Effect of Capital Structure on Financial Sustainability of Deposit-Taking Microfinance Institutions in Kenya

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Abstract

The purpose of this research was to empirically investigate the effect of capital structure on financial sustainability of deposit-taking micro finance institutions (DTMs) in Kenya. The specific objectives were to determine the impact of debt on the financial sustainability of DTMs in Kenya, to assess the influence of retained earnings on the financial sustainability of DTMs in Kenya, to examine the effect of ordinary share capital on the financial sustainability of MFIs in Kenya, and to investigate the impact of preferred share capital on the financial sustainability of DTMs in Kenya. The target population of the study was all the 13 DTMs in Kenya registered with the Central Bank of Kenya. Secondary data was collected on all the DTMs financial data from the Central Bank of Kenya reports. Data was analyzed using multiple regression model using SPSS and R as the data analysis tool. Based on the findings 76.9% of the DTMs did not earn enough revenue to cover the actual financing direct costs, which include the total operating costs, loan loss provisions and the financing costs but excluding the cost of capital. The analysis of variance (ANOVA) table indicated that the predictor variables influenced the predictor variable significantly at 5% significance level. Among the four variables; debt and retained earnings were statistically significant variable at 5% significance level with 1.265 and 1.630 coefficient respectfully. Whereby the financial sustainability change by 1.265 and 1.630 for every unit change of debt or retained earnings respectfully. Therefore, for the deposit-taking microfinance institutions to remain afloat in the lending business, they should utilize any borrowing opportunity, plough back profits to the business, and low proportion of preferred share capital. Deposit-taking microfinance institutions should avoid usage ordinary share capital as it negatively affected financial sustainability.

Keywords: Financial sustainability; Operational self sufficiency, Deposit taking microfinance institution and capital structure.

1. Introduction
1.1. Background of the Study

The following sentiments formed the background of the study on the effects of capital structure on the financial sustainability of the microfinance institutions. Robinson (2003), defined microfinance as all the financial intermediation services; savings, credit funds transfer, insurance, pension remittances, provided to low-income households and enterprises. Capital structure is described as the manner in which an institution finances its overall operations and expansion by using various sources of funds. Bhaduri (2002) defined capital structure as the different options used by a firm in financing its assets. Huang (2003) noted that a firm has three main sources of financing, also called capital components. This includes the use of internal equity, external equity and debt capital. The capital structure of DTMs is therefore the mixture of debt and equity issuing. Capital structure is key to DTM's financial sustainability (Bogan *et al.*, 2007) and therefore assessment of the effect of capital structure on financial sustainability of DTMs is very important.

1.2. Statement of the Problem

Based on the CGAP (2010) report, until 2007 DTMs enjoyed unprecedented growth in emerging markets, but signals of microfinance industry strain were stated among industry players in 2007. Many DTMs were unsustainable, non-performing, many collapsed, and others merged according to CGAP (2009) report and Mwangi *et al.* (2015). The collapse and merging of DTMs was experienced in Kenya, Morocco, Ghana, and Zimbabwe among other countries.

The empirical results on the role of capital structure on financial sustainability were mixed. According to Bogan (2009) and Nyamsogoro (2010) study findings capital structure significantly impacted on financial sustainability while Kinde (2012) stated that capital structure insignificantly impacted on financial sustainability of DTMs.It was for this mixed findings that the study sought to establish the effect of capital structure on financial sustainability of DTMs in Kenya.

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1.3. Objectives of the Study
1.3.1 General Objective
The general objective of this study was to investigate the effect of capital structure on financial sustainability of DTMs in Kenya.

1.3.2. Specific Objectives
This study sought to achieve the following specific objectives:
  i.   To determine the impact of debt on the financial sustainability of DTMs in Kenya.
  ii.   To assess the influence of retained earnings on the financial sustainability of DTMs in Kenya.
  iii. To examine the effect of ordinary share capital on financial sustainability of DTMs in Kenya.
  iv.   To investigate the impact of preferred share capital on financial sustainability of DTMs in Kenya.

1.4. Significance of the Study
This study would benefit many groups among them managers of DTMs who would use the study to acquire an insight in the impact of capital structure on financial sustainability of DTMs. This would in turn help them to have a capital structure which brings more benefit to the shareholders. The study would enable financial consultants offer prudent services to their clients as to the best capital structure where financing is stable and the firm remains financially sound.

The government would also benefit from the study to formulate appropriate policies which would ensure the DTMs thrive in the economy and in turn contribute to the economic growth. Moreover, microfinance strategists, policy makers, aspiring microfinance researchers, university students pursuing a career in finance were likely to benefit. The results of this study would be of value to scholars and academicians as a source of reference. Scholars interested in carrying out further studies in the same area would find the results of this study useful. The succeeding sections give a brief literature review, methodology, results, discussions and conclusions.

