



Determinants of financial performance of micro finance institutions in Ethiopia

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Abstract

One of the major challenges faced by developing countries in pursuit of their social and economic development is poverty. The primary objective of microfinance is to provide an opportunity to financially deprived people to become financially self-sufficient and come out of poverty. Due to the very high contribution of MFIs in poverty reduction and economic development in developing countries like Ethiopia exploring factors determining the financial performance of these institutions is doubtless. The objective of this study is to identify the effect of firm specific industry specific and macroeconomic factors determining the financial performance of selected microfinance institutions in Ethiopia. In order to achieve the stated objectives quantitative approaches and explanatory research design were employed. The study used financial ratios of eleven (11) purposively selected MFIs for a period of 12 years from 2003 to 2014 with a total of 132 observations. The study used return on asset and return on equity as dependent variables of financial performance measure. Portfolio at risk, firm size, operating cost, portfolio to asset, capital adequacy, market concentration, gross domestic product and annual inflation rate were used as independent variables. For data analysis the study used descriptive analysis, correlation analysis and a random effects regression model. The result of random effect regression revealed that capital adequacy ratio and Loan portfolio to asset ratio has positive effect on financial performance of MFIs in Ethiopia. Whereas Portfolio at Risk, firm size, operating cost ratio, market concentration, GDP and inflation has negative impact on financial performance of Ethiopian MFIs. Portfolio quality and market concentration found to have a significant negative effect on financial performance whereas loan portfolio has significant positive effect. MFIs in Ethiopia are recommended to revise their credit procedures and policies to increase their repayment rates and the government has to intervene and support their operation so as to make them financially viable and strong to reduce poverty.

Keywords: AEMFI, financial performance, microfinance institution, Ethiopia

1. Introduction

Microfinance industry is a unique field in different aspects such as its newness, its diverse organizational structure (with profits and non-profits), and its social mission whereby it largely focuses on the women and the poor (Mori & Randoy, 2011) ^[12].

One of the major challenges faced by developing countries in pursuit of their social and economic development is poverty. Unfortunately, the benefit of macro-economic growth of economy does not always filter down to the poor people and millions are left in poverty. Microfinance is provided to low-income people or unemployed people having no access to traditional financial institutions and it has proved itself as one of the most effective tool for poverty alleviation in many developing countries of Africa and Asia (Yunus & Abed, 2004) ^[21].

Rosenberg (2009) ^[18] stated that the poor are generally excluded from the financial services sector of the economy, so MFIs have emerged to address this market failure. Thanks to the microfinance mechanism, poor people who are excluded from formal financial system can have access to financial services. Microcredit is considered as the main financial service offered by MFIs. Also, microfinance clients have the opportunity of saving small amounts. Moreover, services like micro-insurance or remittance services are provided by MFIs in the most developed systems (Fersi & Boujelbene, 2016) ^[8].

In developing countries, millions of poor people have availed microfinance and its growth has grabbed the attention of many stakeholders to measure the financial sustainability of such institutions (Beg, 2016) ^[6].

In Ethiopia micro-credit started as a government and non-government organizations motivated plan. Following the 1984/85 severe drought and famine, many NGOs started to offer micro credit along with their relief activities although this was on a limited scale and not in a sustained manner (Alemayehu, 2008) ^[4].

Statement of the problem

Microfinance provides strength to boost the economic activities of low-income group people and thus contributes to eradication of their poverty (Almas & Mukhtar, 2014). The microfinance industry has been growing at a significant rate in several countries and it has become an important sub-sector of the formal financial markets (Assefa, Hermes & Meesters, 2010) ^[5]. The objective of almost all of the micro finance institutions in Ethiopia is poverty alleviation. To achieve this objective micro finance institutions should be financially viable and sustainable (Alemayehu, 2008) ^[4].

The role of MFIs for the poor and also for the country as a whole

is presumable especially for countries like Ethiopia. Nanayakkara and Iselin (2012)^[14] recommend that for Africa to move forward with economic development and poverty alleviation, it is essential that it progresses swiftly with the integration and transformation of its microfinance industry. In order to achieve its objective any institution must first alive well or achieve a good financial performance.

