

Determinants of Financial Sustainability of Microfinance Institutions in East Africa

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Abstract

Poverty eradication is at the forefront of the development strategy of Africa. Interventions through the delivery of microfinance services are considered as one of the policy instruments to eradicate poverty. However, for sustainable poverty alleviation, the MFIs themselves should be financially sustainable. Given the relation between the well being of the microfinance sector and the goal of poverty eradication, the purpose of this paper is to empirically investigate the determinants of financial sustainability of microfinance institutions in East Africa where poverty is a serious problem. Binary probit and ordered probit regression models are used in this study in identifying the factors that determine East African microfinance institutions' financial sustainability. Using unbalanced panel data collected from 23 microfinance institutions (MFIs) in East Africa from the period 2004 to 2009, the regression results reveal that MFIs' financial sustainability is positively and significantly driven by loans intensity and size. However, management inefficiency and portfolio at risk have a negative and significant impact on financial sustainability. Breadth of outreach and deposit mobilization are not important determinants of financial sustainability. Thus, management inefficiency, portfolio at risk, loans intensity, and size are important determinants of microfinance institutions' financial sustainability in East Africa.

Keywords: Financial sustainability, Microfinance institutions, East Africa.

1. Introduction

Poverty eradication is at the forefront of the development strategy of Africa. Limited access to credit by the poor has been identified as one of the factors contributing to poverty. Microfinance institutions help in reducing poverty by providing the poor with sustainable credit facility to start a small business. Empirical evidence establishes that less than 15 percent of the population in developing countries has access to the mainstream financial services (Aryeetey, 1995). The microfinance sector, apart from being a critical component of the financial system, is also regarded as a poverty reduction strategy for developing countries (kyereboah-coleman, 2007). It is in this regard that microfinance is very crucial.

The financial sustainability of MFIs is a necessary condition for institutional sustainability (Hollis & Sweetman, 1998). It has been argued that unsustainable MFIs will not help the poor in the future because the MFIs will be gone (Schreiner, 2000). According to Nyamsogoro (2010), it is better not to have MFIs than having unsustainable ones indicating how important the sustainability of MFIs is. As many people in East Africa are living below poverty line, the health of MFIs is very critical to the health of the general economy at large. Hence, the objective of this study is to identify the factors that influence the financial sustainability of MFIs in East Africa where poverty is a serious problem.

East Africa is the least developed region. Interventions through the delivery of microfinance services are considered as one of the policy instruments of their government to eradicate poverty. For sustainable poverty alleviation, the MFIs themselves should be sustainable. Given the relation between the well being of the microfinance sector and the goal of poverty eradication, knowledge of the underlying factors that influence the sectors financial sustainability is therefore essential not only for the managers of the MFIs, but for numerous stakeholders such as the central bank, governments, and other financial authorities.

Several studies have been conducted on the determinants of sustainability of microfinance institutions using large and well developed MFIs in various countries. However, the levels of significance of the factors that influence financial sustainability of MFIs vary with studies (Cull et al, 2007 & Christen et al, 1995 cited in Kinde, 2012). In addition, the results are mixed and empirical evidence regarding the determinants of East African MFIs' financial sustainability is also missing. Therefore, by using binary probit and ordered probit regression model, this study examined the determinants of East African microfinance institutions' financial sustainability during the period 2004-2009.

The remaining part of the paper is organized as follows: Section II provides a brief review of the literature on the determinants of MFIs' financial sustainability. Section III describes the data and methodology and section IV presents empirical results. Finally, section V concludes.

2. Literature Review

2.1 *The Concept of Microfinance and Sustainability*

Microfinance institutions have been defined by different scholars in different ways. The essence of the definition, however, is usually the same in which microfinance refer to the provision of financial services generally saving and credit to low income clients (Legerwood, 1999). Robinson (2001) defined microfinance as small scale financial services – primarily credit and saving provided to people who farm or fish or herd; who operate small enterprises or micro enterprises where goods are produced, recycled, repaired, or sold, who provide services, who work for wages or commissions; who gain income from renting out small amounts of land, vehicles, draft animals, or machinery and tools; and to other individuals and groups at the local levels of developing countries, both rural and urban.

