



ROLE OF CAPITAL STRUCTURE ON PERFORMANCE OF MICROFINANCE INSTITUTIONS OF ASIA

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INTRODUCTION

- Financing is rare for many poor people around the world who wish to improve their living standard. Microfinance is not a new concept, microfinance operations started in 1970s by Professor Muhammad Yunus founder of Grameen bank.
- Micro financing is the provision of financial services to low income people with small business activities.
- Sustainability is the ability to sustain or long-term continuation of the Microfinance programme after the project activities have been discontinued.
- Unsustainable MFIs might help the poors , but they would not be able to help the poors in the future because the MFIs will be gone.

Introduction (cont'd)

- For MFIs to become financially sustainable the capital structure composition is important.
- This motivates to undertake study to determine the factors that affect the sustainability and capital structure composition of MFIs in Asia where the level of poverty is wide and deep and MFIs are fastest in growing.
- This study focuses on the effect of capital structure on MFIs sustainability, efficiency, productivity and outreach to identify the opportunities for increasing the sustainability and growth of lending institutions.

Objective

- To identify how capital structure composition (deposit to asset, debt to asset, share capital to asset, debt to equity and grants to assets) affects the performance of MFIs, by focusing on return on assets, return on equity, operational and financial self-sufficiency and outreach.
- To examine the impact of MFI specific factors such as size of MFI, female borrowers, and legal status of MFIs in addition to capital structure variables.
- To examine the role of economic conditions such as GDP growth and inflation along with capital structure variables affect the performance of MFI.
- To examine the regional effect on MFI (using regional dummies) including capital structure variables, MFI specific and country specific variables.

SIGNIFICANCE OF THE STUDY

- Lack of serious empirical work in Asia that exclusively focuses to understand the importance of microfinance capital structure and its (sustainability and outreach) therefore this study fills this gap.
- This study allows to check effects of capital structure on microfinance performance measured by operational self-sufficiency, financial self-sufficiency, Return on asset, Return on equity, outreach and management efficiency.
- This study contributes to the existing literature in several dimensions: It includes different variables to capture capital structure impact

LITERATURE REVIEW

Researcher	Year	Research
Abor	(2005)	The findings show a positive relationship between the short-term debt ratio and profitability. While a negative relationship between long-term debt ratio and profitability. Other studies supporting this positive association between debt level and firm's performance are (Champion, 1999; Gill, Biger, & Mathur, 2011; Hadlock & James, 2002; Hutchinson, 1995; Roden & Lewellen, 1995; Taub, 1975).
Berger and Bonaccorsi di Patti	(2006)	argues that capital structure and firm performance could be closely correlated with each other. And the findings are consistent with the agency theory that high leverage reduces the agency costs of outside equity and increases firm value by inspiring managers to act more in the interests of shareholders of the firm.
Silva	(2008)	Found that microfinance institutions use long term debt financing for their operations that might have less pressure on the management of MFI. It also highlights that profitable microfinance institutions depend more on long term debt financing.

Researcher	Year	Research
Kyereboah-Coleman	(2007)	conducted a same study by exactly taking the same research phenomena but with some more control variables. Total debt, short term debt and long term are used as capital structure indicators whereas return on asset and return on equity are used as profitability measures. Age, size and risk level are used as control variables.
Kar	(2012)	conducted a study by using a panel dataset of 782 MFIs. The study seeks to answer the question that “Does financing structure have any significance with the performance of microfinance institutions?” with the perspective an agency theory. The results of the study confirm the agency theoretic claim that an increase in leverage raises profit-efficiency
Kinde	(2012)	The findings showed that debt to equity ratio has insignificant and negative impact on financial sustainability of MFIs while there is a significant and negative relationship between financial sustainability and dependency ratio at 1% level of significance.
Lislevand, C.J.	(2012)	The findings indicate that mostly the MFIs are highly leveraged and uses approximately four times more debt financing than equity. There were no significance between the debt to equity ratios and MFIs performance.