Accounting based measures that involve analysis and interpretation of financial statements assist users in predicting the future by means of comparison, evaluation and trend analysis. Since financial performance is deemed to be more important than fulfillment of social objectives, it is only right that accounting based measures shall be used to measure and compare financial performance of MFIs (Odunga, 2006)^[17].

Rai and Rai (2012)^[19] studied about the factor affecting financial sustainability of microfinance institution and found that the capital/ asset ratio, operating expenses/loan portfolio and portfolio at risk > 30 days were the main factors, which affect the sustainability of microfinance institutions. A study by Jørgensen (2011)^[9] also found that operating expense over loan portfolio had a positive influence but the number of active borrowers had a negative influence.

Despite the increasing reliance on micro finance to reduce poverty in Ethiopia there has been little work under taken on determinants of financial performance of micro finance institutions in Ethiopia. To the knowledge of the researcher it appears that there has not been much research which is conducted in determinants of financial performance of micro finance institutions in Ethiopia. Kinde (2012)^[10] found that breadth of outreach has a positive impact on financial sustainability.

Abebaw (2014)^[2] reveal that, operational efficiency, GDP and size of MFIs affect MFIs financial performance. However his study was designed to focus on some determinant variables and used only return on asset to measure financial performance. However, this study uses key determinant variables which were not included in some of the previously mentioned researches such as portfolio to asset and inflation as independent variables. In addition this study has used both return on asset and return on equity as dependent variable to measure financial performance while other researchers used mostly either of the one.

Due to the very high contribution of MFIs in poverty reduction and economic development in developing countries like Ethiopia exploring factors determining the financial performance of these institutions is doubtless and this inspire the researcher to put his contribution on this arena.

Moreover, most studies on microfinance institutions globally and locally focus more on outreach, financial and operational sustainability and limited up-to-date. Given the passage of time and limitations of case studies as far as generalization of results to the population is concerned, there is need for the present study to be conducted. Therefore, this study tried to fill the stated research gaps in our country's context and also add body of literature to the existing stock of knowledge on determinants of financial performance of microfinance institutions in Ethiopia.

Objective of the Study

General Objective

The general objective of the study is to identify the determining factors which affect the financial performance of microfinance institutions in Ethiopia.

Specific Objectives

1. To examine the effect of firm specific factors on the financial performance of MFIs in Ethiopia.
2. To identify how MFI- Industry specific factors affect the financial performance of MFIs in Ethiopia.
3. To evaluate the macroeconomic factors which influence the financial performance of MFIs in Ethiopia?

2. Literature Review

A study by Jørgensen (2011) examined the factors that determine profitability of microfinance institutions using a sample of 879 MFIs. The study findings established that the factors that statistically influenced profitability positively were the capital asset ratio, age (new) and the gross loan portfolio. The study also found that operating expense over loan portfolio had a positive influence but the number of active borrowers had a negative influence. Duwal (2012) conducted a research on MFI of Nepal and concluded that Portfolio at Risk, Operating Expense ratio and Gross Loan portfolio to total asset are significant factors to determine financial sustainability of MFI.

Njogu, (2011)^[16] attempted to investigate the factors that determine the financial performance of the 41 MFIs that are registered and regulated by the AMFI in Kenya. From the findings, the various factors identified to influence this performance are either firm specific or market specific. The factors include; inflation rates, corporate governance practices. Distribution networks, Sustainability, Profitability, Outreach, Growth of informal sector, Leverage levels of the institution, Donor Subsidies, Access to capital, Capitalization requirements, Management Information systems, External Intervention. Product diversity, Real Interest rates, Levels of Citizen Income, Donor Support, Education levels of Citizen, Liquidity of the Institution, Communication costs, Transition to service based economy. Operational costs, Existence of Micro - finance market. Risk management practices, information costs, transaction costs, education levels of staff and Human expertise. The study conducted by Abdur Rahman and Mazlan (2014)^[1] showed that there is significant impact of size of MFI while negative impact of operating expense ratio and breadth of outreach with financial sustainability of MFI.