Hartarska (2005) also defined microfinance as the provision of small scale financial services to low income people. Microfinance is an effective tool to fight poverty by providing financial services to those who do not have access to or are neglected by the commercial banks and other financial institutions (Dokulilova et al, 2009). However, for sustainable poverty alleviation, the MFIs themselves should be sustainable since unsustainable MFIs will not help the poor in the future because the MFIs will be gone (Schreiner, 2000).

The definition of sustainability has been given various interpretations. However, lately, scholars and experts converge to identify two levels of sustainability from the initial three or four - operational self-sufficiency (OSS) and financial self-sufficiency (FSS) (Iezza, 2010). The objective of FSS is to measure whether an institution earns enough revenues from loans to cover for operating expenses, financing costs, provision for loan losses and cost of capital which is excluded from the OSS. The cost of capital measures the capability to maintain the value of equity intact from inflation (Ibid). Following the MIX Market definition of sustainability Bogan et al (2007) described an MFI being operationally sustainable when OSS reaches 100% and financially sustainable when OSS reaches 110%. Operational sustainability (OSS) is measured as total financial revenue/ (Financial expense + Operating expense + Loan loss provision expense).

2.2 *Review of Prior Empirical Studies*

Research in the field of sustainability has flourished since when more attention has been given to the long term aspect of microfinance which can widespread around developing countries only if lending to the poor is proven to be sustainable (Iezza, 2010). Nawaz (2010) identified the determinants of MFIs profitability and sustainability using a panel data set of 179 MFIs worldwide. The evidence does not support the tradeoff between outreach and sustainability, however, the tradeoff between costs and sustainability of MFIs is well supported.

Bogan (2009) investigated the relationship between capital structure and sustainability of MFIs and found that increased use of grants by large MFIs decreases operational self sufficiency. Asset size is significantly and positively related to sustainability. However, the country level macroeconomic indicator variables (GDP and inflation) are not significant determinants of operational sustainability.

Using panel data collected from 53 MFIs in Uganda over a period of six years, Okumu (2007) examined the determinants of sustainability and outreach of MFIs. The study indicates that sustainability is negatively and significantly related to the ratio of gross outstanding loan portfolio to total assets. However, as the loan market, especially credit to households and firms, is risky and has a greater expected return than other assets, one would expect a positive relationship between loans intensity (loans/total asset) and profitability (Bourke, 1989).

Other studies done on determinants of profitability and therefore, sustainability show that management efficiency (reduced expenses) raise the profitability of financial institutions, implying a negative relationship between operating expense ratio and profitability (Bourke,1989). Pasiouras and Kosmidou (2007) and Kosmidou(2008) have also found that poor expenses management to be among the main contributors to poor bank profitability. However, Molyneux and Thornton (1992) found a positive relationship, suggesting that high profits earned by banks may be appropriated in the form of higher payroll expenditures paid to more productive human capital.

Regarding breadth of outreach, LOGOTRI (2006) found that larger number of borrowers is the biggest sustainability factor, on the contrary, Nyamsogoro (2010) on Tanzanian microfinance institutions reports negative and significant relationship between breadth of outreach and financial sustainability indicating that increase in number of borrower itself does not improve financial sustainability of microfinance institutions. The reason could be increased inefficiency as a result of increased number of borrowers. However, Hartarska (2005) reports that number of borrowers had no significant impact on financial sustainability.

The empirical evidence regarding the relationship between size and MFIs' sustainability shows a positive association. Studies by Nyamsogoro (2010), Bogan (2008), Mersland and Storm (2007) and Cull et al (2008) show that size is positively and significantly related to financial performance reflecting the cost advantages associated with size (economies of scale).

