obs	= 410
				F (1, 408)	= 653.060
Model	3114.867	1	3114.867	Prob > F	= 0.0002
Residual	1946.017	408	4.76965	R-squared	= 0.6155
				Adj R-squared	= 0.5310
Total	5060.884	409	12.3738	Root MSE	= 3.5176

Value of the firm	**Coef.**	**Std. Err.**	**t**	**P>t**	**[95% Conf.**	**Interval]**
Interest rate risk	.22576	.01642	13.75	0.000	.0629821	.2015331
_cons	1.188928	.19212	6.19	0.000	.8112534	1.566603

Source; Research data (2019)

Table 3: Association between Interest Rate Risk and Value of the Firm controlling for Firm Size

Source	**SS**	**Df**	**MS**	Number of obs	**= 410**
				F (2, 407)	= 213.163
Model	2586.02052	2	1293.01026	Prob > F	= 0.0000
Residual	2474.86326	407	6.08075	R-squared	= 0.5110
				Adj R-squared	= 0.5086
Total	5060.88378	409	12.373799	Root MSE	= 3.3248

	Coef.	**Std. Err.**	**t**	**P>t**	**[95% Conf.**	**Interval]**
Interest rate risk	.307521	.0448274	6.86	0.000	.2193988	.3956432
Firm size	.283713	.03831217	7.405	0.000	-3.036858	1.530569
_cons	21.59802	3.428848	6.30	0.000	14.85756	28.33848

The results Table 2 showed that interest rate risk had a positive beta coefficient of 0.22576 meaning that holding all other factors constant, increasing fixed interest rate gap by one unit would lead to a 0.22576 increase in the value of the firm. At the same time, the results showed that beta coefficient for the constant was 1.188928 implying that if interest rate risk was held constant at zero value of SACCOs under SASRA would be equal to 1.188928. The model was summarised as follows:

Value of the Firm $_{it}$ = 1.188928+ 0.22576IRaRi$_{it}$

The results also showed that the coefficient of interest rate risk had a t-statistic value of 13.75 and a P-value of 0.000. Based on these results it is noted that the t-statistic value of 13.75 was greater than the t-critical value of 1.649. Therefore, based on the t- value the study rejects the null hypothesis that interest rate risk has no significant effect on the value of the firm among SACCOs in Kenya and concluded that interest rate risk has a significant effect on the value of the firm among SACCOs in Kenya. Similar conclusion was reached based on the P-value of the variable coefficient. The study found that P-value of 0.000 for interest rate risk was less than the significance level of

0.05 and therefore the study rejected the null hypothesis and concluded that interest rate risk has a significant effect on the value of the firm among SACCOs in Kenya.

The results in Table 2 show that the Adjusted R-squared was 0.5310 meaning that the model was able to predict 53.1% of the variations in the value of the firm. The F-statistic for the model was noted to be 653.060, which was higher than the F-critical of 3.8644. In addition, the study noted that the P-value for the model was 0.0002, which was less than the significance level of 0.05. Based on these results the study concluded that the model was fit in predicting firm value.

The results further agreed with the findings of Landier, et al (2013) who noted that as the uncertainty on interest rates might adversely affect performance and value of financial institutions. Similar conclusions were reached by Dell'Ariccia, Laeven and Marquez (2014) that, although profitability of SACCOs may increase as a result of greater margin between the central bank's rate and the rates that are charged by a bank to its customers, changes in interest rates expose financial institutions to interest rates risk mainly because SACCOs issue interest-bearing deposits so that their profits decrease when rates go up resulting from increase in the compensation to depositors.

The findings of Cao (2013) were also in line with the findings of this study. Cao indicated that lack of proper interest rate risk management by banks such as lack of methods of measuring, simulating and hedging the risk adversely affected the value of the banks. This is because the study showed that interest rate risk has a significant effect on the value of the firm and therefore poor interest risk management will negatively affect the value of the firm. These results also agreed with the observations made by Krause and Tse (2016) who established that proper risk management increases firm value and returns since in this study it was found that interest rate gap has positively relationship with firm value.