2. Literature Review
Several theories and studies have attempted to explain the relationship between capital structure and financial sustainability of deposit-taking microfinance institutions in Kenya. This study was grounded on Modigliani-Miller (MM) theory and pecking order theory. The idea of the review was to study the existing literature on the topic and relate it to the research problem.

Modigliani – Miller proposition I without taxes states that a firm's value is not affected by capital structure in a perfect capital market. This is because there is no interest deductibility due to lack of benefit to borrowing. Modigliani- Miller proposition II with taxes showed that the value of an institution is enhanced by the tax shield provided by the interest deduction. This is because the tax shield reduces the cost of debt. This means that an institution stands a better chance in using debt rather than using retained earnings due to the associated debt tax shield benefits. The theory further argues that the more debt is, the more a firm's value is created hence giving the firm to achieve financial sustainability. This has been supported by Ayayi and Sene (2010), Amarjit *et al.* (2011), which found out a positive relationship between either financial sustainability, or profitability or performance and debt financing (It is against this theory that the effect of debt, ordinary share capital, preferred share capital and retained earnings on financial sustainability was to be established.

The pecking order theory states that firms have a specific preference order for capital structure in their firms (Myers, 1984). In the presence of asymmetric information, this theory states that a firm will first use retained earnings, but issue debt if retained earnings was exhausted. The issue new equity would be the last alternative. It implies that if a firm finances itself internally, it means it is financially sustainable. If it finances itself through debt it is a signal the firm is able to meet its monthly obligations. If it finances itself through issuing new stock, it's normally a negative signal i.e. not financially sustainable, as the firm means its stock is overvalued and it seeks to make money prior to its share price falling. It is against this theory that the effect of debt on financial sustainability was to be established.

There were mixed results on the effect of debt on financial sustainability. Ayayi and Sene (2010) and Amarjit *et al.* (2011) found out that debt has a positive effect on financial sustainability. Bhushan and Mohinder (2016); Oke and Afolabi (2011) and Haruna (2013) found out that debt had a negative effect on financial sustainability. Hossain and Asam (2016) and Kinde (2012) found out that debt had an insignificant effect on financial sustainability.

Various scholars found varying results on the effect of retained earnings on financial sustainability. Kilonzo (2013) and Kanini (2016) found out that retained earnings had a significant effect on financial sustainability while Mulama (2014) and Mwaka (2006) found out that the effect of retained earnings on financial sustainability was insignificant.

There were different findings by various scholars on the effect of ordinary share capital on financial sustainability. Waweru and Wanyoike (2016); Lislevand (2012) found out that the effect of ordinary share capital was insignificant on financial sustainability. Siro (2013); Rotich (2015) and Nyamsogoro (2010) had a positive result on the effect of ordinary share capital on financial sustainability while Kanini (2016) found out that ordinary share capital had a negative effect on financial sustainability.

Scholars had different opinions on the effect of preferred share capital on financial sustainability. Miller and Modigliani (1996) found out that preferred share capial was irrelevant to a firm value while Rao and Moyer found

out that preferred share capital had a negative effect on financial sustainability. Kanini (2016) found out that preferred share capital had an insignificant effect on financial sustainability.

Ayayi and Sene (2010) defines financial sustainability as how able a DTM can service its operating overheads using its internal capital as well as making a profit that could be used to finance the growth of the DTM. Traditional financial ratios such as return on assets (ROA) and return on equity (ROE) were inadequate to measure DTM's financial sustainability. This was because they were based on accounting data, adjusted for subsidies (Yaron, 2007). Realizing the inadequacy of unadjusted traditional financial ratios in measuring DTMs financial sustainability financial self-sufficiency and operating self-sufficiency have been developed to measure financial sustainability Yaron (2007).

According to Barrels (2006) operating self-sufficiency rather than financial self-sufficiency could easily be related to the standard definition of financial sustainability. He further stated that OSS allowed getting subjective and global picture of the institutions in terms of its financial sustainability. Therefore, OSS was chosen to measure financial sustainability in this study. Operational Self Sufficiency (OSS) is a measure for financial sustainability and has been used in many recent studies Bogan (2012); Haruna (2013); Quayes (2012) and Kipesha and Zhang (2013). OSS measured how adequate DTM revenues cover the total costs (operating costs, loan loss provisions and financial costs) disregarding all grants, subsidies and donations. OSS showed whether sufficient revenue was made to meet the DTM's direct costs, excluding the cost of capital but including actual financing costs Nyamsogoro (2010). OSS was arrived at by dividing the total of operating revenue with the total operating costs, loan loss provisions and, financing costs. For a DTM to be able to meet both operating and financial costs, OSS should be at least 110% (Bogan, 2012). Therefore, financial sustainability was achieved when the OSS was at least 110%.