Portfolio at risk (PAR) is another variable that could influence MFIs' financial sustainability. The portfolio at risk measures how efficient an MFI is in making collections. The higher the PAR implies low repayment rates and therefore, less financial sustainability. A study by Nyamsogoro (2010) supports this negative relationship between PAR and financial sustainability.

The empirical result on the relationship between leverage and firm's profitability is mixed. A number of studies provide empirical evidence supporting a positive relationship between debt level and firm's performance or profitability (Roden and Lewellen, 1995; Champion, 1999; Berger and Udell, 2006) negative relationship between debt level and firm's performance or profitability (Rajan and Zingales, 1995; Wald, 1999; Booth et al, 2001; Fama and French, 2002). However, Kinde (2012) found that capital structure has insignificant impact on financial sustainability of MFIs.

Other studies (Uwalomwa and Uadiale, 2012; Abor, 2005; Bokpin, 2009) examined the relationship between short term debt and/or long term debt and the performance of firms. Using 31 listed companies on the floor of the Nigerian Stock Exchange over a period of 5 years (i.e. 2005 – 2009), Uwalomwa and Uadiale (2012) found that short-term debt has a significant positive relationship with the performance of firms suggesting that short-term debt tends to be less expensive; and therefore incremental short-term debt in capital structure tends to lead to an increase in performance levels of firms. Similarly, the study also revealed that while shareholders' fund (i.e. equity shareholders) has a significant positive impact on the performance of firms; on the other hand, it was observed that long term debt has a significant negative impact on the performance of firms since it is relatively more expensive due to certain direct and indirect costs associated with it. Abor (2005) also found a positive and significant relationship between short term debt to total asset and return on equity. However, Bokpin (2009) finds a statistically insignificant relationship for short term debt to total asset with return on equity in the emerging market economies.

In summary, empirical studies regarding the determinants of performance or sustainability provide mixed evidence; on the other hand there is no study that empirically examines the determinants of financial sustainability of MFIs in East Africa where poverty is a serious problem.

3. Data and Methodology

3.1. Data and Sampling

To identify the factors that influence the financial sustainability of MFIs, I utilized panel data on MFIs in East Africa for the years 2004 through 2009. This yielded unbalanced panel data for 23 MFIs, consisting of 121 observations. The MFIs' data is collected from individual institutions as reported to MIX market (www.mixmarket.org).

3.2. Variable Measurement, Hypotheses and Model Specification

There are some important issues that need to be dealt with in specifying an empirical model. These include choice of suitable outcome and predictor variables, measurement of these variables, developing hypotheses and specifying a baseline model. The remainder of this section discusses these concerns.

3.2.1. The Dependent Variable and its Measurement

In this study financial self sufficiency is used as dependent variable since the study seeks to identify determinants of financial sustainability of MFIs. In line with the work of Bogan (2009) the dependent variable is a binary outcome reflecting whether or not an MFI is financially sustainable (It takes 1 if an MFI is financially sustainable during a particular year and 0 otherwise). Given that the MFI data are obtained from MIX market, I utilized the MIX market definitions of financial sustainability (FSS) congruent with Bogan (2009). FSS is defined as having an operational sustainability level of 110% or more. Operational sustainability is measured as total financial revenue/ (Financial expense + Operating expense + Loan loss provision expense).

3.2.2. Explanatory Variables and their Measurement

The choice of predictor variables is based on their theoretical relationship with the outcome variable. Generally speaking, the chosen predictor variables are expected to partly explain the variation of the outcome variable. These explanatory variables and their measurement are as follows.

