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Influence of Financial Leverage on Financial Sustainability: A Case Study of a Microfinance Institution in Kenya

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Abstract

Microfinance institutions (MFI) play a crucial role in economic development and financial inclusion. Financial sustainability is the key to the growth of microfinance institutions which indicates its importance. Therefore, the current study investigated the effect of financial leverage on MFI's financial sustainability. The specific objective was to establish the effect of financial leverage on the financial sustainability of MFIs. The study was guided by the agency theory and life-cycle theory. It adopted an explanatory research design where a panel approach was used as well as the positivist paradigm. The study adopted the census approach method. Panel data was drawn from 30 MFIs for the period 2010-2018 from the MIX market database using the data collection schedule. The study used both descriptive and inferential statistics to analyze the data with the help of STATA software. A fixed effect model based on the Hausman test ($X^2 = 45.41$, p= $0.000 \leq 0.05$) was used. The findings indicated that financial leverage ($\beta1 = 0.27, p - value = 0.001$) has a positive and significant effect on the financial sustainability of MFIs. The authors recommend MFIs' managers to engage in the prudent use of financial leverage so that they may enhance their overall profitability and boost investor confidence through their strategic decision-making resulting in financial sustainability. The results/findings have implications for business managers and policymakers given the vital role in service delivery and the challenges hindering the sector from the realization of financial sustainability in the economy.

Keywords: financial leverage, financial sustainability, microfinance institutions, microfinance information exchange

Introduction

Microfinance institutions (MFIs) are feted and perceived as a panacea to economic development; moreover, they are also perceived as key contributors to financial inclusion, especially in developing nations (Lopatta et al., 2017). Access to finance is essential for socioeconomic initiatives and programs aimed at poverty alleviation, wealth creation and maintaining an improved standard of living in developing and emerging economies (Henock, 2019). MFIs are modeled to serve

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economically active people excluded from the services of conventional banking (Marwa & Aziakpono, 2015). Scholars have attributed financial exclusion to factors such as high transaction cost, inadequate collateral, information opacity and higher default rates (Olomi, 2009). Besides, it is a tactical failure of the conventional financial institutions when they fail to provide credit services to the poor and microenterprises in developing nations, since these are viewed as un-bankable because of their low disposable income. Thus, MFIs are intended to bridge the financing gap created by the mainstream banking institutions. Interestingly, with increased competition banking institutions are gradually expanding their financial services through diversification and innovation of financial products tailored for the low-income earners (Blanco et al., 2013). Equally, the poor have largely demonstrated that they are bankable; they can save, borrow and pay just like any other investor (Abate et al., 2013). This has motivated MFIs to continue serving the poor through approaches such as solidarity lending, progressive lending with a regular repayment schedule as a dynamic incentive and loan guarantees (Thapa, 2006). Due to their historical background of serving the underprivileged, MFIs are largely reliant on donors' funds; however, these funds are highly volatile and inadequate leading to financial unsustainability, which is likely to erode the quality of their future services. Thus, MFIs must strive for financial sustainability to meet their goals (Ghosh & Van Tassel, 2013; Helms, 2006). This can be achieved through the commercialization and competition of micro-lending services focusing on financial sustainability (Abate et al., 2013).

Financial sustainability is considered as a way of securing the financial future beyond the procurement of subsidies and donations as an essential ingredient for success (Pylypiv & Chakravarty, 2015). The main challenge facing the MFIs is how to finance their services without undermining their financial sustainability (Churchill, 2018). In Sub-Saharan Africa (SSA), MFIs employ different types of financing including multilateral grants and loans, deposits (micro-savings) and commercial loans (Chikalipah, 2019). Over the years, they have evolved and broadened their funding structure. Currently, in the pecking order, deposits, debt, and equity are their main sources of finance (Sapundzhieva, 2011). Arguably, the financing order conforms with the Agency theory. This theory is based on the agency cost hypothesis, the main proposition of this hypothesis is the separation of ownership from control (Jensen & Meckling, 1976). Agency theory suggests that through debt financing the interests of the management and stakeholders are aligned (Jensen, 1986; Myers, 1977). Equally, Kar (2012) argued that leveraged MFIs are more profitable than unleveraged ones, implying that they are more financially sustainable. According to Kyereboah-Coleman (2008), financial leverage serves to

reduce moral hazards and adverse selection which is synonymous with free cash flows, owing to the monitoring by external lenders. Hence, the use of debt may improve MFIs' cash-flow, ultimately guaranteeing sustainability.