Researcher	Year	Research
Sekabira	(2013)	The study indicate that debt and grants have a damaging consequences on MFIs performance hence funding structure is a crucial aspect of MFIs sustainability. Such MFIs which have a better share capital composition in their capital structure are more associated with sustainability as debts and grants composition sinks such sustainability.
Ngo	(2013)	The study propounded that profitable and regulated MFIs which considerably relay largely on debt financing constitutes higher level of sustainability, efficiency and outreach. MFIs can expand their outreach to achieve sustainability based on the advantages of economies of scale. There is a causal relationship between outreach and sustainability, Sustainable MFIs tend to serve the large number of borrowers.
Tehulu	(2013)	examine that leverage has a significant and negative impact on financial sustainability of MFIs. Financial sustainability is positively and significantly influenced by the gross loan portfolio to total asset and size of the firm whereas efficiency and credit risk have a negative and significant impact on financial sustainability of MFIs.

THEORETICAL FRAMEWORK

Capital structure theory:

- *The Modigliani Miller Theorem*
- *The trade-off theory*
- *Pecking Order Theory*
- *Agency cost theory*

Hypothesis

The following hypothesis will test the relationships.

H1: Highly debt financed microfinance institutions has more sustainability

H2: Highly debt financed microfinance institutions has more financial performance

H3: Highly debt financed microfinance institutions has more social performance

H4: Large deposit to asset ratio, in microfinance institutions has more sustainability

H5: Large deposit to asset ratio, in microfinance institutions has more financial performance

H6: Large deposit to asset ratio, in microfinance institutions has more social performance

H7: Highly debt financed microfinance institutions are more efficient

H8: There exist a tradeoff between breadth of outreach and depth of outreach

The variables definition and their

DEPENDENT VARIABLE				
Variables	Abbreviations	Effect	Definition	Source
Operational-self sufficiency	OSS		$\text{Financial Revenue} / (\text{Financial Expense} + \text{Impairment Losses on Loans} + \text{Operating Expense})$	MIX Market
Financial-self sufficiency	FSS		$\text{Adjusted Financial Revenue} / \text{Adjusted} (\text{Financial Expense} + \text{Impairment Losses on Loans} + \text{Operating Expense})$	MIX Market
Return on assets	ROA		Net profit to total assets	MIX Market
Return on equity	ROE		Net profit to total equity	MIX Market
Breadth of outreach	LNAB	Negative	Log of active borrowers	MIX Market
Depth of outreach	ALS		Average loan size per borrowers	MIX Market
Management efficiency	MEFF		Operating expense to total asset costs	MIX Market

Loan intensity	LI	Positive	Gross loan portfolio as a percentage of total assets	MIX Market
Portfolio at risk>30days	PAR	Negative	The level of credit risk or inversely portfolio quality	MIX Market
cost per borrower	CB	Negative	Cost associated with borrowing	MIX Market
Productivity	PRO	Positive		MIX Market
female borrower	FB	Negative	Female clients	MIX Market
Loan loss rate	LLR	Negative	Non receivables	MIX Market
Young MFIs	YNG	Indeterminate	Dummy	MIX Market
Active borrowers	LNAB	Negative	Number of borrowers with loan outstanding	MIX Market
Mature	MAT	Positive	Dummy	MIX Market
Firm Size	FS	Positive	Natural logarithm of total assets	MIX Market
Regulated	REG	Indeterminate	Dummy	MIX Market

Banks	Bank	Indeterminate	Dummy	MIX Market
Nongovernment organizations	NGO	Indeterminate	Dummy	MIX Market
Debt relative to assets (%)	DTA	Negative	Total debt/ total assets	MIX Market
Deposits relative to assets (%)	DA	Positive	Number of deposits/ total assets	MIX Market
Grants as a % of asset	GA	Negative	Grants/ total assets	MIX Market
Share capital as a % of assets	SA	Negative	Share capital/ total assets	MIX Market
Debt on total equity (%)	DTE	Negative	Total debt/ total equity	MIX Market
Gross domestic product	GDP	Indeterminate	Gross domestic product	WDI
Inflation	INF	Negative	Inflation	WDI

Variables definition:

- OSS
- FSS
- ROA
- ROE
- LNAB
- ALS



Financial Revenue (Total)

(Financial Expense + LoanLoss Provision Expense + Operating Expense)

Adjusted(Financial Revenue (Total)

