# FIRM CHARACTERISTICS AND FINANCING OF MFIS IN KENYA

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## ABSTRACT

This paper investigates whether firm characteristics have an influence on financing of MFIs in Kenya using a sample of 12 Microfinance firms. Primary and secondary data were collected and subjected to multiple regression and correlation analysis in order to achieve the study objectives. Firm characteristics, which are the independent variables, were measured by size, profitability, and risk, while financing of MFIs, which is the dependent variable, was measured by the Debt-Equity ratio and by the ratio of capital to total assets. Results of this study suggest that, a strong negative association between return on equity and total assets has an equally strong negative effect/influence on the debt equity ratio. This implies that, the two variables have a strong negative effect on the financing of MFIs. Overall, the implications of the findings of this study support both the trade-off theory and the pecking order theory of capital structure. Since this study focused on only one segment of the small and medium enterprise sector, there is need to carry out further research on all segments of the small and medium enterprises sector, first independently and then on the entire sector. Findings of such a study will be extensive enough to provide a good platform for formulating financing policy guidelines for the entire sector, especially after carrying out comparative analysis on the independent segment results. The study recommends that, finance managers of MFIs need to embrace innovation as a way of increasing the efficiency of the assets. Increased efficiency of assets is critical to maximising the profitability of the firms, which consequently reduces the negative impact arising from the cost of debt (financing costs). Additionally, finance managers are advised to adopt a residual dividend policy while at the same time, emphasising on cost-effectiveness.

**Key words:** Firm characteristics, financing policy, innovation, Efficiency

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## INTRODUCTION

Small and medium enterprises (SMEs) play a major role in economic development in every country, particularly in developing economies in Africa. Studies indicate that in both advanced economies and developing countries SMEs contribute on average 60% of total formal employment in the manufacturing sector. For African economies, the contribution of the SME sector to job opportunities is even more important. Taking into account the contribution of the informal sector, SMEs account for about three-quarters of total employment in manufacturing.

Access to finance, particularly bank financing is a crucial element in the development of the SME sector, given the relative importance of the banking sector in serving this segment. Firm-level data collected by the World Bank show that access to finance is perceived as one of the main obstacles to doing business (World Bank, various years). A number of studies have shown that financing is a greater obstacle for SMEs than it is for large firms, particularly in the developing world, and that limited access to finance adversely affects the growth of the SME sector more than that of large companies. It is, therefore, unsurprising that the international development community has listed SME access to finance as an important policy priority.

On-going efforts to study SME financing from a supply-side perspective are particularly relevant for Sub-Saharan Africa. According to enterprise-level data collected by the World Bank (various years), SMEs in Sub-Saharan Africa are more financially constrained than in any other developing region. Only 20% of SMEs in Sub-Saharan Africa have a line of credit from a financial institution compared, for example, with 44% in Latin America and Caribbean, and only 9% of their investments are funded by banks versus 23% in Eastern Europe and Central Asia. These findings alone provide the rationale for investigating the structure of the SME lending market in the region, with the aim to understand the main drivers and obstacles to SME financing. This paper contributes to the growing literature on SME finance. Its purpose is to shed light on the influence of firm characteristics on the financing of SMEs, in the context of MFIs.

### Research Problem

Critical review of previous studies on this topic shows that, evidence on profitability versus leverage is consistent with pecking order arguments with leverage being found to be negatively related to profitability (Wijst and Thurik, 1993; Chittenden et al., 1996; Jordan et al., 1998; Coleman and Cohn, 1999; Mishra and McConaughy, 1999; Michaelas et al., 1999). However, the evidence on asset structure, size, growth and risk is positive. (Jordan et al., 1998; Michaelas et al., 1999).

Overall, existing evidence in the developed markets asserts the existence of some influence of firm characteristics on the financing of MFIS with that of asset structure, firm size, risk and growth being positive. Profitability turns out to be an exception; producing a negative effect. Further critical review shows that, studies of a similar nature are lacking in the East African economies, particularly, Kenya. More importantly, none of the studies reviewed above examined the effect of size, profitability and risk on the financing of the MFIs. This is the research gap, which this study sought to fill. The choice of the three independent variables is guided by the fact that, firm size as measured by asset base, the profit position and risk are important drivers of the future performance of any firm. Indeed they serve as guiding principles when making investment decisions, financing decision as well as determining the dividend policy of a firm. In filling the above research gap, the research sought to answer the question as to whether firm size, profitability and risk influence the capital to total assets ratio and also on the debt to equity ratio.