Other than the use of debt to enhance financial sustainability, researchers have proposed additional interventions. Firstly, MFIs can increase their interest rate to meet the transaction costs, however, this move may deny low-income earners the access to credit (Dehejia et al., 2012). Globally, MFIs endeavor to remain financially sustainable (Lensink et al., 2018). This is because financial sustainability is the yardstick of measuring their success (Baumann, 2004). Secondly, MFIs should adopt modern financial technologies. Thirdly, the regulators should ensure a favorable regulatory environment for MFIs to thrive (Hermes & Lensink, 2011). Although studies have largely explored the demand side which looks at how MFIs are beneficial for their clients (Gopalaswamy et al., 2015), little is known about what sustains these institutions in terms of their long-term sustainability.

Problem Statement

Financial sustainability has recently captured the attention of many scholars and policymakers owing to its importance/role in firm profitability and survival (Nyamsogoro, 2010). In the context of MFIs, financial sustainability is vital to the effective realization of the poverty alleviation agenda (Kabeer, 2005; Mahjabeen, 2008). However, since their inception, MFIs have been struggling to serve a significant size of the underprivileged population and, at the same time, to remain financially sustainable (Lensink et al., 2018). Though MFIs have grown impressively over the last two decades through innovative lending practices, experience, governmental and donor support, financial sustainability remains the single biggest challenge to their survival (Hartarska & Nadolnyak, 2007). Researchers claimed that institutions which are financially sustainable grow bigger and remain stable. Financially sustainable institutions finally integrate into the local financial systems (Schneider & Greathouse, 2004).

Despite the significance of financial leverage for financial sustainability, the extant literature shows mixed results. Several studies indicated that financial leverage has a positive and significant association with financial sustainability (Berger & Di Patti, 2006; Champion, 1999; Roden & Lewellen, 1995). However, other scholars found a negative relationship (Abate et al., 2013; Booth et al., 2001; Deesomsak et al., 2004; Fama & French, 2002; Hou, 2019). The discrepancy among the findings is due to the fact that most studies were undertaken in advanced economies (USA, Europe and Asia Pacific) with a high financial inclusion rate and

a high disposable household income, which implies that MFIs are of less significance in these countries as compared to banks (Berger & Di Patti, 2006; Hou, 2019; Roden & Lewellen, 1995). However, in developing economies MFIs play an important role in bridging the wide gap created/left by conventional banks, hence their financial sustainability requires special attention. Therefore, this study seeks to examine the effect of financial leverage on financial sustainability in less developed economies using Kenya as a case study.

Literature Review

Theoretical Literature: Agency Theory

This study is grounded in the Agency theory advanced by Jensen and Meckling (1976) in their seminal paper "*Assessing the Theory of the Firm: Managerial behavior, agency costs, and Ownership Structure.*" The said theory claims the existence of a conflict between the principals and the agents, where the managers (agents) engage in self-seeking behaviors at the expense of the stakeholders/shareholders (principals). Jensen and Meckling (1976) posited that a firm's choice of its capital structure may help lessen the agency conflict. Presumably, the theory emphasizes the need for the separation of ownership from control. It was later reviewed by Myers (1977) who suggested that higher financial leverage eases the conflict between the shareholders and managers regarding the choice of investment. Similarly, (Grossman & Hart, 1982; Williams, 1987) advocated that a high leverage limits managerial discretion and lessens the firm's exposure to liquidation while subjecting managers to the loss of salaries, reputation, and perquisites. Moreover, it piles pressure on the managers to generate sufficient cash flow for debt repayment (Jensen, 1986).