Omasete (2014) also concluded that there is a positive relationship between the adoption of risk management practices and the financial performance of insurance companies in Kenya. Meaning that as interest risk exposure increases, performance and value of the firm reduce as was concluded in this study. Finally, Mwangi (2014) study found that there was a strong positive relationship between risk management and financial performance of commercial banks in Kenya, which is in line with the findings of the study.

After controlling for firm size, the study noted that the coefficient of interest rate risk was 0.307521 indicating that holding all other factors constant, a unit increase in fixed interest rate gap would result in a 0.307521 increase in the value of the firm among SACCOs in Kenya. The study further established that the coefficient of firm size was 0.283713 indicating that holding all other factors constant, increasing the total assets of the SACCO by one unit would result in a 0.283713 increase in the value of the firm. At the same time, it was established that the coefficient of the constant was 21.59802 indicating that holding both firm size and interest rate risk constant the value of the firm would be equal to 21.59802.

Value of the Firm $_{it}$ = 21.59802 + 0.307521rr_{it} + 0.283713Fs_{it}

Based on the results in Table 3, it was noted that the coefficient of interest rate risk had a t-statistic of 6.86 and a p-value of 0.000 the t-statistic obtained was greater than the critical t-value of 1.649. Therefore, based on the t-value, the study rejected the null hypothesis that interest rate risk had no significant effect on the value of the firm and concluded that even after controlling for firm size, interest rate risk has a significant effect on the value of the firm. A similar conclusion was made based on the p-value of the variable coefficient. The results indicated that the p-value of 0.000 for interest rate risk was less than the 0.05 significance level.

The coefficient for firm size had a t-value of 7.405, which was found to be greater than the t-critical value of 1.649. At the same time, the study established that the P-value for firm size was 0.000, which was less than the significance level of 0.05. The study therefore concluded that firm size was a significant controlling variable. Moreover, the results in Table 4.9 (b) showed that the adjusted R-square for the model was 0.5086 implying that the model was able to predict 50.86% of the variations in the value of the firm. The F-statistic for the model was noted to be 213.163, which is higher than the F-critical of 3.0179. The study also noted that the P-value for the model was 0.000, which was less than 0.05 level of significance. Based on these findings, the study concluded that the model was fit in predicting firm value controlling for firm size.
The results in this section agreed with Lumapow and Tumiwa (2017) who in their study concluded that firm size has a positive and significant impact on firm value. The findings and conclusions reached by Odalo, Achoki and Njuguna (2016) were also consistent with the findings of this study. In their study, they indicated that the size of the firm has a significant and positive relationship with the company's financial performance. The study revealed that banks that have many branches; huge customer deposits, huge capital base and large loan book have positive and high ROA as opposed to banks who have few numbers of branches, small customer deposits, small capital base and small loan book.

Additionally, the findings by Muhindi and Ngaba (2018) were in line with the findings of this study. They argued that the size of the firm as measured through the number of branches, customer deposits, and capital base and loan portfolio have a significant effect on financial performance as measured through return on assets. The findings by Mule, Mukras and Nzioka (2015) were also consistent with the findings of the study. Mule, et al showed that firm size significantly affects return on equity and thus the study concluded that there exists a positive significant relationship between firm size and profitability and firm value.

Conclusions

The study also deduced that variation in interest rates adversely affect performance of Saccos and that a unit increase in the interest rate gap would lead to positive change in value of the firm. The study thus concluded that interest rate risk has a significant effect on value of the firm among Saccos in Kenya. The study also concluded that firm size has no significant controlling effect on the relationship between interest rate risk and the value of the firm.

Recommendations

The study recommends that Saccos in Kenya and beyond irrespective of their size should optimise on use of debt in their capital structure and derive an optimum trade-off between the advantages associated with use of debt in the capital structure and the agency and financial distress costs associated with use of debt in the capital structure. This is because, based on study results, large Saccos could not leverage on their big size to gain more from use of debt in their capital structure.

Suggestion for further study

The study was conducted on private equity firms (Saccos). The study therefore recommends that other studies should be conducted on listed companies to determine if similar results would be obtained. Further, the results of the study were based on results in the financial sector. The study thus recommends that other studies be conducted in other sectors such as manufacturing sector to determine if there would be congruence of results.

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