The study of Tehulu (2013) shows the significant impact of size of MFI whereas negative impact of Portfolio at Risk and Management inefficiency on financial sustainability of MFI. Assefa, Hermes and Meesters (2010)^[5] investigated the relationship between competition and the performance of microfinance institutions (MFIs). The findings of the study revealed that competition among MFIs was negatively associated with various measures of performance.

Okombo (2014) examined the impact of low transactional costs on the financial performance of deposit taking MFIs. The study findings established that there was positive and statistically significant relationship between the low transaction costs and financial performance. In line with this idea Muriu, (2011) conclude that inefficiency in the management of operating expenses to significantly decrease MFI profitability.

A study conducted on determinants of financial performance of microfinance institutions in Kenya by Kipkoech & Muturi, 2014^[11] by using both quantitative and qualitative approaches using descriptive research design data collected using questionnaires targeting managers and finance-related employees. The study

sampled 52 respondents from selected microfinance institutions in Nakuru Town. It was found that number of borrowers, capital adequacy and branch network had the greatest influence on the performance of microfinance institution. The multiple regression analysis indicated the variables explained 63.7% of the independent variable which indicate that they significantly explain the variation in the dependent variable.

Ngumo & Collins, (2017) [15] examine the determinants of financial performance of Microfinance banks in Kenya. The study adopted a descriptive research design and used secondary data from 7 Microfinance banks for a period of 5 years from 2011 to 2015. The study found a positive and statistically significant relationship between operational efficiency, capital adequacy, firm size and financial performance of microfinance banks in Kenya. However, the study found an insignificant negative relationship between liquidity risk, credit risk and financial performance of microfinance banks in Kenya. The study concluded that there is direct relationship between operational efficiency, capital adequacy, firm size and financial performance of microfinance banks in Kenya.

Determinants of financial self-sufficiency in microfinance institutions in Pakistan, India and Bangladesh indicates that Portfolio at Risk has a negative impact on financial self-sufficiency which shows that higher the PAR value, lesser will be the repayment rates and that will affect the financial sustainability of MFI. Size of MFI has a positive impact on FSS showing that increasing the asset size of MFI causes a positive impact on financial sustainability. Breadth of Outreach has a negative impact on FSS showing that increase in number of borrowers will decrease the financial sustainability of MFI. It may be due to increase in inefficiency of MFI. Management inefficiency has a negative impact on FSS showing that less efficient management of MFI will result in less financial sustainability. Operating cost ratio has a negative impact on FSS showing that higher the operating cost ratio less will be the financial sustainability of MFI. Loan portfolio to assets has a positive impact on FSS (Butt, & Khan, 2017) [3].

Abebaw, (2014) [2] conducted a research on determinants of financial performance of MFIs in Ethiopia and he found that operational efficiency, GDP and size of MFIs affect MFIs financial performance significantly. Also the study shows that Age of microfinance institutions has a positive but statistically insignificant effect on their financial performance. The other explanatory variables which is Portfolio at risk>30, Gearing ratio, capital to asset ratio and Market concentration affect negatively and are not significant.

Sima, (2013) [20] on his study examined internal and external factors affecting profitability of microfinance institutions in Ethiopia by including a total of thirteen microfinance institutions covering the period of 2003-2010. The researcher uses quantitative research mainly documentary analysis. The outcome of the study indicates that Age of microfinance institutions has a positive and statistically significant effect on their profitability.

Variable description

Variables	Measures	Symbol	Expected sign
Financial Performance	Income/Assets Income/Equity	ROA ROE	
Portfolio at risk	Total Outstanding Loan Balance/Loan Portfolio	PAR	-
Size	Logarithm of total assets	FS	+

However, Operational efficiency and portfolio quality have a negative and statistically significant effect. However, capital adequacy, size and GDP are found to be statistically insignificant variables.