2.1. Conceptual Framework

Conceptual framework presents a graphical and diagrammatical link between the independent variables and the dependent variable. The dependent variable was the financial sustainability of DTMs in terms of operational self-sufficiency ratio, while the Debt, retained earnings, ordinary share capital and preferred share capital were the independent variables.

Figure-2.1. Conceptual Framework

Independent Variables   **Independent Variables**

Source: (Author, 2017)
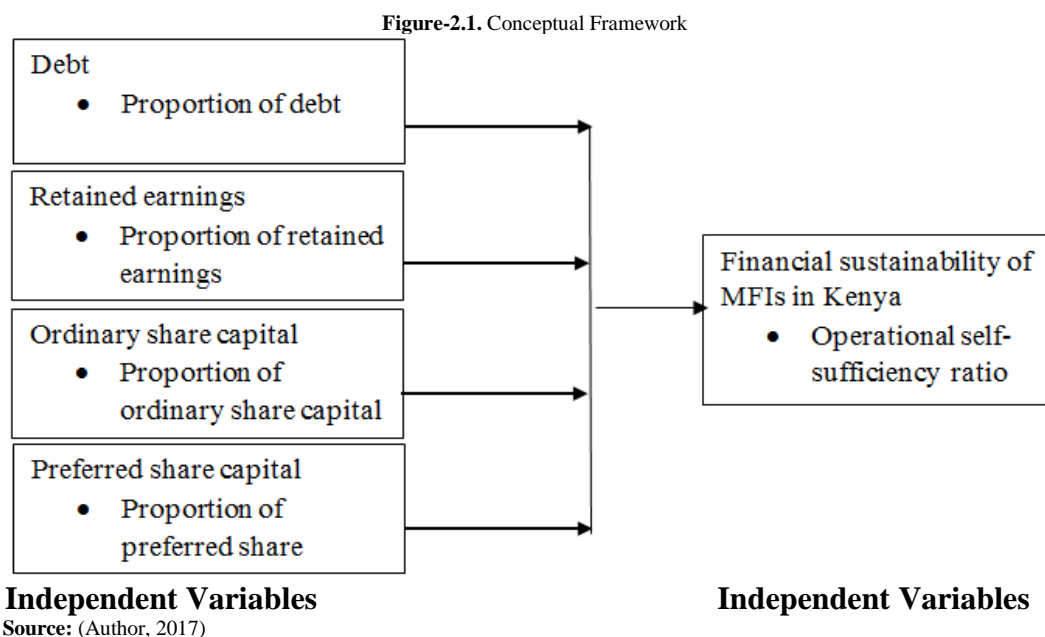
3. Methodology

The study adopted empirical survey. This involved gathering data and analyzing it using multiple linear regression models. The elements and the variables were for a maximum period of 10 years (2006-2015). Correlation and regression methods were used to determine the relationship between the independent variables and the dependent variable.

Flick (2009) defines target population as the total group of people, events or things that the researcher wants to examine. The target population in the study involved all the 13 deposit-taking microfinance institutions in Kenya (CBK, 2016). The study covered all the 13 microfinance institutions in Kenya. Since the population number was small, the studyusedallthe13 registered DTMs in Kenya. Therefore there was no sampling of DTMs to come up with a sample size but census.

Secondary data was obtained from published financial reports of Central Bank of Kenya and any other necessary reports on the DTM's financial reports for the years of study. The instruments used were tabulation of parameters. Cooper and Schindler (2003) said that through note taking, a researcher can choose what is relevant in the study. A well designed table to collect the relevant information was prepared.

The research results were presented in form of tables and graphs. The findings obtained were discussed and formed the basis for the research findings, conclusion and recommendations. According to Freedman (2005)

multiple linear regression analysis is used to examine the relationship between two or more independent variables and a single dependent variable. The following is the multiple linear regression equation:

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + ... + \beta_p X_p$

It is on this basis that the following multiple regression model was used:

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$

Whereby Y = Operational self-sufficiency ratio (Dependent Variable)

X_1 = Proportion of debt (Independent Variable)

X_2 = Proportion of retained earnings (Independent Variable)

X_3 = Proportion of ordinary share capital (Independent Variable)

X_4 = Proportion of preferred share capital (Independent Variable)

While β_1, β_2, β_3 and β_4 are coefficients of determination and ε is the error term.

4. Empirical Data and Analysis

The data for this study was gotten by examining all the deposit-taking micro finance institutions in Kenya. The data was obtained from the publications made by the individual institution with a written request to the executive managers. Five of the institutions didn't have the published financial statements in the public domain however the management provided all the necessary information for the study. The five included Maisha Microfinance Bank Limited, Choice Microfinance Bank Limited, Daraja Microfinance Bank Limited, Century Microfinance Bank Limited and Remu Microfinance Bank Limited. Therefore, the response rate was 13 (100%).