Theoretically, a firm's optimal financial structure is a mixture of debt, preferred stock, and common equity (Harris & Raviv, 1991). It is worth mentioning that deposits are a unique source of funds for MFIs and they permit the mobilization of the microsavings of the customers (Chikalipah, 2019). It is a statutory requirement for MFIs to meet specific capital requirements before they are licensed to engage in deposit collection and lending (Cull et al., 2011). Therefore, with the low saving level and high demand for loans, accumulating debt capital is inevitable for MFIs. However, debt is proclaimed as a double-edged sword because it can magnify either the firm's potential gains or its potential losses (Hou, 2019). This means that a firm can either end in financial sustainability or distress which calls for optimal leverage. Firms that employ leverage benefit from tax shields, since interest on debt is an allowable expense in corporate taxation (Modigliani & Miller, 1963). Conversely,

extreme leverage may lead to financial distress, thus lowering the firm's value (Ross et al., 2002).

In line with the theoretical review, this study argues that MFIs should consider financial leverage for two reasons. Firstly, theories of finance have confirmed that financial leverage aligns managerial interests with those of the shareholders (Hudon & Traca, 2011). Secondly, through/in the form of external debt, MFIs have sufficient/an adequate and a cheaper source of capital which improves their financial sustainability. However, the management should consider/keep in view the firm's optimal debt level to avoid financial distress.

Empirical Review

Financial Leverage and Financial Sustainability

Financial sustainability is crucial to MFI development and long-term survival. With the emergence of capital markets, firms are more accessible to/inclined towards innovative financing options. However, there appears to be a consensus in favor of debt financing due to its role in monitoring free cash flows and agency problem. Despite the importance of debt financing, it is argued that financial leverage might compel the firms to spent/suspend future cash flows to meet debt obligations in order to prevent financial distress that could lead to liquidation or takeover (Towo et al., 2019). In the recent past, institutions resolved to utilize financial leverage to deepen their outreach (Hartarska & Nadolnyak, 2007). Furthermore, MFIs have been pressurized/are under pressure to reduce their reliance on subsidies and grant funding.

The link between financial leverage and the firm's financial sustainability has created substantial interest among scholars, practitioners, and policymakers. However, the existing literature shows that the findings are largely mixed. A study by Berger and Di Patti (2006) in the US banking sector found that financial leverage has a positive and significant effect on financial sustainability. Similar findings were reported by (Champion, 1999). On the contrary, a few/some researchers established a negative relationship between financial leverage and financial sustainability, such as the study by Booth et al. (2001) that used a sample of 10 countries including India, Pakistan, Thailand, Malaysia, Turkey, Zimbabwe, Mexico, Brazil, Jordan, and Korea. These findings are similar to Hartarska and Nadolnyak (2007), who studied 114 MFIs from 62 countries and panel data for the period 1999-2001. The debate on the relationship between financial leverage and financial sustainability was further intensified by the study of Kinde (2012). It used a balanced panel data set of 126 observations from 14 MFIs over the period 2002-

2010 and found an insignificant effect. Given the empirical literature, it is apparent that the financial leverage and financial sustainability nexus requires further investigation/needs to be investigated further, particularly in developing countries where MFIs play a crucial role in socioeconomic development despite the recognizable financial and legal impediments. Thus, based on the theory and extant literature the following null and alternative hypotheses were developed:

H_o:Financial leverage has no significant influence on MFIs' financial sustainability.
H_a:Financial leverage has a significant influence on MFIs' financial sustainability.

Conceptual Framework

The main objective of the current study is to examine the effect of financial leverage on MFIs' financial sustainability. Hence, the outcome variable is financial sustainability while the predictor variable is financial leverage. Furthermore, the study controls for the variables firm age and firm size. The theoretical relationship between the variables is depicted in the following conceptual framework.
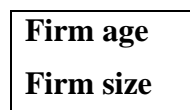
Figure 1

Conceptual Framework

Independent Variable   Dependent Variable

| **Financial leverage** | → | **Financial sustainability** |
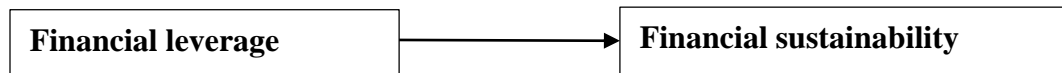
Control Variables

| **Firm age** |
| **Firm size** |

Source: Research author (2019)

Research Design

This study is guided by/based on the explanatory research design since it seeks to establish a causal relationship between financial leverage and sustainability. The methodological issues are discussed in the following subsections.