3. Methodology

Explanatory research design was employed because of researches of such types that involve in examining cause and effect relationships of two or more variables are explanatory in nature. To examine this nature of relationship quantitative panel data of 11 MFIs for 12 years of operation covering from 2003 to 2014 was used. The population of this study is all licensed micro finance institutions in Ethiopia. Purposive sampling technique was used and the criteria for choosing among the MFIs were based on the availability of necessary full balanced panel data for the time period of 12 years (2003-2014). The study includes 11 purposively selected MFIs from a total of 35 microfinance institutions in Ethiopia. Secondary data were collected from AEMFI report and other relevant sources. Data was processed by using STATA version 13 software program. Descriptive statistics, correlation analysis and quantitative analysis were employed. Descriptive analysis was used to describe patterns of behavior or relevant aspects of the data values and detailed information about the variables selected. Under quantitative analysis this study used panel data regression analysis, because the data have both time series and cross-sectional dimensions.

Model Specification

$$ROA_{i,t} = \alpha_i + \beta_1(PAR)_{i,t} + \beta_2(FSZ)_{i,t} + \beta_3(OPC)_{i,t} + \beta_4(LPA)_{i,t} + \beta_5(CAR)_{i,t} + \beta_6(MKC)_{i,t} + \beta_7(GDP)_{i,t} + \beta_8(IFN)_{i,t} + \mu_{i,t}$$

$$ROE_{i,t} = \alpha_i + \beta_1(PAR)_{i,t} + \beta_2(FSZ)_{i,t} + \beta_3(OPC)_{i,t} + \beta_4(LPA)_{i,t} + \beta_5(CAR)_{i,t} + \beta_6(MKC)_{i,t} + \beta_7(GDP)_{i,t} + \beta_8(IFN)_{i,t} + \mu_{i,t}$$

Where, ROA_{i,t}= return on asset for MFI “i” for “t” time period.
ROE_{i,t}=return on equity for MFI “i” for “t” time period

- α_i = Constant term
- β₁ (PAR)_{i,t} = Coefficient of Portfolio at Risk for MFI “i” for “t” time period
- β₂ (FSZ)_{i,t} = Coefficient of Size for MFI “i” for “t” time period
- β₃ (OPC)_{i,t} = Coefficient of operating cost for MFI “i” for “t” time period
- β₄ (LPA)_{i,t} = Coefficient of Loan Portfolio to Total assets for MFI “i” for “t” time period
- β₅ (CAR)_{i,t} = Coefficient of capital adequacy Ratio for MFI “i” for “t” time period
- β₆ (MKC)_{i,t} = Coefficient of market concentration for MFI “i” for “t” time period
- β₇ (GDP)_{i,t} = Coefficient of gross domestic product for MFI “i” for “t” time period
- β₈ (IFN)_{i,t} = Coefficient of inflation for MFI “i” for “t” time period
- μ_{i,t} = random Error Term

Operating cost	Operating expense/ Loan portfolio	OPC	-
Portfolio to asset	Loan Portfolio / Total Assets	LPA	+
Capital Adequacy	Total equity/total assets	CAR	+
Market concentration	HH index	MKC	
Gross Domestic Product	GDP growth rate	GDP	+
Annual inflation rate	The rate of inflation	IFN	+

Results and Discussions

Table 4.1: Summary of descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	132	0.016928	0.055383	-0.11	0.23
ROE	132	0.072478	0.193387	-0.508	1.43
PAR	132	0.037861	0.040283	0	0.238
FS	132	8.094149	0.889283	6.394372	9.927381
OPC	132	0.107714	0.074481	0.0188	0.418
LPA	132	0.744833	0.11874	0.23	0.94
CAR	132	0.378644	0.181682	0	0.886
MKC	132	0.249373	0.032815	0.198556	0.292517
GDP	132	10.84333	1.016811	8.7	12.6
IFN	132	15.48333	10.63184	2.8	36.4