The capital sources under the investigation were ordinary share capital, preferred share capital, retained earnings and debt. All the deposit-taking micro financing institutions under the study utilized the four sources of finance but at varied rates. Across the board debt took the lions share, followed by the ordinary share capital, the least was retained earnings. The average score for each component was computed for the purposes of calculating the proportions.

To determine the proportionate of each capital source per institution, the following equation was used.

$$S_1 = \frac{S}{V}$$

Whereby;

S_1 is the proportion of a capital structure component.

S is the amount of the capital structure component and

V is the sum total of the capital structure components

While for the Operational Self Sufficiency (OSS), the following equation was used.

$$OSS = \frac{\text{Operating Revenue}}{\text{Operating Cost} + \text{Financing Cost} + \text{Loan Loss Provisions}}$$

4.1. The Summary of the Proportions of the Different Components and Operational Self Sufficiency

The findings of the deposit-taking microfinance organizations capitalization structure were as shown in table 4.1.

Table-4.1. Capital structure of DTM institutions

Bank	DEBT	RE	OSC	PSC	OSS
UWEZO Limited	0.503	0.237	0.176	0.083	1.889
Kenya women Finance trust	0.676	0.103	0.173	0.048	1.080
Faulu Kenya Limited	0.600	0.040	0.266	0.093	1.024
Smep Limited	0.252	0.430	0.202	0.117	0.955
REMU Limited	0.784	0.024	0.095	0.097	0.934
Maisha Limited	0.219	0.186	0.305	0.290	0.779
Century Limited	0.255	0.280	0.302	0.163	0.765
Daraja Limited	0.368	(0.028)	0.292	0.340	0.737
Rafiki Limited	0.442	(0.078)	0.368	0.190	0.574
SUMAC Limited	0.211	0.069	0.587	0.134	0.564
U & I Limited	0.149	0.069	0.587	0.196	0.429
Caritas Limited	0.435	(0.185)	0.402	0.163	0.263
Choice Limited	0.352	(0.164)	0.390	0.257	0.071

Based on the findings and as summarized in table 4.1 it was observed that 10(76.9%) of the deposit-taking microfinance had not earned enough revenue to cover the actual financing direct costs, which include the total operating costs, loan loss provisions and the financing costs but excluding the cost of capital. Only a quarter of the DTMs could service their direct costs, these were Faulu Kenya limited, Kenya Women Finance Trust and Uwezo limited.

4.2. The Data Diagnostic Tests for Multiple Regression

These were various aspects of the data distribution of the predicted response variable score and the nature of the underlying association among the variables. They include the correlation, normality, linearity and homoscedasticity tests. These assumptions can be viewed from the residuals scatter diagrams which are produced as part of the multiple regression procedures. The violation of any of these assumptions implies the impropriations of using multiple regressions in analyzing the data.

4.3. Correlation of the Study Variables

Correlation is defined as the relationship between two or ore variables. The study used Pearson R, correlation coefficient to determine how the variables associate. The outcome is summarized in table 4.2.

Table-4.2. Covariance and Correlation Matrix

		OSS	DEBT	RE	OSC	PSC
Pearson Correlation	OSS	1	0.431	0.626	-0.285	-0.442
	DEBT	0.431	1	-0.177	-0.443	-0.731
	RE	0.626	-0.177	1	0.054	-0.094
	OSC	-0.285	-0.443	0.054	1	0.226
	PSC	-0.442	-0.731	-0.094	0.226	1
Sig (2-tailed)	OSS	.	0.071	0.011	0.173	0.065
	DEBT	0.071	.	0.281	0.065	0.002
	RE	0.011	0.281	.	0.431	0.380
	OSC	0.173	0.065	0.431	.	0.229
	PSC	0.065	0.002	0.380	0.229	.
	N	13	13	13	13	13

The results in table 4.2 gave out the summary of the variables relationship by showing the magnitudes and the direction of the relationship. There was a strong positive correlation (r=0.626) between the operational self-sufficiency and the retained earnings, which was statistically significant at α=5%, with a *P=value* of 0.011. The debt was the second variable with a positive correlation with operational self-sufficiency (r=0.431) however not statistically significant at α=5%. There was a negative correlation between the OSS and both the ordinary share capital and preferred share capital with r=-0.285 and r=-0.442 respectively. There were varied relationships among the independent variables however no collinearity was observed since in all cases there was no case where r≥|0.9|.