## LITERATURE REVIEW

### Theoretical Literature review

Gitman (2003) described capital structure as the mix of debt and equity that a firm uses to finance its operations. The theoretical principles underlying capital structure can generally be described in terms of the static trade-off theory by Modigliani and Miller (1958, 1963) the agency theory by Jensen & Meckling (1976) and extended by Stiglitz and Weiss (1981) and the pecking order theory by Myers (1984). Modigliani and Miller (1963) argue that because the interest on debt is tax-deductible, thereby creating tax savings for the borrower, it becomes possible for firms to minimize their costs of capital and maximize shareholders' wealth by using debt.

### Trade-off theory of capital structure

Strebulaev (2012) posits that, in the trade-off theory of capital structure bankruptcy cost is allowed to exist. It states that there is an advantage to financing with debt (namely, the tax benefits of debt) and that there is a cost of financing with debt (the bankruptcy costs and the financial distress costs of debt). The marginal benefit of further increases in debt declines as debt increases, while the marginal cost increases, so that a firm that is optimizing its overall value will focus on this trade-off when choosing how much debt and equity to use for financing.

Cohen (2003) argues that, the theory nevertheless, states that with no taxes, there are no debt-related tax benefits, and with no such benefits [assuming everything else remains constant] there is no optimal capital structure. With no optimal capital structure, therefore, one could only conclude that the whole notion [based on the contention that Equity (E) + Debt (D) = constant] of trying to locate the optimal capital structure becomes self-contradictory and, thus, meaningless.

**Pecking order theory**

Pecking Order theory tries to capture the costs of asymmetric information. It states that companies prioritize their sources of financing (from internal financing to equity) according to the law of least effort, or of least resistance, preferring to raise equity as a financing means "of last resort". Hence: internal financing is used first; when that is depleted, then debt is issued; and when it is no longer sensible to issue any more debt, equity is issued. This theory maintains that businesses adhere to a hierarchy of financing sources and prefer internal financing when available, and debt is preferred over equity if external financing is required (equity would mean issuing shares which meant 'bringing external ownership' into the company). Thus, the form of debt a firm chooses can act as a signal of its need for external finance.

The pecking order theory is popularized by Myers (1984) when he argues that equity is a less preferred means to raise capital because when managers (who are assumed to know better about true condition of the firm than investors) issue new equity, investors believe that managers think that the firm is overvalued and managers are taking advantage of this over-valuation. As a result, investors will place a lower value to the new equity issuance. Frelinghaus et al. (2005) point out that despite the disadvantages of debt (financial distress), the inadequacy of internal equity and the non-availability of external equity imply that debt is one of the principal sources of finance for SMEs.

**Empirical Literature Review**

**Firm characteristics and financing**

According to Demirguc-Kunt, et al. (2006) the two primary sources of external finance for SMEs are equity and debt. External equity in the form of venture capital or the stock exchange is usually not available for SMEs (Shane, 2008). Research by Berry et al. (2002), documents the reliance of SMEs on bank debt as a source of financing. However, access to bank debt is, paradoxically, a frequently cited challenge for SMEs. According to Smorfitt (2009) SMEs in South Africa do struggle to raise finance from banks.

Stiglitz and Weiss (1981) refer to this phenomenon as capital rationing. Majed et al. (2010) and Sorooshian et al. (2010) point out that the factors that can impact on the capital structure and performance of SMEs include firm characteristics and entrepreneurial characteristics. Firm characteristics are traits or features specific to the firm, which can affect positively or negatively the performance of the firm. Firm characteristics include factors such as the age of the firm, the size of the firm, asset structure, profitability, risk and growth, the availability of collateral and business information. The firm variables discussed in the current study are size, asset structure, profitability, risk and growth.

**Size**

There are several theoretical reasons why firm size would be related to the capital structure of the firm. Firstly, smaller firms may find it relatively more costly to resolve informational asymmetries with lenders and financiers. Consequently, smaller firms are offered less capital, or are offered capital at significantly higher costs relative to larger firms, which discourages the use of outside financing by smaller firms.