Source: SATA output results for sampled MFIs from 2003-2014

Descriptive Statistics

Table 4.1 presents the mean, standard deviation, minimum and maximum value of each variable for sample of 11MFIs for the period of 12 years from year 2003-2014 with a total of 132 observations. As it is presented the mean value of profitability measured by ROA was on average 1.69 percent. It means that, Ethiopian micro finance institutions generate on average 1.69 percent from their total assets employed. The higher the value of return on asset indicates that a firm is effective in generating profit from its asset employed and the reverse is true for the lower the value in return on assets. The standard deviation of return on asset (ROA) is 5.53 percent and it shows that the value of return on asset can vary both sides by 5.53 percent from the mean. Its minimum value is -11 percent while the maximum is 23 percent. The mean value of the other dependent variable ROE was 7.24 percent with the maximum and minimum value of 143 and -5.08 percent respectively. This revealed that micro finance institutions in Ethiopia were able to generate an average positive return of 7.24 percent on their equity for the last 12 years.

Regarding the independent variables table 4.2 also shows a descriptive summary statistics of different ratios. Of the ratios,

one is portfolio at risk which has an average value of 3.78 percent. From loan portfolio the portion of the portfolio in arrears or unpaid is 3.78 percent averagely that is good and the maximum 23.8 percent implies that the credit portfolio of some MFIs in the sample is fairly risky. Firm size which is measured by the natural logarithm of adjusted total asset is 8.09 on average and standard deviation is 0.88. The minimum and maximum values of firm size for the sampled MFIs are 6.39 and 9.92 respectively. Operating expense ratio is averaged 10.77 percent for the sampled MFIs in Ethiopia. Meaning sampled MFIs incur on average 10.77 cents in operating expense for each birr in the gross loan portfolio.

Operating expense ratio can vary both sides by 7.44 percent from the mean value and the value for operating expense ratio sampled firms ranges between 1.88 percent and 41.8 percent of minimum and maximum values respectively. The mean value of portfolio to asset is 74.48 percent. The higher the portfolio percentage to the total asset' the higher will be the profitability. The reason is the loan portfolio is the only income earning asset in an MFI. The standard deviation is 11.87 percent and the value portfolio to asset for sampled MFIs ranges between 23 percent and 94 percent of minimum and maximum values respectively.

The mean value of capital adequacy was 37.86 percent with a maximum of 88.6 percent and minimum of 0 percent for the sampled MFIs. The standard deviation statistics for capital strength was 18.16 percent which shows the existence of variation of equity to asset ratio between the sampled MFIs in Ethiopia. In addition, the minimum and the maximum value of market concentration as a proxy of Herfindahl – Hirschman index shows 19.85 percent and 29.25 percent respectively and the mean value of 24.93 percent.

Correlation Analysis

It is common in most studies making correlation analysis among variables before going to do detail regression analysis. Correlation analysis is used to identify the direction of relationship between two variables and to measure the degree of association between them.

Table 4.2: Correlation matrix between variables included in the study

	ROA	ROE	PAR	FS	OPC	LPA	CAR	MKC	GDP	IFN
ROA	1									
ROE	0.7052*	1								
PAR	-0.1745*	-0.2029*	1							
FS	0.4229*	0.3385*	-0.2307*	1						
OPC	-0.3947*	-0.2784*	0.1095	-0.7694*	1					
LPA	0.5131*	0.2519*	0.1183	0.1197	-0.3860*	1				
CAR	-0.2517*	-0.1899*	-0.056	-0.4203*	0.4233*	-0.1449	1			
MKC	-0.5736*	-0.5353*	-0.0023	-0.4561*	0.2215*	-0.2194*	0.2847*	1		
GDP	-0.5309*	-0.4514*	-0.1103	-0.3587*	0.2300*	-0.3123*	0.2418*	0.6674*	1	
IFN	0.1863*	0.1119	0.0189	0.0941	-0.1605	0.2967*	-0.0594	-0.0363	-0.5169*	1

Source: SATA output results for sampled MFIs from 2003-2014

The results on table 4.2 indicate that there is strong and positive correlation between the two dependent variables ROA and ROE.

In addition firm size and Loan portfolio to asset have a strong positive correlation with ROA. Inflation has positive relation

with ROA. Other variables like Portfolio at risk, operating cost, capital adequacy and market concentration have negative relation with ROA.