- a) Management inefficiency (OETA): Operating expense to total asset is used as an indicator of management's ability to control costs.
- b) Size of company (LNTA): In this study, total asset is used as a proxy for firm size. Firm Size = Natural logarithm of total assets
- c) Leverage (DE): It is a measurement of the relative level of debt. It is measured as: Total Debt/Total Equity.
- d) Portfolio at risk (PAR): This variable represents the level of credit risk or inversely portfolio quality and in this study the portfolio at risk greater than 30 days is used.
- e) Breadth of outreach (LNNB): It is measured as the natural logarithm of the number of active borrowers served by an MFI.

- f) Loans intensity (LTA): It is determined as the Gross Loan Portfolio as a percentage of total asset.
- g) Deposit mobilization (DTA): Proxy for deposit mobilization is the amount of total deposit as a percentage of total asset.

3.2.3 Research Hypotheses

The study tested the following research hypotheses formulated based on prior empirical literature.

- H1: Management inefficiency has a negative impact on the financial sustainability of MFIs.
- H2: Size of MFIs has a positive impact on the financial sustainability of the same.
- H3: There is a relationship between breadth of outreach and financial sustainability of MFIs.
- H4: Low portfolio quality is significantly associated with poor financial sustainability of MFIs.
- H5: Leverage has an impact on the financial sustainability of MFIs.
- H6: Loans intensity affects the financial sustainability of MFIs positively.
- H7: Deposit mobilization, since it is a short term debt, contributes toward the financial sustainability of MFIs.

3.2.4 Model specification

In order to investigate the determinants of financial sustainability of MFIs a probit regression model is employed where the dependent variable is whether or not an MFI is financially sustainable. This model was also used by Bogan (2009). Therefore, our baseline model could be specified as follows:

$$Y^*_{it} = \beta_0 + \sum_{j=1}^7 \beta_j X_{jit} + \varepsilon_{it} \quad \text{Eq.1}$$

Extending Eq.1 to reflect all the seven explanatory variables, the following regression model is obtained:

$$Y^*_{i,t} = \beta_0 + \beta_1 OETA_{i,t} + \beta_2 LNNTA_{i,t} + \beta_3 DE_{i,t} + \beta_4 PAR_{i,t} + \beta_5 LNNB + \beta_6 LTA_{i,t} + \beta_7 DTA_{i,t} + \varepsilon_{i,t} \quad \text{Eq.2}$$

Where:

Y* = continuous latent financial sustainability variable;

OETA = Management inefficiency;

LNNTA = Size of MFIs;

DE = Leverage;

PAR = Portfolio at risk;

LNNB = Breadth of outreach;

LTA= Loans intensity;

DTA = Deposit mobilization;

ε = is the error term

β_0 = Constant

$\beta_{1,2,3,\dots,7}$ are logit coefficients to be estimated;

i = MFI i, t= time t

The probability that a particular MFI will be financially sustainable (P(Y=1)) can be predicted using the following equation:

$$P(Y = 1) = \frac{1}{1 + e^{-Z}} \quad \text{Eq.3}$$

Where

$$Z = \beta_0 + \beta_1 OETA_{i,t} + \beta_2 LNNTA_{i,t} + \beta_3 DE_{i,t} + \beta_4 PAR_{i,t} + \beta_5 LNNB + \beta_6 LTA_{i,t} + \beta_7 DTA_{i,t}$$

For Tables 2 and 3 (probit and ordered probit regression outputs), standard errors are adjusted (clustered) to account for the fact that there are multiple observations for a specific MFI.

A test for multicollinearity was performed using variance inflation factor (VIF). The VIF value for each explanatory variable becomes less than 8 indicating that multicollinearity problems are not of concern.

Table 1: VIF Result

Variable	VIF	1/VIF
LNNTA	7.51	0.133176
LNNB	5.57	0.179619
DTA	2.11	0.473936
OETA	1.44	0.694852
PAR	1.22	0.817463
DE	1.19	0.840463
LTA	1.17	0.852060
Mean VIF	2.89	

As a rule of thumb, if the VIF for a variable exceeds 10, that variable is said to be highly collinear (Gujarati and Sangeetha, 2008).