Data and Sample

The target population comprised the 52 MFIs in Kenya (CBK, 2015). However, due to the availability and completeness of data, only 30 MFIs qualified for further statistical analysis. Panel data for the period 2010-2018 was extracted from the MIX

market database compiled by the World Bank with the aid of the data collection schedule. In total, the study accounted for 270 year-end observations.

Research Model

The hypotheses were tested using the multiple regression analysis. Since panel data was used/Keeping in view the use of panel data, the choice between the fixed effect and random effect regression models was based on the Hausman test. Two regression models were used. Model 1 tested the controls and Model 2 tested the main effect as illustrated below.

$$FSS_{it} = \alpha_{0it} + \beta_{1it} Fage_{it} + \beta_{2it} Fsize_{it} + \varepsilon_{it} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots Model\ldots\ldots\ldots\ldots(1)$$

$$FFSS_{it} = \alpha_{0it} + \beta_{1it} Fage_{it} + \beta_{2it} Fsize_{it} + \beta_{3it} Flev_{it} + \varepsilon_{it} \ldots\ldots\ldots\ldots Model\ldots\ldots\ldots\ldots(2)$$

Where:

FSS_{it} = MFI financial sustainability for … i in year t
$Flev_{it}$ = MFI financial leverage for … i in year t
$Fsize_{it}$ = Firm size…. i in year t
$Fage_{it}$ = Firm Age …i in year t
α_{0it} = constant
$\beta_{1it} - \beta_{3it}$ = coefficients of regression
ε_{it} = error terms

Data Analysis

Data was analyzed using descriptive and inferential statistics. Data was summarized into/using the mean, standard deviation, minimum and maximum values of research variables. Further, the nature and magnitude of the relationship among variables was tabulated using pairwise correlation analysis. Additionally, several diagnostic tests were conducted before testing the hypotheses through regression analysis. The results of the diagnostic tests are shown in tables 1-3 and they confirm the suitability of the data for multiple regression analysis.

Panel Unit Root Test

The study tested for unit root to establish whether the variables were stationary with the aid of Phillip – Perron's unit root test in order to establish the presence or absence of unit root. The following null and alternative hypotheses were tested.

Null hypothesis (Ho): All panels contain unit root.
Alternative hypothesis (H1): At least one panel is stationary.

Keeping in view the *p*-values depicted in Table 1 the null hypothesis was rejected, which means that none of the variables had unit root.

Table 1

Unit root

	Inverse chi-squared(58)	Inverse normal	Inverse logit t(144)	Modified inv. chi-squared
	P	Z	L*	Pm
Financial Sustainability	155.46	-3.52	-6.31	1.15
p-value	.00	.00	.00	.00
Financial leverage	188.05	-4.59	-7.74	12.07
p-value	.00	.00	.00	.00
Firm age	52.28	.39	.14	-.71
p-value	.00	.00	.00	.00
Firm size	215.27	-5.36	-8.84	14.60
p-value	.00	.00	.00	.00

Source: Research Author, (2019)

Test for Heteroskedasticity

Heteroskedasticity was tested using the Breusch-Pagan test. The error term mean was/remains constant over time, if not it would affect the association between financial leverage and financial sustainability of MFIs. Heteroskedasticity test was run to find out whether the error terms were correlated across observations in the time series data. The findings revealed that Chi2 (1) was 0.50 with a *p*-value of 0.4808, implying that the hypothesis was not rejected. Hence, the assumption of constant variance was not violated. The findings are presented below in Table 2.