The transaction costs associated with financing may also affect financing choices as transaction costs are most likely a function of scale, with smaller scale financing resulting in relatively higher transaction costs (Titman and Wessels, 1988; Wald, 1999). A related issue is the marginal effects of market access for different sized firms (Scherr et al., 1993). This could be a function of high transaction costs effectively making some financing options outside the available set of financing choices of the firm. However, market access can also be constrained directly in that some financing options are not in the scale range that financiers would consider issuing finance. A simple example is the scale required to obtain equity funds publicly, thereby excluding smaller firms from this type of finance. Another explanation for smaller firms having less outside financing or lower debt is if the relative costs of bankruptcy are an inverse function of firm size. These bankruptcy costs can be both direct, affecting liquidation returns, or indirect in the form of stakeholders losing confidence in the businesses survival or through less discretion on operating decisions (Titman and Wessels, 1988). Finally, if operating risk is inversely related to firm size, this should predispose smaller firms to use relatively less debt and outside financing (Cosh and Hughes, 1994).

Empirical evidence about investigation of the relationship between size and financing for firms of similar scale generally supports a positive relationship between firm size and leverage, long-term leverage, outside financing and bank financing. One caveat to this is a negative relationship between short-term liabilities and firm size (Osteryoung et al., 1992; Chittenden et al., 1996; Michaelas et al., 1999; Fluck et al., 2000).

Burkart and Ellingsen (2004) state that the size of a firm has an important influence on the debt ratios as firms with more real assets tends to have greater access to long-term debt. Honhyan (2009) finds that larger firms tend to be more diversified and fail less often, so size can be an inverse proxy for the probability of bankruptcy. Cassar (2004) argues that it may be relatively more costly for smaller firms to resolve information asymmetries with debt providers. Consequently, smaller firms may be offered less debt capital. In addition, transaction costs are typically a function of scale and may be higher for smaller firms. Therefore, it is hypothesized that, there is a positive relationship between the size of the SME and access to debt finance from commercial banks.

Mac and Bhaird (2010) in a study of samples of the capital structure of 299 Irish Small and Medium Scales Enterprises (SMEs) using hypotheses formulated from pecking order and agency theories and also incorporating a financial growth life cycle approach discovered that the age, size, level of intangible activity, ownership structure and the provision of collateral are important determinants of the capital structure in SMEs.

Zellner (1962) also in a study of the capital structure in several firms discovered that the influence of age, size, ownership structure and provision of collateral is similar across industry sectors, indicating the universal effect of information asymmetries and also discovered that firms overcome the lack of adequate collateral security by providing personal assets as collateral for business debt, and by employing additional external equity.

**Asset structure**

Asset structure should be an important determinant of the capital structure of a new firm. Titman and Wessels (1988) argue that, the degree to which a firm's assets are tangible and generic should result in the firm having a greater liquidation value because it reduces the magnitude of financial loss incurred by financiers should the company default. Pledging the firms' assets as collateral also reduces adverse selection and moral hazard costs. Storey (1994) and Berger and Udell (1998) suggest that bank financing will depend on whether lending can be secured by tangible assets.

Empirical evidence suggests a positive relationship consistent with theoretical arguments between asset structure and leverage for large firms. The limited smaller firm research, while not conclusive, shows signs of a positive relationship between asset structure and leverage, long-term debt, and possibly a negative relationship with short-term debt (Van der Wijst and Thurik, 1993; Chittenden et al., 1996; Jordan et al., 1998; Michaelas et al., 1999).

**Profitability**

The hypothesized relationship between firm profitability and capital structure is founded on Myers (1984) pecking order hypothesis. Given the information asymmetries between the firm and outsiders, firms have a preference for inside financing over outside financing. Therefore, profitable firms, which have access to retained profits, can use these for firm financing rather than accessing outside sources. Even though more profitable firms would be more likely to get access to such capital, these firms will prefer inside funds to finance their operations and investments. Empirical evidence from previous studies examining SMEs is consistent with pecking order arguments with leverage reported to be negatively related to profitability (Wijst and Thurik, 1993; Chittenden et al., 1996; Jordan et al., 1998; Coleman and Cohn, 1999; Mishra and McConaughy, 1999; Michaelas et al., 1999).