4.4. The Normality Test

The test for normality is supposed to display whether the response variable was fairly normally distributed and hence it was aptly to use the regression analysis. The outcome is summarized in figure 4.2

Figure-4.2. Normality test
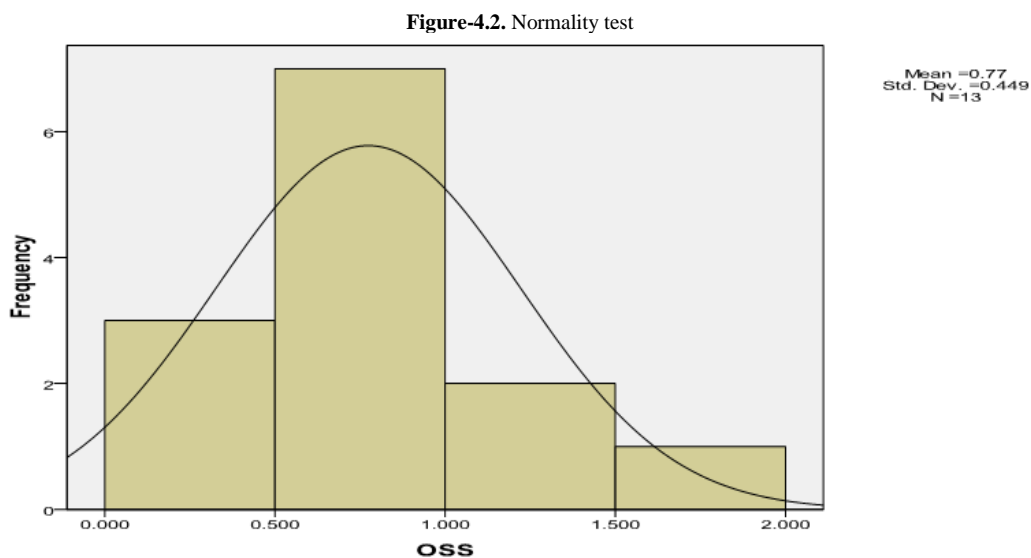
The symmetric and bell shape distribution of the dependent variable was an indication and evidence that the normality assumption was realized. The residuals were normally distributed about the predicted dependent variables. The test was carried out using the statistical package for social sciences (SPSS).

4.5. The Linearity Test

The residuals should have a straight line relationship with the predicted dependent variable scores. The test outcome is summarized in figure 4.3.

Figure-4.3. Linearity test

Normal Q-Q Plot of OSS
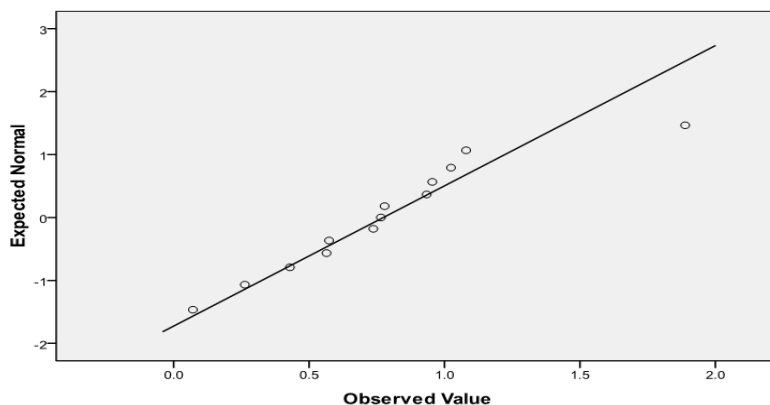
The residuals straight line relationship with the predicted dependent variable score confirmed the linearity.

4.6. The Homoscedasticity Test

The variance of the residuals about predicted dependent variables scores were the same for all predicted scores.

Therefore, the assumptions of multiple regressions which include normality, homoscedasticity, independence of residuals and predictor variables were tested and satisfied.

4.7. Regression Analysis

The essence of model testing is to inform how much of the change of the dependent variable is explained by the independent variables (model) through considering the value of the adjusted R Square. Table 4.3 gives the summary of the findings.

Table-4.3. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.839	704	556	.2989

a. Predictors: (Constant), PSC, RE, OSC, Debt
b. Dependent Variable: OSS

Coefficient of determination gives the percentage of the response variation due to the change of the independent variables. The intent of the study was to find out how different structures of the capital influence the Deposit-Taking Microfinance Institution financial sustainability. The institution could raise its capital from the retained earnings, ordinary shares, preferred shares, or debt. Therefore, the dependent variable was the microfinance financial stability measured through Operating Self Sufficiency (OSS) whereby the value of 1.1 indicated a financial stability. The independent variables were the different capital sources. Model summary indicated that 55.6% of the chosen factors could explain the financial sustainability variation.

4.8. Model Coefficients

Regression model was used to establish the relationship between the independent variables and the dependent variables. Coefficient of determination explains the extent to which changes in the dependent variables can be explained by the change in the independent variables or the percentage of variation in the dependent variable (OSS) that is explained by all the four independent variables (Debt, retained earnings, ordinary share capital and preferred share capital).