Table 2

Breusch-Pagan / Cook-Weisberg Test for Heteroskedasticity

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
Ho: Constant variance
Variables: fitted values of Financial Sustainability
chi2 (1)   =   .50
Prob > chi2 =   .4808

Source: Research Author, (2019)

Test for Autocorrelation

The current study used the Wooldridge test to check the presence of autocorrelation in the data, that is, whether or not the residual is serially correlated and the results are shown in Table 3. The test statistics, as reported by the F-test

with one and 7 degrees of freedom with a value of 6.597 and *p*-value of 0.0671, indicated the absence of autocorrelation.

Table 3

Wooldridge Test for Autocorrelation

Wooldridge test for autocorrelation in panel data
H0: no first-order autocorrelation
F (1, 7) =   6.597
Prob > F =   .0671

Source: Research Author, (2019)

Hausman Test

Hausman test was conducted to determine the suitability of either the fixed effect or the random effect regression model. The standard hypothesis of this test is that the random effect model estimates the panel data, whereas the alternative hypothesis suggests that the fixed effect model is the appropriate estimator. Based on the chi-square value of 4541 and *p*-value = 0.000 the null hypothesis was rejected, implying that the fixed effect model was the most appropriate model to test the hypotheses.

Results and Discussion

Table 4 shows the mean, minimum and maximum values and standard deviation of the research variables and data for the period 2010-2018. As shown in the table, the mean of financial sustainability was 0.351 with a minimum of -.864, a maximum of 4.91 and a standard deviation of 0.93. Whereas, the average/mean of financial leverage was 1.04 with a minimum of -3.91, a maximum of 4.82 and a standard deviation of 1.33. Furthermore, the age and size of MFIs had a mean of 1.86 and 0.736 and their standard deviation was 0.181 and 0.46, respectively. These values indicated the variability of variable changes over time.

Table 4

Descriptive Statistics

Variables	Obs	Mean	Std.Dev	Min	Max
Financial sustainability	270	0.35	0.93	-0.86	4.91
Financial leverage	270	1.04	1.33	-3.91	4.82
Firm size	270	1.86	0.18	1.15	2.24
Firm age	270	0.74	0.46	0.00	1.09

Source: Research Author, (2019)

Correlation Analysis

The study used correlation to examine the nature of the statistical relationship between financial sustainability, financial leverage, firm age and firm size. The correlation matrix is illustrated in Table 5and the results showed that financial sustainability and financial leverage had a positive and significant correlation ($r= 0.162$; $p<0.05$). Further, the correlation between financial sustainability and MFI age ($r=.039$, $p<0.05$), financial leverage and MFI age ($r=.315$, $p<0.05$), financial leverage and MFI size ($r=.383$, $p<0.05$), and MFI size and MFI age ($r=.459$, $p<0.05$) was positive. On the contrary, financial sustainability and MFI size ($-.271$, $p<0.05$) were negatively correlated.

Table 5

Correlation Matrix Results

Variables	Fsn	Fl	Fa	fs
Financial Sustainability (Fsn)	1			
Financial leverage (fl)	.162**	1		
Firm age (fa)	.039**	.315**	1	
Firm size (fs)	-.271**	.383**	.459**	1

**Correlation is significant at the .05 level * Correlation is significant at the .01 level, *Source:* Research Author, (2019)

Regression Analysis

The null hypothesis was tested using a fixed effect regression analysis. It stated that financial leverage has no significant effect on MFIs' financial sustainability in Kenya. The findings reported a beta coefficient of 0.1713 and a *p*-value = 0.000 <0.05. Therefore, the null hypothesis was rejected and the alternative hypothesis was adopted. Thus, a unitary change in financial leverage led to a 0.1713 unit change in financial sustainability. The overall regression model had an explanatory power of 0.235, which implied that the model predicted 23.56% variability in the financial sustainability of MFIs.