**Risk**

Given agency and bankruptcy costs, there are incentives for the firm not to fully utilise the tax benefits of 100 per cent debt within the static framework model. The more likely a firm will be exposed to such costs, the greater their incentive to reduce their level of debt within the capital structure of the firm. One firm variable which impacts upon this exposure is firm operating risk, in that the more volatile firm earnings streams, the greater the chance of the firm defaulting and being exposed to such costs. Consequently, these firms with relatively higher operating risk will have incentives to have lower leverage than other more stable earnings firms. Unusually, the limited empirical evidence between risk and leverage for SMEs suggests a positive rather than negative relationship (Jordan et al., 1998; Michaelas et al., 1999).

**Growth**

Applying pecking order arguments, growing firms place a greater demand on the internally generated funds of the firm. Consequentially, firms with relatively high growth will tend to look outside the firm to finance the growth. Therefore, these firms should look to short-term less secured debt then to longer-term more secured debt for their financing needs. This should lead to firms with relatively higher growth having more leverage. In addition, there is a relationship between the degree of previous growth and future growth.

Michaelas et al. (1999) argue that future growth opportunities will be positively related to leverage, in particular short-term leverage. They argue that, the agency problem and consequentially the costs of financing are reduced if the firm issues short-term rather than long-term debt. This is in direct contrast to Myers (1977), who argues that conflicts between debt and equity holders are especially serious for assets that give the firm the option to undertake growth opportunities in the future, resulting in firms with such growth opportunities having less debt. Michaelas et al. (1999) found future growth positively related to leverage, while Chittenden et al. (1996) and Jordan et al. (1998) found mixed evidence.

**Summary of Literature review and Research Gaps**

Empirical evidence suggests a positive relationship consistent with theoretical arguments between asset structure and leverage for large firms. The research, on small firms, though not conclusive, shows signs of a positive relationship between asset structure and leverage, long-term debt, and possibly a negative relationship with short-term debt (Van der Wijst and Thurik, 1993; Chittenden et al., 1996; Jordan et al., 1998; Michaelas et al., 1999). However the evidence between risk and leverage for SMEs remains limited and suggests a positive rather than negative relationship (Jordan et al., Michaelas et al., 1999).

Further, evidence on profitability versus leverage is consistent with pecking order arguments with leverage being found to be negatively related to profitability (Wijst and

Thurik, 1993; Chittenden et al., 1996; Jordan et al., 1998; Coleman and Cohn, 1999; Mishra and McConaughy, 1999; Michaelas et al., 1999).

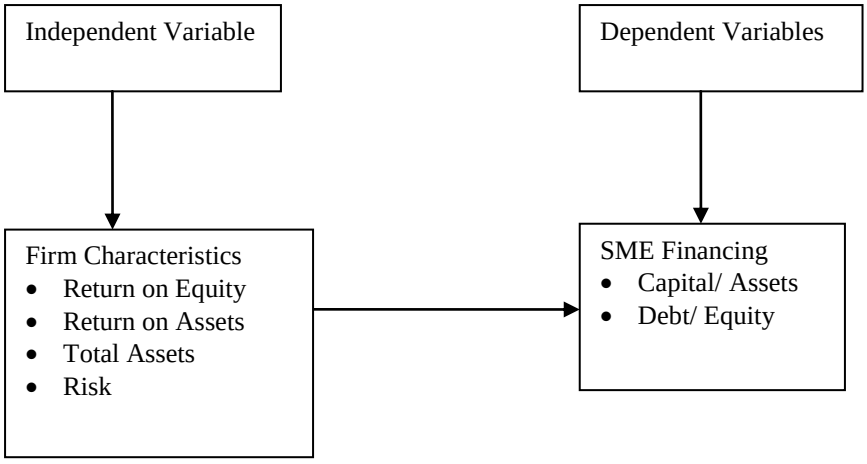
Empirical evidence about investigation of the relationship between size and financing for firms of similar scale generally supports a positive relationship between firm size and leverage, long-term leverage, outside financing and bank financing. However, there exists a negative relationship between short-term liabilities and firm size (Osteryoung et al., 1992; Chittenden et al., 1996; Michaelas et al., 1999; Fluck et al., 2000).