4. EMPIRICAL RESULTS

In this section, a discussion of the determinants of financial sustainability of East African MFIs measured by using probit and ordered probit regression is presented. The regression results focusing on the relationship between MFIs financial sustainability and the explanatory variables are presented in Table 2 and 3. Table 2 presents the binary probit regression output whereas Table 3 presents the ordered probit regression result

Table 2: Probit Regression Results

Independent Variables	Dependent Variable:FSS Coef.	P>z
DE	-.1098935	0.039**
DTA	.0026928	0.769
LTA	.0212935	0.041**
OETA	-.0682633	0.000*
PAR	-.0593378	0.025**
LNNB	-.3709057	0.179
LNTA	.5706918	0.054***
_cons	-4.982593	0.061
Number of observations	121	
Model Fitness Test	Wald Chi2(7)=40.27 Prob> Chi2=0.0000	

Notes: 23 MFIs, period 2004-2009, No. of observations=121, * 99% level of confidence. **95% level of confidence. *** 90% level of confidence

A model fitness test is checked by the Wald test (Wald chi2(7)=40.27, prob> chi2 = 0.0000). This shows that the explanatory power of the model is reasonably high.

The coefficient of operating expense /asset ratio (OETA) is, as expected, negative indicating a negative relationship with MFIs' financial sustainability. The result is statistically significant at the 1% level and implies that a decrease (an increase) in this variable increases (reduces) the financial sustainability of MFIs operating in East Africa. Consistent to this finding, Pasiouras and Kosmidou (2007), Bourke (1989) and Kosmidou (2008) have also found that poor expenses management to be among the main contributors to poor financial institutions' profitability.

The coefficient of debt/equity ratio (DE) is negative and statistically significant (P>Z=0.039). This may be due to the fact that MFIs(eg. Those in Ethiopia) do not pay dividends and this makes equity a relatively cheap source of finance compared to debt financing. A number of studies provide empirical evidence supporting this negative relationship between debt level and firm's performance or profitability (Rajan and Zingales, 1995; Wald, 1999; Booth et al, 2001; Fama and French, 2002).

The coefficient of loan to asset ratio (LTA) is positive and statistically significant at the 5% level. This shows that financial sustainability is positively and significantly influenced by the ratio of gross loan portfolio to total asset. The gross loan portfolio is the main source of income to a MFI and thus, other things constant, the higher the loan, the higher the interest revenue and profits. However, if a MFIs' risk increase when its loan to asset ratio increase, then profits may decrease. This result contradicts with findings of previous literature which document a negative impact of LTA on MFIs' sustainability (Okumu,2007).

The coefficient of portfolio at risk (PAR) is negative which is consistent with the hypothesis. The result is statistically significant at 5% level. This result may be explained by considering the fact that the more MFIs are exposed to credit risk, the higher is the accumulation of unpaid loans and lost interest income which reduces financial sustainability of MFIs. As expected the deposit /asset ratio is positively related to financial sustainability. However, the result is not statistically significant since p-value is greater than 10%.

In addition, the results revealed that there is a tradeoff between breadth of outreach (LNNB) and financial sustainability though the result is not statistically significant. Finally it is found that size is positively and significantly (P>Z=0.054) related to financial sustainability which may be due to economies of scale.

As a robustness check, the sensitivity of the results to the definitions of operational and financial sustainability is tested by using an ordered probit regression model

Table 3: Ordered Probit Regression Results

Independent Variables	Dependent Variable:FSS Coef.	P>z
DE	-.0526722	0.290
DTA	.0050514	0.550
LTA	.0269521	0.013**
OETA	-.0515207	0.002*
PAR	-.0625054	0.008*
LNNB	-.1824561	0.429
LNTA	.4834839	0.068***
/cut1 =	5.594035	
/cut2	6.444324	
Number of observations	121	
Model Fitness Test	Wald Chi2(7)=52.88	
	Prob> Chi2=0.0000	