The study found a positive relationship between financial leverage and financial sustainability. Consistent with these findings, Hassan and Bashir (2003) postulated that profitable firms borrow more because their repaying capacity is guaranteed. Similarly, Harelimana (2017) elucidated that financial leverage is a driver of MFIs' sustainability. These findings are further supported by Akhtar et al. (2011), who contended that financial leverage signifies a positive expectation on financial returns. Levered firms have a higher market value due to the benefits of the tax

shield (Modigliani & Miller, 1963), although the excessive use of debt capital might lead to financial distress thus lowering the firm's value (Ross et al., 2002). Hartarska and Nadolnyak (2007) confirmed that MFIs with less debt have better financial sustainability. Therefore, managers should craft policies that guide towards attaining optimal financial leverage to enhance MFIs' financial sustainability. This is necessary especially in the developed/developing nations where MFIs have a high potential of growth but suffer from low deposit levels and an underdeveloped external capital market.

Table 6

Results of the Fixed Effect Regression Analysis

MFI financial sustainability	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
Firm Age	0.524	0.174	3.02	0.003	0.1799	0.868
Firm Size	-0.481	0.108	-4.49	0.000	-0.693	-0.269
MFI financial leverage	0.171	0.054	3.19	0.002	0.065	0.277
_cons	2.986	0.691	4.32	0.000	1.617	4.354
R squared	0.236					
sigma_u	0.525					
sigma_e	0.631					
F statistic				F(28,123)		
Prob(Chi2)				0.000		
No of Obs				270		

Conclusion

The findings of this study revealed that financial leverage has a positive and significant effect on MFIs' financial sustainability. Based on the findings, the study concluded that financial leverage leads to financially sustainable MFIs. Accordingly, MFIs should consider using debt to finance their operations besides mitigating possible agency conflicts. Further, the study confirmed that although finance theories advocate the use of debt as financial leverage, it is actually a double-edged sword since it can either improve MFIs' financial health or sink these institutions into financial distress.

Recommendations and Suggestions for Future Research

MFIs have been feted and perceived as a panacea for poverty alleviation and financial inclusion. However, MFIs are largely financially challenged. To address this problem, the current study recommends that management should give priority

to external financing in order to improve financial sustainability since debt improves the firm value and is a cheap source of finance. In addition/Moreover, shareholders should consider debt financing since it aligns managerial goals to those of the firm, principally shareholders' wealth maximization and profit.

Also, the study recommends that MFIs should develop borrowing strategies to guide managers to ensure prudent borrowing that contributes to the overall profitability and also boosts investor confidence. Finally, the study recommends that future studies can consider other subsectors such as banks, Sacco's and insurance companies and it may shed more light on the relationship between financial leverage and financial sustainability.

References

Abate, G. T., Borzaga, C., & Getnet, K. (2013). *Financial sustainability and outreach of microfinance institutions in Ethiopia: Does organizational form matter*? (Working Paper No. 56). Euricse Research.

Akhtar, M. F., Ali, K., & Sadaqat, S. (2011). Factors influencing the profitability of Islamic banks of Pakistan. *International Research Journal of Finance and Economics*, *66*(66), 1−8.

Churchill, A. S. (2018). Sustainability and depth of outreach: Evidence from microfinance institutions in sub-Saharan Africa. *Development Policy Review, 36*, O676−O695. https://doi.org/10.1111/dpr.12362

Bank, B. (2015). Banking sector performance, regulation and bank supervision. *Annual Report: July*, 28−29. https://www.centralbank.go.ke/uploads/3993467512015%20Annual%20Report.pdf

Baumann, T. (2004). Pro-poor microcredit in South Africa: cost-efficiency and productivity of South African pro-poor microfinance institutions. *Development Southern Africa, 21*(5), 785−798. https://doi.org/10.1080/0376835042000325705

Berger, A. N., & Di Patti, E. B. (2006). Capital structure and firm performance: A new approach to testing agency theory and an application to the banking industry. *Journal of Banking & Finance, 30*(4), 1065−1102. https://doi.org/10.1016/j.jbankfin.2005.05.015

Blanco, A., Pino-Mejías, R., Lara, J., & Rayo, S. (2013). Credit scoring models for the microfinance industry using neural networks: Evidence from Peru. *Expert Systems with Applications, 40*(1), 356−364. https://doi.org/10.1016/j.eswa.2012.07.051

Booth, L., Aivazian, V., Demirguc-Kunt, A., & Maksimovic, V. (2001). Capital structures in developing countries. *The Journal of Finance, 56*(1), 87−130. https://doi.org/10.1111/0022-1082.00320

Champion, D. (1999). Finance: the joy of leverage. *Harvard Business Review, 77*(4), 19−22.