Overall, existing evidence in the developed markets asserts the existence of influence of firm characteristics on the financing of SMES with that of asset structure, firm size, risk and growth being positive. Profitability turns out to be an exception; producing a negative effect. Further critical review shows that, studies of a similar nature are lacking in the East African economies, particularly, Kenya. More importantly, none of the studies reviewed above examined the effect of size, profitability and risk on the financing of the MFIs. This study therefore set out to investigate on the influence of firm characteristics (size, profitability and risk) on the financing of MFIs in Kenya.

**Conceptual Framework**

Firm characteristics variables are considered as the independent variables while SME financing variables are considered as the dependent variables. The four variables related to firm characteristics applied in this study include: Return on Equity, Return on Assets, Total Assets and Risk. ROE is an accounting measure used to assess rates of return on shareholder equity and has been used in previous studies to measure firm profitability, whereas ROA, which is also an accounting measure, is used to assess the efficiency of assets employed and it has been to measure firm profitability in prior studies. Two variables, namely, capital to total assets ratio and debt to equity ratio have been used to represent SME financing. The above description of the conceptual framework is summarized as Figure 1.

**Figure 1: Conceptual Framework**




**Research methodology**

To investigate the influence of firm characteristics on the financing of MFIs in Kenya, this study employed a correlational descriptive survey research design. Descriptive designs describe phenomena as they exist and are often used to obtain information on the characteristics of a particular problem or issue while correlational studies establish relationships between various variables.

We considered all the 38 MFIs in Kenya as the population of our study. Only twelve institutions had full data availability for a period at least eight of the most current consecutive years, i.e. 2005 to 2012. Other MFIs have been operational for a much shorter period, some as old as only two years. Closer scrutiny of these institutions shows that, fifteen of them had inconsistent data (data on most years over the period 2005 -2012 was missing). Under the circumstances our sample ended up constituting only 12 MFIs.

The study made use of secondary data that was obtained from the audited financial reports of the institutions for a period of eight years (2005- 2012). The choice of eight years was first informed by data availability and secondly to ensure robustness of the regression results. Secondary data was considered appropriate due to the nature of the variables of the study.

Data was analysed using SPSS software package. Regression analysis was conducted to find if there were significant interactions between firm characteristics and financing. Correlation analysis was also conducted to find out if there was association between firm characteristics variables and financing.

**Data Analysis and Interpretation of Findings**

**Regression Analysis**

A Multiple Regression model of the form:

$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + .. .. + \beta_nX_n + \varepsilon$

was used, where Y is the dependent variable. (For this study, there are two distinct dependent variables; capital to asset ratio and debt to equity ratio).

$\beta_0$ is the intercept term, and

$\beta_1,\beta_2,\beta_3.....\beta_n$ values are the regression coefficients, and

$X_1, X_2, X_3, \ldots, X_n$ are the independent variables,

$\varepsilon$ is the error term

The four firm characteristics variables include; (a) size measured using total assets, (b) Risk, measured using the risk coverage ratio (c)Return on Assets (d)Return on Equity.

Based on the above breakdown of the variables, the results of our regression analysis are summarised in tables 1 to 10 below, while those on correlation analysis are summarised in tables 11 and 12.

Table1: Capital Assets Ratio versus Risk

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| (Constant) | .244 | .023 | | 10.733 | .000 |
| Risk coverage | .019 | .008 | .233 | 2.278 | .025 |

From the table above, we have the following workable regression model;

Capital assets = 0.244 + 0.019*(Risk Coverage)

Risk coverage has a positive effect on the capital to assets ratio as a measure of financing in MFIs as indicated by its regression weight of 0.019, which is not significant at the 0.05 level of significance. This implies that, risk levels of MFIs

(measured using the risk coverage ratio) do not play a crucial role in determining the financing of the institutions.

Table 2: Capital Assets ratio Versus ROA

| Model | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| (Constant) | .254 | .022 | | 11.677 | .000 |
| ROA | .469 | .217 | .222 | 2.158 | .034 |

From table 2 above, we have the following workable regression model;

Capital assets = 0.254 + 0.469*(ROA)

ROA has a positive effect on the capital to assets ratio as a measure of financing in MFIs as indicated by its regression weight of 0.469, which is not significant at the 0.05 level of significance. This implies that, profitability levels of MFIs do not play a crucial role in determining the financing of the institutions.