Correlation between ROE and other independent variables show that ROE positively correlated with firm size, loan portfolio to asset, and inflation. The results also indicate that there is a negative correlation between portfolio at risk, Operating cost, market concentration, GDP and ROE.

Regression Analysis Return on asset model

Table 4.3: Random Effects GLS Estimation Result for Model I

Variables	Coefficient	Std. Error	z-Statistic	Prob.
Cons	0.232436	0.132667	1.75	0.08
PAR	-0.24138	0.09522	-2.53	0.011
FS	-0.00183	0.010046	-0.18	0.856
OPC	-0.14678	0.095331	-1.54	0.124
LPA	0.143542	0.035582	4.03	0
CAR	0.003672	0.024732	0.15	0.882
MKC	-0.53793	0.166587	-3.23	0.001
GDP	-0.01332	0.005379	-2.48	0.013
IFN	-0.00035	0.000384	-0.92	0.357

R. Squared	0.5934
Adjusted R-squared	0.5624
F- Statistics	173.78
Prob.(F-statistic)	0.0000

Return on equity model

Table 4.4: Random Effects GLS Estimation Result for Model II

Variables	Coefficient	Std. Error	z-Statistic	Prob.
Cons	1.962104	0.512262	3.83	0
PAR	-1.05318	0.386847	-2.72	0.006
FS	-0.07215	0.036866	-1.96	0.05
OPC	-1.12132	0.384128	-2.92	0.004
LPA	-0.00395	0.145754	-0.03	0.978
CAR	0.001493	0.097194	0.02	0.988
MKC	-2.5849	0.67732	-3.82	0
GDP	-0.04442	0.022825	-1.95	0.052
IFN	-0.00105	0.001634	-0.65	0.519

R. Squared	0.4657
Adjusted R-squared	0.3647
F- Statistics	581.91
Prob.(F-statistic)	0.0000

The R2 in this model specification is 46.57 percent. The overall model is significant to explain the variations in ROE with a significant F statistics of 581.91 and P value of (0.0000).

Statistical results of this model too, have shown that except capital adequacy ratio all other variables portfolio at risk, firm size, operating cost, portfolio to asset, market concentration, gross domestic product and annual inflation rate have negative impact on financial performance of Ethiopian MFIs.

Portfolio at risk, market concentration and GDP has significant negative effect on financial performance of Ethiopian MFIs while

The result of regression in table 4.3 shows, the first models R² of 59.34 percent. In addition, the value of wald chi²-test which used to explain the overall fitness of the model, as it is indicated by the F-value of 173.78 which is highly significant at 1percent with p-value of 0.000.

The random effect regression result indicates that, coefficient of PAR is -0.2414 with its p-value of 0.011 and had a negative relation with financial performance measured by return on asset. This means that, keeping other variables constant a 1 percent increase in portfolio quality results a decrease in ROA of sampled microfinance institutions by 0.2413 percent and statistically significant at 5 percent of significant level which shows that the higher the PAR value, the lesser will be the repayment rates and that will affect the financial performance of MFI.

The regression output for LPA indicates that, positive coefficient of 0.1435 with its p-value of 0.000 and it was statistically significant at 1 percent significance level. This implies that, keeping other variables constant an increase in LPA by one unit cause an increase in ROA nearly by. 144 birr.

Market concentration found to have a significant negative coefficient of -0.5379 and significant at 1 percent significance level. The negative regression coefficient of market concentration in this model shows the reverse impact of competition on financial performance.

the remaining variables have insignificant effect on their performance.

Conclusion and Recommendation

The result of random effect regression revealed that Portfolio at Risk, Loan portfolio to asset, market concentration, and GDP found to have a significant effect on financial performance of Ethiopian MFIs.