Notes: 23 MFIs, period 2004-2009, No. of observations=121, * 99% level of confidence. **95% level of confidence. *** 90% level of confidence

With this specification, the dependent variable is a categorical variable in which Y=0 if the MFI is operationally and financially unsustainable, Y=1 if the MFI is only operationally sustainable and Y=2 if the MFI is financially sustainable. The results of the ordered probit regression are consistent with the results in Table 2 in that management inefficiency and credit risk are negatively and significantly related to financial sustainability and loans intensity and size have a positive and statistically significant impact on financial sustainability. Although the coefficient of leverage also has the same sign, it is not statistically significant in this model.

5. Conclusions

This study examined the determinants of financial sustainability of East African MFIs. Unbalanced panel data for 23 MFIs consisting of 121 observations, covering the period 2004 – 2009, provided the basis for the econometric analysis.

The results indicate that MFIs' financial sustainability is positively and significantly influenced by the ratio of gross loan portfolio to total asset and size. Management inefficiency measured by operating expenses /asset ratio and credit risk measured by PAR > 30 days are found to have a negative and significant impact on financial sustainability of MFIs. Therefore, by influencing these factors, a MFI could be able to improve its financial sustainability.

Thus, management inefficiency, loans intensity, portfolio at risk, and size are important determinants of MFIs' financial sustainability in East Africa. Finally, further research could examine the determinants of credit risk and lending behavior since these variables are the main determinants of financial sustainability but studies aimed at investigating the same are missing.

References

- Abor, J. (2005), "The effect of capital structure on profitability: The empirical analysis of listed firms in Ghana", *Journal of Risk Finance*, Vol. 6, pp. 438-47.
- Aryeetey, E.(1995) "Credit for Enterprise Development" in Aryeetey, E.(Ed.), Small Enterprise credit in West Africa, a joint British Council/ISSER publication, British Council/ISSER,Accra.
- Berger, A. and Udell, P.(2006) "Capital Structure and Firm Performance: a new approach to testing agency Theory and an application to the banking industry". *Journal of Banking and Finance*, Vol.30:1065-102
- Bogan, V.,Johnson, W.,Mhlangay, N. (2007) "Does Capital Structure Affect the Financial Sustainability of Microfinance Institutions?", Cornell university
- Bogan V. (2008) "Microfinance Institutions: Does Capital Structure Matter", Cornell University
- Bogan V. (2009) "Capital Structure and Sustainability: An Empirical Study of Microfinance Institutions", Cornell university
- Bokpin, G.A. (2009), "Macroeconomic development and capital structure decisions of firms: Evidence from emerging market economies", *Studies in Economics and Finance*, Vol. 26 No. 2, pp. 129-142.
- Booth, L., Aivazian, V., Hunt, A., Maksimovic, D. (2001) "Capital Structure in Developing Countries". *Journal of Finance*, Vol.56:87-130
- Bourke, P. (1989) "Concentration and other Determinants of Bank profitability in Europe, North America and Australia". *Journal of Banking and Finance*, 13:65-79