Adjusted (Financial Expense + LoanLoss Provision Expense + Operating Expense)

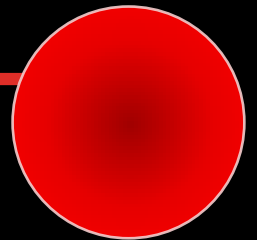
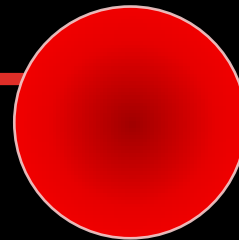
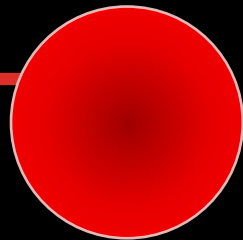
- Net profit to total assets
- Net profit to shareholders equity
- Number of active borrowers
- Average loan balance per borrower (Hisakoo 2009)

DATA AND METHODOLOGY:

- Observations are from 2000-2013

- Panel data
- GGM

- Data is taken from the mix market and the audit reports



DATA AND METHODOLOGY: (cont'd)

- The data collected for the microfinance institution from the microfinance information exchange.
- The data is collected from four regions of Asia where MFIs are growing fast and poverty is relatively high such as Eastern Europe and Central Asia, the Middle East and North Africa, East Asia and Pacific and South Asia
- The data of macroeconomic variables is collected from world development index.
- The panel data estimation is done by applying Generalized method of moments to avoid endogeneity. The lag explanatory variables are used as instrument and validity of the instruments is checked by Sargan J test
- The Hausman support fixed effect models for 1, 2 and 3 whereas model 4 with regional dummies Generalized least square is used

PERFORMANCE MEASURES OF MICROFINANCE

Sustainability:

- *Operational self sufficiency*
- *Financial self sufficiency*

Financial performance:

- *Return on assets*
- *Return on equity*

Social performance:

- *Breadth of outreach*
- *Depth of outreach*

Management efficiency

The study applies the following model suggested by Bogan (2009) and Ngo (2013). Hence the baseline model is specified as follows:

$$Perf_{ijt} = \alpha_0 + \sum_i \alpha_i X_{ijt} + \sum_i \beta_i Y_{ijt} + \sum_j \gamma_j Z_{ijt} + \sum_k \phi_k R + \varepsilon_{ijt}$$

IMPACT OF CAPITAL STRUCTURE ON SUSTAINABILITY

- Microfinance institutions attain sustainability when its operating income from loans is enough to cover up all the operating cost (Sharma, 1997)
- In this study sustainability is measured by two proxies namely operational self-sufficiency (OSS) and financial self-sufficiency (FSS).

Model of sustainability:

$$\begin{aligned} sustainability_{ijt} = & \\ & \alpha_0 + \alpha_1 DA_{ijt} + \alpha_2 DTA_{ijt} + \alpha_3 GA_{ijt} + \alpha_4 SA_{ijt} + \alpha_5 DTE_{ijt} + \alpha_6 LNAB_{ijt} + \alpha_7 PRO_{ijt} + \\ & \alpha_8 CB + \alpha_9 FB_{ijt} + \alpha_{10} LL_{ijt} + \alpha_{11} LI_{ijt} + \alpha_{12} PAR_{ijt} + \alpha_{13} GDP_{ijt} + \alpha_{14} INF_{ijt} + \varepsilon_{ijt} \end{aligned}$$

IMPACT OF CAPITAL STRUCTURE ON FINANCIAL PERFORMANCE

The financial performance of microfinance institution is measured by return on assets (ROA) and return on equity(ROE):

$$\begin{aligned} \text{FincialPerf}_{ijt} = & \\ & \alpha_0 + \alpha_1 DA_{ijt} + \alpha_2 DTA_{ijt} + \alpha_3 GA_{ijt} + \alpha_4 SA_{ijt} + \alpha_5 DTE_{ijt} + \alpha_6 LNAB_{ijt} + \alpha_7 PRO_{ijt} + \\ & \alpha_8 CB + \alpha_9 FB_{ijt} + \alpha_{10} LL_{ijt} + \alpha_{11} LI_{ijt} + \alpha_{12} PAR_{ijt} + \alpha_{13} GDP_{ijt} + \alpha_{14} INF_{ijt} + \varepsilon_{ijt} \end{aligned}$$