Table 3: Capital Assets ratio Versus ROE

| Model | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| (Constant) | .261 | .023 | | 11.568 | .000 |
| ROE | -.001 | .068 | -.002 | -.014 | .989 |

From table 3 we have the following workable regression model;

Capital assets = 0.261 - 0.001*(ROE)

ROE has a negative effect on the capital to assets ratio as a measure of financing in MFIs as indicated by its regression weight of -0.001, which is significant at the 0.05 level of significance. This implies that, profitability levels of MFIs (as measured by return on equity) play a crucial role in determining the financing of the institutions. In other words, the returns accruing to the equity holders of MFIs have an influence on the financing on those institutions.

Table 4: Capital Assets ratio Versus Total Assets

| Model | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| (Constant) | .270 | .023 | | 11.656 | .000 |
| Assets | -7.049E-013 | .000 | -.114 | -1.093 | .277 |

From table 4, we have the following workable regression model;

Capital assets ratio = 0.261 - 7.049E-013*T. assets

Total assets have a negative effect on the capital to assets ratio as a measure of financing in MFIs as indicated by its regression weight of -7.049E-013, which is significant at the 0.05 level of significance. This implies that, the capital base of MFIs (as measured by total assets) is critical in determining the financing of the institutions. In other words, the size of the firm as measured using total assets influences the financing on those institutions.

Table 5 : Capital assets ratio versus all Independent Variables

| Model | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| (Constant) | .250 | .023 | | 10.682 | .000 |
| Assets | -5.886E-013 | .000 | -.096 | -.965 | .337 |
| Risk coverage | .018 | .008 | .230 | 2.338 | .022 |
| ROA | .989 | .299 | .468 | 3.306 | .001 |
| ROE | -.200 | .092 | -.309 | -2.171 | .033 |

Based on multiple regression analysis, the regression model of capital assets ratio against all the independent variables would be as follows:-

Capital Assets = 0.250 -5.886E-013*Assets +.018*Risk coverage + 0.989*ROA - 0.200*ROE

The results are similar to those obtained from the simple linear regression analysis above; risk coverage ratio as a measure of the risk of the firm and return on assets have positive but insignificant effect on the financing of MFIs. Total assets and return on equity, on the other hand have negative but significant effect on the financing of MFIs.

Table 6: Debt Equity Ratio versus Risk Coverage

| Model | | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| | (Constant) | 4.594 | .629 | | 7.306 | .000 |
| | Risk coverage | -.252 | .226 | -.116 | -1.112 | .269 |

From table 6, we have the following workable regression model;

Debt Equity ratio = 4.594 -0.252*Risk Coverage

Risk coverage has a negative effect on the debt to equity ratio as a measure of financing in MFIs as indicated by its regression weight of -0.252, which is significant at the 0.05 level of significance. This implies that, the risks of MFIs (as measured by risk coverage ratio) are critical in determining the financing of the institutions. In other words, the risks of the firms as measured using risk coverage influence the financing of those institutions.

Table 7: Debt Equity Ratio versus ROA

| Model | | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| | (Constant) | 4.387 | .603 | | 7.269 | .000 |
| | ROA | -1.796 | 6.036 | -.031 | -.298 | .767 |

From table 7, we have the following workable regression model;

Debt Equity ratio = 4.387-1.796*ROA

Return on assets has a negative effect on the debt to equity ratio as a measure of financing in MFIs as indicated by its regression weight of -1.796, which is significant at the 0.05 level of significance. This implies that, the level of returns generated by the assets of a microfinance institution (as measured by risk coverage ratio) play a critical role in determining the financing of the institutions. In other words, the return on assets of the firms influences the financing on those institutions, to some degree.

Table 8: Debt Equity Ratio versus ROE

| Model | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| (Constant) | 4.064 | .598 | | 6.797 | .000 |
| ROE | 3.788 | 1.802 | .216 | 2.102 | .038 |

From table 8, we have the following workable regression model;

Debt Equity ratio = 4.064 + 3.788*ROE

Return on equity has a positive effect on the debt to equity ratio as a measure of financing in MFIs as indicated by its regression weight of 3.788, which is not significant at the 0.05 level of significance. This implies that, the level of returns generated by the equity capital of a microfinance institution is not so critical in determining the financing of the institutions. In other words, the return on equity of the firms does not influence the financing on those institutions.