Chikalipah, S. (2019). Optimal sources of financing for microfinance institutions in sub-Saharan Africa. *Development in Practice, 29*(3), 395−405. https://doi.org/10.1080/09614524.2018.1519011

Cull, R., Demirgüç–Kunt, A., & Morduch, J. (2011). Microfinance trade-offs: Regulation, competition and financing: *The handbook of microfinance* (pp. 141-157). World Scientific. https://doi.org/10.1142/9789814295666_0007

Deesomsak, R., Paudyal, K., & Pescetto, G. (2004). The determinants of capital structure: evidence from the Asia Pacific region. *Journal of Multinational Financial Management, 14*(4−5), 387−405. https://doi.org/10.1016/j.mulfin.2004.03.001

Dehejia, R., Montgomery, H., & Morduch, J. (2012). Do interest rates matter? Credit demand in the Dhaka slums. *Journal of Development Economics, 97*(2), 437−449. https://doi.org/10.1016/j.jdeveco.2011.06.001

Fama, E. F., & French, K. R. (2002). Testing trade-off and pecking order predictions about dividends and debt. *The Review of Financial Studies, 15*(1), 1−33. https://doi.org/10.1093/rfs/15.1.1

Ghosh, S., & Van Tassel, E. (2013). Funding microfinance under asymmetric information. *Journal of Development Economics, 101*, 8−15. https://doi.org/10.1016/j.jdeveco.2012.09.005

Gopalaswamy, A. K., Babu, M., & Dash, U. (2015). *Systematic review of quantitative evidence on the impact of microfinance on the poor in South Asia*. EPPI-Centre, Social Science Research Unit, Institute of Education, University College London.

Grossman, S. J., & Hart, O. D. (1982). Corporate financial structure and managerial incentives. In *The economics of information and uncertainty* (pp. 107-140). University of Chicago Press.

Harris, M., & Raviv, A. (1991). The theory of capital structure. *The Journal of Finance, 46*(1), 297−355. https://doi.org/10.1111/j.1540-6261.1991.tb03753.x

Hartarska, V., & Nadolnyak, D. (2007). Do regulated microfinance institutions achieve better sustainability and outreach? Cross-country evidence. *Applied Economics, 39*(10), 1207−1222. https://doi.org/10.1080/00036840500461840

Harelimana, J. B. (2017). Impact of mobile banking on financial performance of Unguka Microfinance Bank Ltd, Rwanda. *Global Journal of Management and Business Research, 17*(4), 1−13.

Hassan, M. K., & Bashir, A. H. M. (2003, December). Determinants of Islamic banking profitability. In *10th ERF annual conference, Morocco* (Vol. 7, pp. 2-31). file:///C:/Users/22910/Downloads/Determinants_of_Islamic_Banking_Profitability.pdf

Helms, B. (2006). *Access for all: Building inclusive financial systems*. The World Bank.

Henock, M. S. (2019). Financial sustainability and outreach performance of saving and credit cooperatives: The case of Eastern Ethiopia. *Asia Pacific Management Review, 24*(1), 1−9. https://doi.org/10.1016/j.apmrv.2018.08.001

Hermes, N., & Lensink, R. (2011). Microfinance: its impact, outreach, and sustainability. *World Development, 39*(6), 875−881. https://doi.org/10.1016/j.worlddev.2009.10.021

Hou, T. C. T. (2019). The relationship between corporate social responsibility and sustainable financial performance: Firm-level evidence from Taiwan. *Corporate Social Responsibility and Environmental Management, 26*(1), 19−28.