IMPACT OF CAPITAL STRUCTURE ON SOCIAL PERFORMANCE

The social performance is measured by number of active borrowers to capture breadth of outreach and average loan size to measure depth of outreach.

$$\begin{aligned} \text{SocialPerf}_{ijt} = & \alpha_0 + \alpha_1 DA_{ijt} + \alpha_2 DTA_{ijt} + \alpha_3 GA_{ijt} + \alpha_4 SA_{ijt} + \alpha_5 DTE_{ijt} + \alpha_6 ROA_{ijt} + \alpha_7 PRO_{ijt} + \alpha_8 CB \\ & + \alpha_9 FB_{ijt} + \alpha_{10} LL_{ijt} + \alpha_{11} LI_{ijt} + \alpha_{12} PAR_{ijt} + \alpha_{13} GDP_{ijt} + \alpha_{14} INF_{ijt} + \varepsilon_{ijt} \end{aligned}$$

IMPACT OF CAPITAL STRUCTURE ON MANAGEMENT EFFICIENCY

The management efficiency is measured by operational expense to total asset ratio.

$$MEFF_{ijt} = \alpha_0 + \alpha_1 DA_{ijt} + \alpha_2 DTA_{ijt} + \alpha_3 GA_{ijt} + \alpha_4 SA_{ijt} + \alpha_5 DTE_{ijt} + \alpha_6 ROA_{ijt} + \alpha_7 PRO_{ijt} + \alpha_8 CB + \alpha_9 FB_{ijt} + \alpha_{10} LL_{ijt} + \alpha_{11} LI_{ijt} + \alpha_{12} PAR_{ijt} + \alpha_{13} GDP_{ijt} + \alpha_{14} INF_{ijt} + \varepsilon_{ijt}$$

RESULTS OF IMPACT OF CAPITAL STRUCTURE VARIABLES ON OPERATIONAL SELF SUFFICIENCY:

OSS	Model 1	Model 2	Model 3	Model 4
C	1.746*** (1.779)	-0.221 (-0.460)	-4.362 (-1.471)	0.907 (0.550)
DA	0.001*** (11.49)	-0.101*** (11.28)	-0.109*** (-12.17)	-0.120*** (-12.47)
GA	0.001*** (6.21)	0.005*** (8.86)	-0.005*** (9.32)	-0.005*** (9.30)
SA	0.334*** (4.29)	-0.371 (3.83)	-0.370 (-4.13)	-0.565*** (-5.31)
DTA	-0.134** (1.80)	-0.145*** (3.59)	-0.144*** (-3.39)	-0.183*** (-2.30)
DTE	0.009** (1.99)	0.021*** (3.19)	0.022*** (2.81)	0.029*** (2.90)
LNAB		-0.01*** (9.53)	-0.007*** (-11.48)	-0.008*** (-11.79)
FS		0.141*** (8.52)	0.137*** (9.47)	0.156*** (8.48)
PRO		0.002 (0.61)	0.002 (-0.76)	0.001*** (-3.44)
CB		0.011*** (2.98)	0.015*** (3.77)	-0.027*** (3.61)
FB		-2.790 (0.61)	-0.228 (-0.47)	-0.368 (-0.72)
LL		-0.721*** (3.41)	-0.678*** (-3.04)	-0.631*** (-4.48)

LI		0.032 (1.50)	0.042*** (2.08)	0.056*** (3.25)
PAR		-0.329 (1.08)	-0.279 (-1.10)	-0.368 (-1.06)
YNG		6.88*** (2.20)	6.477*** (2.50)	9.285*** (2.89)
MAT		5.35** (1.95)	5.276** (1.83)	9.771** (1.98)
NGO		7.25** (2.53)	6.807** (2.32)	8.791*** (3.30)
Bank		-4.70 (0.00)	-4.258 (0.00)	-0.002 (0.00)
REG		-4.39 (1.38)	0.001 (-1.26)	-5.666 (-1.16)
GDP			0.601*** (3.27)	0.003*** (3.61)
INF			0.603 (1.10)	-0.428 (1.05)
SA				-7.782*** (4.30)
EE				-6.393* (-1.74)
EA				9.682 (1.21)
¹ Hausman(p value)	0.000	0.000	0.001	
² Sargan J test (p-value	0.000	0.000	0.000	
R ²	0.355	0.377	0.398	0.401