Table 9: Debt Equity Versus Total Assets

| Model | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| (Constant) | 4.329 | .631 | | 6.858 | .000 |
| Assets | 2.399E-012 | .000 | .014 | .136 | .892 |

From table 9, we have the following workable regression model;

Debt Equity ratio = 4.329+ 2.399E-012*Total Assets

Total assets have a positive effect on the debt to equity ratio as a measure of financing in MFIs as indicated by its regression weight of 2.399E-012, which is significant at the 0.05 level of significance. This implies that, the capital base of a microfinance institution is critical in determining the financing of the institutions. In other words, the size of the firms influences the extend of the financing on those institutions.

Table 10: Debt equity Ratio versus all independent variables

| Model | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| (Constant) | 4.324 | .649 | | 6.662 | .000 |
| Assets | -4.817E-012 | .000 | -.029 | -.285 | .776 |
| Risk coverage | -.227 | .217 | -.105 | -1.046 | .299 |
| ROA | -22.659 | 8.288 | -.395 | -2.734 | .008 |
| ROE | 8.738 | 2.551 | .499 | 3.426 | .001 |

Based on multiple regression analysis (overall model), the regression model of debt equity ratio against all the independent variables would be as follows;

Debt Equity ratio = 4.324-4.817E-012*Assets -0.227*Risk coverage -22.659*ROA + 8.738*ROE

The model indicates that, apart from return on equity (ROE), all the other independent variables have negative effects on the debt to equity ratio of MFIs. Interesting about the findings of this model, it is only assets, which have a significant effect on the financing of MFIs.

**Correlation Analysis**

Dependent Variable: Capital Assets Ratio

Correlation analysis results summarised in table 11 indicate that, there are negative correlations between the asset base on MFIs and the return on equity as well as between the return on equity and the return on assets. However, positive correlation exists between risk coverage and return on equity, risk coverage and total assets, and also between return on assets and total assets (the asset base). The strongest correlation was found to exist between return on equity and total assets (-0.72). From this observation, we conclude that, the strong negative association between return on equity and total assets has an equally strong negative effect/influence on the capital to assets ratio.

Table 11: Coefficient Correlations of all the Independent variables against Capital Assets

| Model | | ROE | Risk coverage | Assets | ROA |
|---|---|---|---|---|---|
| Correlations | ROE | 1.000 | .038 | -.107 | -.720 |
| | Risk coverage | .038 | 1.000 | .073 | .007 |
| | Assets | -.107 | .073 | 1.000 | .013 |
| | ROA | -.720 | .007 | .013 | 1.000 |
| Covariances | ROE | .008 | 2.707E-005 | -6.024E-015 | -.020 |
| | Risk coverage | 2.707E-005 | 6.143E-005 | 3.503E-016 | 1.752E-005 |
| | Assets | -6.024E-015 | 3.503E-016 | 3.722E-025 | 2.442E-015 |
| | ROA | -.020 | 1.752E-005 | 2.442E-015 | .089 |

Dependent Variable: Debt equity Ratio

Correlation analysis results summarised in table 12 indicate that, there are negative correlations between the asset base on MFIs and the return on equity as well as between the return on equity and the return on assets. However, positive correlation exists between risk coverage and return on equity, risk coverage and total assets, and also between return on assets and total assets (the asset base). The strongest correlation was found to exist between return on equity and total assets (-0.72). From this observation, we conclude that, the strong negative association between return on equity and total assets has an equally strong negative effect/influence on the debt equity ratio. Overall, return on equity and total assets have a strong negative effect on the financing of MFIs.