- Champion, D. (1999) "Finance: the joy of leverage" *Harvard Business Review*, Vol.77:19-22
- Christen, P., Rhyne, E., Vogel, R. and McKean, C. (1995), "Maximizing the outreach of microenterprise finance", [Online] Available: <http://www.microfinancegateway.org/files/150701507/pdf> (October 25, 2011) cited in Kindie B.A.(2012) "Financial sustainability of microfinance institutions (MFIs) in Ethiopia", *European Journal of Business and Management*, Vol.4 No.15 PP:1-11
- Cull, R., Demirgüç-Kunt, A. and Morduch, J. (2007) "Financial Performance and Outreach: A Global Analysis Of Leading Micro Banks." *Economic Journal*, 117(517), PP: 107-133.
- Cull R. Demirgüç-Kunt A. and Morduch J. (2008) "Does Microfinance regulation curtail profitability and outreach?" NYU Robert Wagner Graduate School of public service paper.
- Dokulilova L., Janda K., Zetek P. (2009) "Sustainability of Microfinance Institutions in Financial Crisis." MPRA paper No.17696. Charles University in Prague.
- Fama, E. and French, K. (2002) "Testing Tradeoff and Pecking Order Predictions about Dividends and Debt". *Review of Financial studies*, Vol.15:1-33
- Gujarati, D.N and Sangeetha (2008) "Basic Econometrics." The Tata McGraw-Hill Companies, 4th Ed. (India)
- Hartarska, V. (2005), "Government and performance of microfinance institutions in Central and Eastern Europe", *World Development*, vol. 33, pp. 1627-43.
- Hollis, A. and Sweetman, A. (1998), "Micro-credit: What can we learn from the past?", *World Development*, vol. 26, pp.1875-91.
- Iezza, P.(2010) "Financial sustainability of microfinance institutions (MFIs): an empirical analysis", Master's Thesis, Copenhagen Business School.
- Kindie B.A. (2012) "Financial sustainability of microfinance institutions (MFIs) in Ethiopia", *European Journal of Business and Management*, Vol.4 No.15 PP:1-11
- Kosmidou, K.(2008) "The Determinants of Banks' profits in Greece during the Period of EU Financial Integration". *Managerial Finance*, 34, no.3:146-59
- Kyereboah-coleman, A. (2007) "The Impact of Capital Structure on the Performance of Microfinance Institutions" ,*The Journal of Risk Finance*, Vol.8 No.1, PP: 56-71.
- Legerwood, J.(1999) "sustainable banking with the poor microfinance handbook: An institutional and financial perspective", the World Bank, Washington, DC.
- LOGOTRI (2006), "Building sustainable microfinance system: A growth of catalyst for the poor", Local government training and research institute, society for development studies, [Online] Available: <http://www.logotri.net> (September 10,2011).
- Mersland R. and Strøm R. Ø. (2007) "Performance and Corporate Governance in Microfinance Institutions" Agder University, Norway
- Molyneux, P. and Thornton J.(1992) "Determinants of European Bank Profitability: A note". *Journal of Banking and Finance*,16:1173-1178
- Nawaz A. (2010) "Issues in Subsidies and Sustainability of Microfinance: An Empirical Investigation" Pakistan Institute of Development Economics, CEB Working paper No. 10/010
- Nyamsogoro, G. D. (2010) "Financial sustainability of rural microfinance institutions in Tanzania", PhD thesis, University of Greenwich, Australia.
- Okumu L.J (2007) "The Microfinance Industry in Uganda: Sustainability, Outreach and Regulation" unpublished PhD Dissertation, University of Stellenbosch.
- Pasiouras, F and Kosmidou(2007) "Factors Influencing the Profitability of Domestic and Foreign Commercial Banks in the European Union". *Research in International Business and Finance* 21, no.2:222-37
- Rajan, R. and Zingales, L. (1995) "What Do We Know about Capital Structure? Some Evidence from International Data". *Journal of Finance*, Vol.50:1421-60
- Robinson, M.(2001) " The microfinance revolution: sustainable banking for the poor", Washington, DC:The World Bank.
- Roden, D. and Lewellen,W. (1995) "Corporate Capital Structure Decissions: Evidence from leveraged buyouts". *Financial Management*, Vol.24:76-87
- Schreiner, M. (2000), "Ways donors can help the evolution of sustainable microfinance organizations", *Savings and Development*, vol. 24, pp. 423-37.
- Uwalomwa, U. and Uadiale, O. M. (2012). "An Empirical Examination of the Relationship between Capital Structure and the Financial Performance of Firms in Nigeria", *euroeconomica*, issue 1(31).
- Wald, J. (1999) "How Firm characteristics Affect Capital Structure: an international comparison". *Journal of Financial Research*, Vol.22:161-87

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