RESULTS OF IMPACT OF CAPITAL STRUCTURE VARIABLES ON FINANCIAL SELF SUFFICIENCY:

FSS	Model 1	Model 2	Model 3	Model 4
C	0.129 (1.475)	-0.103 (-0.209)	-4.447 (-1.461)	-0.038 (-0.024)
DA	-0.011*** (-7.35)	-0.796*** (-8.06)	-0.779*** (-8.56)	-0.950*** (-8.67)
GA	-0.005*** (-5.17)	-0.004*** (-6.68)	0.004*** (6.98)	-0.004*** (-7.03)
SA	0.293*** (14.09)	-0.220** (-2.20)	-0.219*** (-2.33)	-0.381*** (-3.39)
DTA	-0.128*** (-2.24)	-0.113*** (2.32)	-0.109*** (-2.16)	-0.149*** (-1.83)
DTE	0.011*** (2.36)	0.022*** (3.02)	0.023*** (2.74)	-0.029*** (2.85)
LNAB		-0.006*** (6.83)	-0.005*** (-8.21)	-0.006*** (-8.53)
FS		0.112*** (6.54)	0.108*** (7.17)	0.126*** (6.38)
PRO		0.002 (0.46)	0.003 (-0.65)	0.001*** (-2.97)
CB		0.003 (0.66)	0.005 (0.96)	-0.015*** (2.23)
FB		-0.508 (1.05)	-0.452 (-0.91)	0.593 (-1.13)

LL		-0.153 (6.57)	-0.148 (-6.13)	-1.276*** (-7.85)
LI		0.037 (1.96)	0.047 (2.56)	0.055*** (3.27)
PAR		-0.542 (1.38)	-0.490 (-1.45)	-0.606 (-1.39)
YNG		9.876*** (3.11)	9.431*** (3.47)	11.154*** (3.29)
MAT		7.670*** (2.47)	7.593*** (2.31)	11.838*** (2.29)
NGO		5.341*** (2.06)	4.872*** (1.85)	6.284*** (2.43)
Bank		-7.729 (0.00)	-7.250 (0.00)	-9.193 (0.00)
REG		-7.668*** (2.38)	0.002*** (-2.26)	-9.193*** (-1.88)
GDP			0.627*** (3.43)	0.472*** (3.55)
INF			0.626 (1.12)	-0.665 (1.12)
SA				-5.998*** (-3.35)
EE				8.619* (-1.74)
EA				8.619 (1.16)
¹ Hausman(p- value)	0.001	0.000	0.002	
² Sargan J test (p-value	0.001	0.001	0.001	
R ²	0.680	0.390	0.411	0.430

IMPACT OF CAPITAL STRUCTURE ON FINANCIAL PERFORMANCE (ROA):

ROA	Model 1	Model 2	Model 3	Model 4
C	0.001 (1.049)	0.001 (-0.441))	0.001 (0.770)	0.002 (0.969)
DA	0.001*** (7.50)	-0.031** (1.99)	-0.031** (-1.99)	-0.039** (-1.97)
GA	0.001** (1.83)	0.002*** (2.33)	0.001*** (2.35)	0.001*** (2.62)
SA	0.039*** (4.14)	0.004 (0.15)	0.003 (0.11)	0.043*** (2.44)
DTA	0.022*** (7.13)	0.042*** (4.06)	0.042*** (4.12)	0.043*** (1.76)
DTE	0.001 (0.98)	0.001 (0.53)	0.002 (0.52)	-0.001*** (4.23)
LNAB		0.003*** (2.30)	0.002*** (-2.42)	0.001*** (-2.63)
FS		0.002* (1.77)	0.002* (1.81)	0.002*** (3.05)
PRO		0.001 (0.44)	0.000 (0.45)	0.002 (0.72)
CB		0.001 (4.91)	0.003 (-5.02)	0.001*** (-2.34)
FB		-0.003 (0.42)	-0.002 (-0.30)	-0.001 (-4.95)