Table-4.4. Regression coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
Constant	.154	.643		.239	.817
Debt	1.265	.740	.569	1.709	.026
RE	1.630	.459	.738	3.547	.008
OSC	-.263	.660	-.087	-.398	.701
PSC	.341	1.647	.063	.207	.841

Dependent variable: Operational Self-Sufficiency

According to the findings, debt (X1, B=0.569, P-value=0.026), Retained Earnings (X2, B=0.738, P-value=0.008), Ordinary share capital (X3, B= -0.087, P-value=0.701), and Preferred share capital (X4, B= 0.063, P-value=0.841). Debt and Retained earnings were the only one significant since the p-value was less than 0.05. The other two variables (ordinary share capital and preferred share capital) were insignificant as their p-values were more than 0.05.

Therefore, the multiple regression analysis becomes:

$$Y = 0.154 + 0.569X1 + 0.738X2 - 0.087X3 + 0.063X4 + \mathcal{E}$$

Where Y is the Operational Self Sufficiency, X1 is the Debt, X2 is the Retained earnings, X3 is the Ordinary share capital and X4 is the Preferred share capital while $\mathcal{E}$ is the error term.

The model revealed a positive relationship between debt and financial sustainability by a factor of 0.569. A unit change in debt led to a change in financial sustainability by a factor of 0.569. This is the variable which took the second lion share. This finding agreed with the other scholars' results. Bhushan and Mohinder (2016) recommended the usage of more debt as the major source of financing as it increases. Hossain and Asam (2016) and Kinde (2012) concluded that debt has an insignificant impact on financial sustainability of MFIs. However, Oke and Afolabi (2011); Haruna (2013); concluded that there was a negative relationship between financial sustainability and debt.

There was also a positive relationship between retained earnings and financial sustainability by a factor of 0.738 in the model. A unit change in retained earnings led to a change in financial sustainability by a factor of 0.738. This is the variable which took the lion share. This is in line with other scholars' findings that there is strong positive relationship between retained earnings and financial sustainability,(Kanini, 2016; Khan and Zulfigar, 2012; Kilonzo, 2013). However, Mulama (2014) revealed that profitability had a weak positive relationship with retained earnings.

There was a negative relationship between ordinary share capital and financial sustainability by a factor of -0.087. Therefore, a unit change in ordinary share capital would lead to a change in financial sustainability by a factor of -0.087. This agreed with other scholars. Kanini (2016); and Baraza (2014) revealed a negative relationship between ordinary share capital with financial sustainability. However, Siro (2013) concluded there was need of more ordinary share capital employed in a firm rather than debt.

The model revealed a positive relationship between preferred share capital and financial sustainability by a factor of 0.063. Thus, a unit change in preferred share capital would lead to a change in financial sustainability by a factor of 0.063. This agreed with other scholars. Kanini (2016) showed that there was a positive relationship between preferred share capital and financial sustainability. However, Rao and Moyer (1992) and Heinkel and Zechner (1990) showed a negative relationship between preferred share capital and financial sustainability.

Based on the regression model financial sustainability level was 0.154 in the absence of the independent variables in the model. The financial sustainability increased by 0.569 for each unit increase of the debt. It increased by 0.738 for each unit increase of the retained earnings, but decreased by -0.087 for each unit increase of the ordinary share capital and finally it increased by 0.063 for each unit increase of the preferred shares as a source of finance. Therefore, the debt and the retained earnings had the highest impact on financial sustainability of the microfinance institutions in Kenya by the time of this study.

4.9. The Analysis of Variance (ANOVA)

One-way analysis of variance was contacted to compare the variability in scores (financial sustainability of the deposit-taking micro financial institutions) due to different source of funding composition.

The F ratio test which represents the variance between the groups, divided by the variance within the groups, a significant F test indicates that there is more variability between the groups; that is the independent variables, in this study the different financing components.

Table-4.5. ANOVA

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	1.702	4	.425	4.761	.029
Residual	.715	8	.089		
Total	**2.416**	**12**			

a. Predictors: (Constant), PSC, RE, OSC, Debt
b. Dependent Variable: OSS

The ANOVA table indicated that the regressors influenced the predictor variable significantly since the tabled F-test value was 3.84 with the computed $f_{(0.025, 4, 8)} (12) = 4.76$. Therefore, the observed variance among the funding sources can't be attributed to chance.

5. Results and Discussions

Secondary data was collected from published financial reports of the Central Bank of Kenya and any other necessary reports on the DTMs financial reports for the years of study. The intent of this study was to investigate the effect of capital structure on financial sustainability of DTMs in Kenya. Different institutions deployed different proportions of capital structures resulting to different levels of financial sustainability.

Based on the study findings all the chosen capital components affected the financial sustainability of the deposit-taking microfinance institutions however at varied magnitude and direction. Both the debt and retained earnings significantly and positively affected the financial sustainability of the deposit-taking microfinance institutions, while the preferred share capital affected the financial sustainability positively but statistically insignificant α=5%. and ordinary share capital negatively but was statistically insignificant at α=5%.