Hudon, M., & Traca, D. (2011). On the efficiency effects of subsidies in microfinance: An empirical inquiry. *World Development, 39*(6), 966−973. https://doi.org/10.1016/j.worlddev.2009.10.017

Jensen, M. C. (1986). Agency costs of free cash flow, corporate finance, and takeovers. *The American economic review, 76*(2), 323−329.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics, 3*(4), 305−360. https://doi.org/10.1016/0304-405X(76)90026-X

Kabeer, N. (2005). *Direct social impacts for the millennium development goals money with a mission volume 1-microfinance and poverty reduction*. Practical Action Publishing in association with GSE Research.

Kar, A. K. (2012). Does capital and financing structure have any relevance to the performance of microfinance institutions? *International Review of Applied Economics, 26*(3), 329−348. https://doi.org/10.1080/02692171.2011.580267

Kinde, B. A. (2012). Financial sustainability of microfinance institutions (MFIs) in Ethiopia. *European Journal of Business and Management*, *4*(15), 1−10.

Kyereboah-Coleman, A. (2008). Corporate governance and firm performance in Africa: A dynamic panel data analysis. *Studies in Economics and Econometrics, 32*(2), 1−24. https://hdl.handle.net/10520/EJC21470

Lensink, R., Mersland, R., Vu, N. T. H., & Zamore, S. (2018). Do microfinance institutions benefit from integrating financial and nonfinancial services? *Applied Economics, 50*(21), 2386−2401. https://doi.org/10.1080/00036846.2017.1397852

Lopatta, K., Jaeschke, R., & Chen, C. (2017). Stakeholder engagement and corporate social responsibility (CSR) performance: International evidence. *Corporate Social Responsibility and Environmental Management, 24*(3), 199−209.

Mahjabeen, R. (2008). Microfinancing in Bangladesh: Impact on households, consumption and welfare. *Journal of Policy Modeling, 30*(6), 1083−1092.

Marwa, N., & Aziakpono, M. (2015). Financial sustainability of Tanzanian saving and credit cooperatives. *International Journal of Social Economics, 42*(10), 870−887.

Modigliani, F., & Miller, M. H. (1963). Corporate income taxes and the cost of capital: A correction. *The American Economic Review, 53*(3), 433−443.

Myers, S. C. (1977). Determinants of corporate borrowing. *Journal of Financial Economics, 5*(2), 147−175. https://doi.org/10.1016/0304-405X(77)90015-0

Nyamsogoro, G. D. (2010). *Financial sustainability of rural microfinance institutions (MFIs) in Tanzania.* University of Greenwich.

Olomi, D. R. (2009). *African entrepreneurship and small business development: Context and process.* Dar es Salaam.

Chakravarty, S., & Pylypiv, M. I. (2015). The role of subsidization and organizational status on microfinance borrower repayment rates. *World Development*, *66*, 737−748. https://doi.org/10.1016/j.worlddev.2014.09.007

Roden, D. M., & Lewellen, W. G. (1995). Corporate capital structure decisions: evidence from leveraged buyouts. *Financial Management*, 24(2), 76−87. https://doi.org/10.2307/3665536

Ross, S., Westerfield, R., & Jaffe, J. (2002). *Corporate structure*. McGraw Hill/Irwin.

Sapundzhieva, R. (2011). Funding microfinance: A focus on debt financing. *Microfinance Bulletin*, *2011*, 1−8.

Schneider, L., & Greathouse, G. (2004). *Strategies for financial integration: Access to commercial deb*t. Women's World Banking, Financial Products and Services Occasional Paper, Women's World Banking.

Thapa, G. (2006). Sustainability and governance of microfinance institutions: recent experiences and some lessons for Southeast Asia. *Asian Journal of Agriculture and Development,* *3*(1362-2016-107617), 17−38. https://doi.org/10.22004/ag.econ.165786

Towo, N., Mori, N., & Ishengoma, E. (2019). Financial leverage and labor productivity in microfinance co-operatives in Tanzania. *Cogent Business & Management*, *6*(1), 1635334. https://doi.org/10.1080/23311975.2019.1635334

Williams, J. (1987). Perquisites, risk, and capital structure. *The Journal of Finance, 42*(1), 29−48.