LL		-0.004 (4.12)	-0.004 (-4.10)	-0.004 (-0.17)
LI		0.002 (0.80)	0.002 (0.84)	0.001 (-4.39)
PAR		-0.062** (1.88)	-0.062** (-1.88)	-0.064** (-1.72)
YNG		0.043*** (3.05)	0.043*** (2.98)	0.041*** (3.02)
MAT		0.040*** (3.53)	0.040*** (3.49)	0.040*** (3.84)
NGO		-0.0138*** (2.28)	-0.013*** (-2.33)	-0.011*** (-1.94)
Bank		-0.010 (0.00)	-0.010 (0.00)	-0.010 (0.00)
REG		-0.010 (1.45)	0.000 (-1.41)	0.001 (-1.52)
GDP			0.003*** (2.90)	0.001*** (2.91)
INF			-0.001* (-1.78)	-0.002* (-1.73)
SA				-0.002 (0.38)
EE				0.041 (0.63)
EA				-0.041** (-2.27)
¹ Hausman(p value)	0.001	0.000	0.001	
² Sargan J test (p-value)	0.001	0.001	0.001	
R ²	0.377	0.394	0.400	0.423

IMPACT OF CAPITAL STRUCTURE ON FINANCIAL PERFORMANCE (ROE):

ROE	Model 1	Model 2	Model 3	Model 4
C	0.201 (1.333)	0.004 (0.058)	0.038 (0.895)	0.066 (0.817)
DA	0.002*** (3.14)	0.145*** (1.27)	1.439 (1.27)	0.914 (1.38)
GA	0.001 (0.88)	0.002 (1.54)	0.002 (-1.54)	-0.001 (-1.63)
SA	-0.855 (1.03)	-0.254 (1.12)	-2.553 (-1.12)	-0.314 (-1.05)
DTA	0.341*** (2.91)	-0.175 (1.02)	-1.697 (-1.02)	-0.186 (-1.06)
DTE	-0.001 (0.64)	-0.003** (1.73)	-0.003** (-1.73)	-0.003 (-1.77)
LNAB		0.001 (0.32)	0.001 (0.24)	0.001* (-1.78)
FS		0.098 (0.85)	0.099 (0.86)	0.137 (-0.96)
PRO		0.002 (0.82)	0.002 (0.82)	0.001 (0.02)
CB		0.003 (0.59)	0.001 (0.58)	0.001 (0.59)
FB		-0.634 (1.10)	-0.623 (-1.09)	-0.587 (-1.13)

LL		0.072 (0.75)	0.072 (0.75)	0.072** (-1.72)
LI		-0.001 (0.81)	-0.001 (-0.86)	-0.002 (-1.37)
PAR		0.141 (0.83)	1.411 (0.83)	-1.400 (0.79)
YNG		-0.035 (0.23)	-0.043 (-0.27)	-0.085 (-0.51)
MAT		-0.287** (-1.93)	-0.288** (-1.93)	-0.038 (-0.25)
NGO		0.403 (1.54)	0.404 (1.54)	0.250** (-1.11)
Bank		0.088 (0.00)	0.090 (0.00)	0.110* (0.001)
REG		0.001 (0.53)	0.001 (0.55)	0.001 (1.03)
GDP			-0.006 (0.83)	0.005 (0.97)
INF			-0.006 (-1.10)	-0.004 (-0.72)
SA				-0.109 (-0.89)
EE				-0.018 (-0.54)
EE				0.677 (0.895)
¹ Hausman(p value)	0.003	0.001	0.001	
² Sargan J test (p-value)	0.001	0.000	0.005	
R ²	0.399	0.421	0.433	0.450

IMPACT OF CAPITAL STRUCTURE ON MFI SOCIAL PERFORMANCE:

- There is heterogeneity between financial structure and MFIs characteristics. This tells us that some MFIs may take on more debt to increase outreach.
- From the empirical results, there is possible trade-off between breadth of outreach and the depth of outreach.
- This may be due funding limitations.