MFIs in Ethiopia should have to use the country's favorable economic growth in order to enhance their financial performance rather than inversely affected by giving their full attention on

poverty reduction and should have to give due consideration on performing good financial performance before giving full concern on poverty reduction. MFIs in Ethiopia are recommended to revise their credit procedures and policies to increase their repayment rates. Additionally MFIs should apply efficient and effective credit risk management that will ensure loans are matched with ability to repay, loan defaults are projected accordingly and relevant measures taken to minimize it. MFIs also are recommended to enhance as much as possible their loan portfolio to earn high interest and hence enhance their financial performance too. In addition MFIs are recommend to start profit making practices like; banking and insurance services to their customers this will enhance their profitability. Finally the Government has to intervene and support their operation so as to make them financially viable and strong to reduce poverty.

References

1. Abdurahman M, Mazlan A. Determinants of financial sustainability of microfinance institutions in Bangladesh. *International Journal of Economics and Finance*, 2014, 107-116.
2. Abebaw Y. Determinants of Financial Performance: A study on selected micro finance institutions in Ethiopia. Jimma University, 2014.
3. Ahmad K, Butt A. Determinants of Financial Self Sufficiency in Microfinance Institutions: A study of Pakistan, India and Bangladesh. *European Journal of Natural and Social Sciences*. 2017; 6(2):296-301.
4. Alemayehu Y. The performance of Micro Finance Institutions in Ethiopia A case of six microfinance institution, MSc thesis, Addis Ababa University, 2008.
5. Assefa E, Hermes N, Meesters A. Competition and Performance of Microfinance Institutions. University of Groningen, the Netherlands, 2010.
6. Beg K. Determinants of Financial Self Sufficiency of Andhra Pradesh Microfinance Institutions. *Journal of Business & Financial Affairs*, 2016.
7. Dissanayake M. The determinants of return on equity: evidences from Sri Lankan microfinance institutions. *Journal of Arts, Science & Commerce*, 2012.
8. Fersi M, Boujelbéne M. The Determinants of the Performance and the Sustainability of Conventional and Islamic Microfinance Institutions. *Economics World*. 2016; 4(5):197-215.
9. Jørgensen A. The Profitability of Microfinance Institutions and the Connection to the Yield on the Gross Portfolio. Copenhagen Business School, 2011.
10. Kinde A. Financial Sustainability of Microfinance Institutions (MFIs) in Ethiopia", *European Journal of Business and Management*. 2012; 4(15):001-010.
11. Kipkoech J, Muturi W. Determinants of Financial Performance of Microfinance Institutions in Kenya: A Case of Microfinance Institutions in Nakuru Town. *International Journal of Accounting and Financial Management Research*, 2014, 4(6).
12. Mori G, Randoy T. Determinants of Board Structure in Microfinance Institutions: Evidence from East Africa. *Journal of Emerging Market Finance*, 2011, 12(3).
13. Muriu W. What Explains the low profitability of Microfinance Institutions in Africa? *African Journal of Social Sciences*, 2012, 2(3).
14. Nanayakkara, Iselin R. An Exploratory Study of the Performance of Micro-financing Institutions Using the Balanced Scorecard Approach, *International Journal of Business and Information*, 2012, 7(2).
15. Ngumo S, Collins W. Determinants of Financial Performance of Microfinance Banks in Kenya. *Journal of Finance and Accounting*, 2017, 8(16).
16. Njogu S. The Determinants of Financial Performance of Microfinance Institutions in Kenya. School of Business University of Nairobi, 2011.
17. Odunga R. Comparison of Financial Performance between Listed and Unlisted Commercial Banks in Kenya, Unpublished MBA Thesis, UON, 2006.
18. Rosenberg. Measuring Results of Microfinance Institutions: Minimum Indicators that Donors and Investors should Track, (CGAP) Consultative Group to Assist the Poorest, 2009.
19. Rai AK, Rai S. Factors Affecting Financial Sustainability of Microfinance Institutions. *Journal of Economics and Sustainable Development*, 2012.
20. Sima G. Determinants of Profitability: An Empirical Study on Ethiopian Microfinance institution, MSc thesis, Addis Ababa University, Addis Ababa Ethiopia, 2013.
21. Yunus M, Abed F. Poverty Matters. Washington DC: State of Microcredit Summit Campaign Report, 2004.