On a multiple regression model retained earnings posted the highest effect on financial sustainability with a β=0.738, the next was debt with β=0.569, third was preferred share capital with β=0.063 and least was the ordinary share capital with β=-0.087.

Given the framework and the scope of the study the model summary indicated that 55.6% of the chosen factors could explain the financial sustainability variation, implying there were more variables that affected the financial sustainability of DTMs than the variables used. The ANOVA testing showed statistical significance of variation of deposit-taking microfinance financial sustainability due to capital structure the institution deployed, whereby the retained earnings remained the most influential factor. The ordinary share capital affected the financial sustainability most adversely.

The debt and the retained earnings brought out huge financial sustainability synergy in a multiple regression model and the two key factors that could predict the financial sustainability without loss of generality of the full model. Therefore, higher proportion of debt and retained earnings was brought a more likelihood of the institution being afloat on the matters financial sustainability.

6. Conclusion

The study examined the four components of capital structure (debt, retained earnings, ordinary share capital and preferred share capital) affecting the financial sustainability of deposit-taking microfinance institutions in Kenya. Based on the findings the study made conclusions as discussed in the following subsequent sections

6.1. The Impact of Debt on the Financial Sustainability of DTMs in Kenya

The study concluded that debt had substantial impact on the financial sustainability of DTMs in Kenya. The study therefore recommended that managers should consider usage of a higher proportion of debt in the capital structure. This will enable the DTMs to enjoy tax shield benefits which normally reduces the cost of capital. The multiple regression model used posted the second highest effect on the financial sustainability. This meant that the financial sustainability would increase with a proportionate increase in debt when all other factors are held constant.

6.2. The Influence of Retained Earnings on the Financial Sustainability of DTMs in Kenya

The study concluded that retained earnings was the most influential factor. In addition, the study concluded that retained earnings combined with debt brought out huge financial sustainability synergy in a multiple regression model and that they were the two key factors that could predict the deposit taking microfinance financial sustainability without loss of generality of the full model. Therefore, the DTMs should embrace the culture of ploughing back the profits into the business capital to have a cutting edge in financial sustainability.

6.3. The Effect of Ordinary Share Capital on Financial Sustainability of DTMs in Kenya

The study observed that ordinary share capital posted a negative impact on financial sustainability under multiple regression analysis. The study discouraged the usage of ordinary share capital. This is because there a unit increase in ordinary share capital would lead to a decrease in financial sustainability.

6.4. The Impact of Preferred Share Capital on Financial Sustainability of DTMs in Kenya

From the discussions, the study concluded that preferred share capital had a positive impact on the financial sustainability of DTMs in Kenya. The multiple regression model used posted the third highest effect on the financial sustainability. The study therefore recommended that preferred share capital can be used when retained earnings and debt are fully exhausted.

Based on the findings of the study, the researcher recommends that the government through the Central Bank of Kenya should set minimum debt usage in every deposit-taking microfinance institution. In addition, the Central Bank of Kenya should consider capping the cost of borrowing further to enable more institutions to borrow and stay afloat. This will ensure more DTMs use a larger proportion of debt in their capital structure hence have a positive impact on financial sustainability.

The researcher recommends to the managers of Deposit-Taking Microfinance Institutions to consider ploughing back the profits realized back to the business to maintain more liquidity ratio for lending as the best and popular practice. If retained earnings are exhausted, they should consider usage of debt capital after which preferred share capital should be the third option. In addition, the study recommends that the managers should combine varied proportion of debt, retained earnings and preferred share capital as it can bring out the best synergetic capital components combination for predictable positive results. In addition, it is recommended that DTMs maintain low proportion of ordinary share capital which proved to be antagonistic to financial sustainability.

The conclusions of the study were made within the framework of its scope. However, the study established that the model summary indicated that, out of the chosen factors only 55.6% could explain the financial sustainability variation. This means that there were more factors that influenced the financial sustainability of the

deposit-taking microfinance institutions. To improve on DTM's financial sustainability, and based on the findings of the study, the researcher suggests that the same study be carried out but explore other factors that may influence the DTM's financial sustainability given the fact that the chosen variables could explain 55.6% variation of the financial variability.

References

Amarjit, G., Nahum, B. and Neil, M. (2011). The effect of capital structure on profitability: Evidence from the United States. *International journal of Management,* 28(4): 3-5.

Ayayi, A. G. and Sene, M. (2010). What drives microfinance institution's financial sustainability. *Journal of Developing Area,* 44(1): 303-24.

Baraza, E. O. (2014). *The relationship between funding structure and financial performance of microfinance institutions in Kenya.* Project, University of Nairobi.

Barrels, I. (2006). *Financial self-sufficiency (FSS) The microfinance Bulltin 2006.* Microfinance Information Exchange Market: 13 Washington D.C.