RESULTS OF IMPACT OF CAPITAL STRUCTURE VARIABLES ON BREATH OF OUTREACH (LNAB):

LNAB	Model 1	Model 2	Model 3	Model 4
C	3.150 (1.934)**	-6.213 (-1.789)***	2.136 (0.748)	-4.509 (-1.462)
DA	0.002*** (3.27)	-0.234* (1.72)	-0.236* (-1.72)	0.202* (1.74)
GA	0.001** (1.94)	0.011* (1.70)	0.011* (1.70)	-0.010* (-1.72)
CA	0.118*** (2.76)	-0.213 (1.61)	-0.215 (-1.61)	-0.161 (1.39)
DTA	0.362*** (4.17)	0.568** (1.82)	-0.461* (1.76)	0.113** (1.94)
DTE	0.006*** (3.11)	0.012* (1.76)	0.010* (1.74)	0.002* (1.77)
ROA		-0.327 (1.46)	-0.361 (-1.48)	-0.428 (-1.39)
FS		0.171* (1.77)	0.177* (1.77)	0.138* (1.71)

PRO		0.002 (1.31)	0.002 (-1.29)	0.001 (-1.32)
CB		-0.039 (1.34)	-0.042 (-1.37)	-0.029 (-1.22)
FB		0.679* (1.78)	0.688* (1.77)	0.567* (1.80)
LL		0.191 (1.60)	0.186 (1.59)	0.132 (1.18)
LI		-0.131* (2.02)	-0.158* (-1.90)	-0.132* (-1.77)
PAR		-0.841 (1.34)	-0.957 (-1.34)	-0.982 (-1.41)
YNG		12.692 (1.47)	12.220 (1.46)	12.572 (1.36)
MAT		35.096* (1.70)	35.089* (1.70)	32.793* (-1.76)
NGO		21.219 (1.32)	21.690 (1.33)	18.868 (-1.27)*
Bank		55.782 (0.00)	55.619 (0.00)	0.009 (0.00)
REG		56.672* (1.73)	0.001* (1.72)	42.181* (1.78)
GDP			-0.138 (0.11)	0.167 (0.78)
INF			-0.137 (-1.60)	-0.848 (-1.54)
SA				16.713 (1.248)
EE				14.972*** (-1.74)
EA				-26.531 (-1.64)
¹ Hausman(p value	0.000	0.001	0.001	
² Sargan J test (p-value	0.001	0.000	0.012	
R ²	0.362	0.378	0.391	0.440

RESULTS OF IMPACT OF CAPITAL STRUCTURE VARIABLES ON DEPTH OF OUTREACH (ALS)

ALS	Model 1	Model 2	Model 3	Model 4
C	210.207* (3.525)	-8.827*** (-2.778)	-5.770 (-1.099)	17.739 (1.528)
DA	0.001*** (3.20)	-0.250*** (2.42)	-0.249*** (-2.41)	-0.235*** (-2.26)
GA	-0.016*** (4.07)	0.014*** (2.86)	0.014*** (2.86)	-0.013*** (2.66)
SA	0.190*** (6.24)	-0.381*** (-3.46)	-0.385*** (-3.54)	-0.365*** (-2.62)
DTA	0.198*** (11.64)	0.230*** (2.17)	0.234*** (2.19)	0.219*** (2.20)
DTE	0.178*** (2.82)	0.108 (1.49)	0.107 (1.48)	-0.116 (1.18)
ROA		0.210 (0.84)	0.199 (0.80)	0.226 (0.88)
FS		0.764*** (5.19)	0.759*** (5.12)	0.735*** (4.88)
PRO		0.002 (0.39)	0.002 (0.39)	0.000 (-0.55)
CB		0.292*** (7.27)	0.291*** (7.26)	3.023*** (6.38)
FB		-0.167*** (5.12)	-0.162*** (-4.92)	-0.167*** (-5.25)