Table 12: Coefficient Correlations of all Independent Variables against Debt Equity Ratio

| Model | | ROE | Risk coverage | Assets | ROA |
|---|---|---|---|---|---|
| Correlations | ROE | 1.000 | .038 | -.107 | -.720 |
| | Risk coverage | .038 | 1.000 | .073 | .007 |
| | Assets | -.107 | .073 | 1.000 | .013 |
| | ROA | -.720 | .007 | .013 | 1.000 |
| Covariances | ROE | 6.506 | .021 | -4.626E-012 | -15.212 |
| | Risk coverage | .021 | .047 | 2.690E-013 | .013 |
| | Assets | -4.626E-012 | 2.690E-013 | 2.858E-022 | 1.875E-012 |
| | ROA | -15.212 | .013 | 1.875E-012 | 68.699 |

## CONCLUSIONS AND IMPLICATION

Analysis of the independent variables against the capital asset ratio indicates that, risk levels of MFIs do not play a crucial role in determining the financing of the institutions. Profitability levels as well (as measured by return on assets) do not play a crucial role in determining the financing of the institutions. To the contrary, the returns accruing to the equity holders of MFIs have an influence on the financing of those institutions. On the same note, the size of the firm as measured using total assets influences the financing on those institutions.

Measured against the debt equity ratio, findings on the same variables indicate that, the risks of MFIs (as measured by risk coverage ratio) are critical in determining the financing of the institutions. So is the level of returns generated by the assets of a microfinance institution. In other words, the return on assets of the firms influences the financing of those institutions, to some degree. Unlike the findings on the return on assets, the level of returns generated by the equity capital of a microfinance institution is not so critical in determining the financing of the institutions. However, the capital base of a microfinance institution is critical in determining the financing of the institutions. In other words, the size of the firms influences the extent of the financing on those institutions.

Based on multiple regression analysis, the regression model of capital assets ratio against all the independent variables indicates that, risk coverage ratio and return on assets have positive but insignificant effect on the financing of MFIs. Total assets and return on equity, on the other hand, have negative but significant effect on the financing of MFIs.

The overall regression model of debt equity ratio against all the independent variables indicates that, apart from return on equity (ROE), all the other independent variables have negative effects on the debt to equity ratio of MFIs. It is worth noting that, assets alone have a significant effect on the financing of MFIs. Correlation analysis indicates that, the strongest correlation was found to exist between return on equity and total assets (-0.72). From this observation, we conclude that, the strong negative association between return on equity and total assets has an equally strong negative effect/influence on the debt equity ratio. Overall, return on equity and total assets have a strong negative effect on the financing of MFIs.

From the above findings, it is implied that, MFIs would require focusing on continuously increasing their assets base by improving on their profitability levels in an effort to reduce the need and level of external financing. This argument supports the pecking order theory. Otherwise, if they focus on increasing the level of external financing, this will dilute the profitability levels while at the same time shrink their asset base. In other words, MFIs need to strike a balance between the cost of external

financing and the benefits derived from the same. This is what the trade-off theory advocates for. Overall, the implications of the findings of this study support both the trade-off theory and the pecking order theory of capital structure.

Empirical evidence about investigation of the relationship between size and financing for firms of similar scale generally supports a positive relationship between firm size and leverage, long-term leverage, outside financing and bank financing. However, this study produces differing results. In addition, the limited empirical evidence between risk and leverage for SMEs suggests a positive rather than negative relationship (Jordan et al., Michaelas et al., 1999). This evidence compares well with the findings of this study.

Literature review identifies asset structure, size, profitability, risk and growth as relevant firm characteristics, which influence the financing of MFIs. However, this study captured size, profitability and risk, leaving out asset structure and growth. This position calls for further research to be undertaken on all the firm characteristics identified in the literature to ensure that, the findings are conclusive. Since this study focused on only one segment of the small and medium enterprise sector, there is need to carry out further research on all segments of the small and medium enterprise, first independently and then on the entire sector. Such a study will be extensive enough to provide a good platform for formulating financing policy guidelines for the entire sector, especially after carrying out comparative analysis on the independent segment results. However, we appreciate that, government policy takes precedence over the private sector input or corporate policy when formulating policies and more so, sector-specific policies. As such, any further research needs to introduce control variables to capture the role/intervention/ regulation by the government. This way, the policy framework for financing of MFIs would be fully inclusive.

The study recommends that, finance managers of MFIs need to embrace innovation as a way of increasing the efficiency of the assets. Increased efficiency of assets is critical to maximising the profitability of the firms, which consequently reduces the negative impact arising from the cost of debt (financing costs). As such, they should formulate investment policies, which support the implementation of positive cash flow projects using the profits, instead of distributing the profits to the shareholders in form of dividends. In line with such investment policies, the guidelines to their financing actions should emphasize on cost-effectiveness.

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