Bhaduri, S. N. (2002). Determinants of capital structure choice. A study of the Indian corporate sector. *Applied Financial Economics,* 12(9): 655-65.

Bhushan, S. and Mohinder, S. (2016). Impact of capital structure on firm's profitability: A study of selected listed cement companies in India. *Pacific Business Review International,* 8(7): 46-54.

Bogan, V. (2009). *Capital Structure and Sustainability.* An Empirical study of Microfinance Institutions: Cornell University.

Bogan, V. (2012). Capital structure and sustainability. An empirical study of microfinance institutions. *The Review of Microfinance and Statistics,* 94(4): 1045-58.

Bogan, V., Johnson, W. and Mhlanga, N. (2007). Does capital structure affect case studies of broström and concordia AB, Unpublished master's thesis (University of Gothenburg).

CBK (2016). Central Bank of Kenya Report.

CGAP (2009). *The rise, fall, and recovery of the microfinance sector in morocco.* World Bank: Washington DC.

CGAP (2010). *Access to finance for the poor.* World Bank: Washington D.C.

Cooper, D. R. and Schindler, P. S. (2003). *Business research methods.* 8th edn: McGraw-Hill Irwin: Boston.

Flick, U. (2009). *An Introduction to qualitative research.* 4th ednLondon.

Freedman, D. A. (2005). *Statistical Models: Theory and practice.* University of California: Berkeley.

Haruna, S. (2013). Capital structure and its role on performance of microfinance.

Heinkel, R. and Zechner, J. (1990). The role of debt and preferred stock as a solution to adverse investment incentives. *Journal of financial and quantitative analysis,* 25: 1-24.

Hossain and Asam, M. K. (2016). Financial sustainability of microfinance institutions (MFIs). *Bangaladesh Developing Country Studies,* 6(6): 69-78.

Huang, H. T. (2003). The determinants of capital structure in shipping companies in Nigeria :1999-2007. *International Business and Management Journal,* 2(1): 100-06.

Kanini, D. S. (2016). *Effects of capital structure on financial performance of commercial Bank in Kenya.* Research Project: South Eastern Kenya University.

Khan, A. B. and Zulfigar, A. S. (2012). The impact of retained and distributed earnings on future profitability and stock returns in Parkistan. *International Research Journal of Finance and Economics*: 121-32.

Kilonzo, M. B. (2013). *The relationship between financial structure and performance of micro and smal enterprises in Nairobi.* Kenya, Research Paper: University of Nairobi.

Kinde, B. A. (2012). Financial sustainability of microfinance institutions in Ethiopia. *European Journal of Business and Management,* 4(15):

Kipesha, E. F. and Zhang, X. (2013). Sustainability profitability and outreach.

Lislevand, C. J. (2012). The effect of capital structure on microfinance institutions' performance, Masters Thesis (University of Agder).

Miller, M. and Modigliani, F. (1996). Some estimates of the cost of capital to the electric utility industry, 1954-1957. *American Economic Review,* 56: 333-91.

Mulama, L. W. (2014). *The determinants of retained earnings in companies listed at nairobi securities exchange.* Doctoral Dissertation: University of Nairobi.

Mwaka, C. N. (2006). *Financial Structure and growth of small and microenterprises in Nairobi.* University of Nairobi: Unpublished MBA Project.

Mwangi, M., Muturi, W. and Ombuki, C. (2015). The effects of deposit to asset ratio on the financial sustainability of deposit taking micro finance institutions in Kenya. *International Journal of Economics, Commerce and Management United Kingdom,* 3(8): 504-11.

Myers, S. (1984). The capital structure puzzle. *Journal of Finance,* 39(3): 575-92.

Nyamsogoro, G. D. (2010). Financial sustainability of rural microfinance.

Oke, S. and Afolabi, B. (2011). Capital structure and industrial performance in Nigeria :1999-2007. *International Business and Management Journal,* 2(1): 100-06.

Quayes, S. (2012). Depth of outreach and financial sustainability of microfinance.

Rao, R. and Moyer, R. C. (1992). The effect of non-convertible preferred stock retirement on shareholder wealth. *Journal of Economics and Finance,* 16(1): 11-25.

Robinson, M. (2003). *The microfinance revolution: Sustainable finance for the poor.* World Bank: Washington D.C

Rotich, G. (2015). *The relationship between financial structure and financial performance of microfinance banks in Kenya.* Research Project: University of Nairobi.

Siro, R. O. (2013). *Effects of capital structure on the financial performance of firms listed on NSE.* Unpublished MBA Project: University of Nairobi.

Waweru, M. W. and Wanyoike, D. (2016). Effect of capital structure on profitability of microfinance institutions in Nakuru Town, Kenya. *International Journal of Economics, Commerce and Management,* 4(10): 1144-67.

Yaron, J. (2007). Determining self-sufficiency of microfinance institutions. *Savings and Development,* 31(2): 31-160.