LL		0.167 (0.38)	0.173 (0.49)	1.701 (0.30)
LI		0.837** (2.37)	0.806*** (2.40)	0.772** (1.88)
PAR		-0.367 (0.95)	-0.376*** (-2.27)	-0.369 (-0.98)
YNG		15.733 (0.29)	11.920 (-0.98)	9.848 (0.18)
MAT		18.013 (0.43)	17.611 (0.22)	27.265 (0.72)
NGO		-31.985 (2.90)	-32.971*** (2.41)	39.61*** (-2.54)
BANK		38.928 (0.00)	41.034 (0.00)	0.004 (0.00)
REG		27.558 (1.46)	0.001 (1.54)	22.878** (1.90)
GDP			-0.994*** (2.62)	0.006*** (2.49)
INF			-1.102 (-1.24)	-0.132 (-1.72)***
SA				-35.888** (1.81)
EE				9.183 (0.68)
EA				-2.804 (-0.06)
¹ Hausman(p value)	0.000	0.000	0.000	
² Sargan J test (p-value	0.011	0.002	0.000	
R ²	0.644	0.668	0.674	0.690

RESULTS OF IMPACT OF CAPITAL STRUCTURE VARIABLES ON MANAGEMENT EFFICIENCY (MEFF):

EFF	Model 1	Model 2	Model 3	Model 4
C	0.024 (2.946)***	-0.002 (-1.314)	-0.003 (-1.085)	0.015 (11.369)
DA	0.001*** (5.90)	0.045*** (3.80)	0.045*** (2.000)	0.033*** (2.72)
GA	0.001*** (11.81)	0.001*** (7.25)	0.004*** (2.011)	0.006*** (6.79)
SA	0.231*** (30.60)	0.134*** (10.03)	0.134*** (3.024)	0.234*** (11.66)
DTA	0.130*** (24.99)	0.053*** (2.98)	0.053*** (3.003)	0.052*** (3.11)
DTE	0.001*** (2.64)	0.000 (1.26)	0.001 (0.208)	0.200 (0.001)
ROA		-0.633*** (7.79)	-0.632*** (3.110)	-0.643*** (-8.255)
FS		0.006*** (4.00)	0.006*** (2.760)	0.006*** (3.77)

		0.001*** (2.84)	0.001*** (2.005)	0.001*** (-3.64)
PRO				
FB		0.057*** (6.08)	0.056*** (3.080)	0.059*** (6.49)
LL		-0.001*** (-2.68)	-0.001*** (-4.007)	-0.002*** (-3.46)
LI		0.001* (1.78)	0.001* (1.76)	0.001* (-1.76)
PAR		-0.031** (-1.89)	-0.031* (-1.858)	-0.032** (-1.94)
YNG		0.027*** (3.94)	0.027*** (3.450)	0.029*** (4.17)
MAT		-0.001 (0.24)	-0.001 (0.807)	-0.003 (-1.04)
NGO		0.019*** (2.83)	0.019*** (3.004)	0.023*** (2.77)
Bank		-0.023 (0.00)	-0.023 (0.000)	-0.019*** (-3.75)
REG		-0.021*** (4.07)	0.001 (0.000)	0.001*** (-3.44)
GDP			0.003 (0.241)	-0.001 (-2.14)**
INF			0.002 (0.633)	0.000 (0.71)
SA				-0.032*** (-6.75)
EE				-0.016*** (-3.14)
EA				-0.104*** (-5.53)
¹ Hausman(p value)	0.002	0.001	0.001	
² Sargan J test (p-value	0.000	0.010	0.011	

CONCLUSION

- The estimated results of the study highlighted significant effect of different financing sources on performance of MFIs considering the capital structure theories.
- High leverage makes MFIs less efficient and unproductive in case of sustainability while opposite in case of outreach and efficiency.
- NGOs, regulated and mature MFIs significantly contribute efficiently in performance of MFIs.
- There is trade-off between breadth of outreach and the depth of outreach and this trade-off it may be due to financing limitations
- Funding increases inefficiency of MFIs, Capital structure theories also explains that large borrowings lead to less efficient MFIs.

IMPLICATIONS

- There is need to utilize commercial sources of financing properly to generate more cash and financial revenue.
- The portfolio at risk and the related loan loss provision for the bank type MFIs has to be carefully observed by their particular executives.
- MFIs should go for immense scaling up policies as female borrowers has a clear impact on profitability and sustainability of MFIs.
- The MFIs increase average loan size in order to reduce cost per borrower in the proportion to the amount they advance.
- These results leads to implication that MFIs should properly use the financial funds like debt and share capital to attain sustainability and profitability.