

# The Effect of Liquidity Management on the Viability of Microfinance Institutions of Ethiopia

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**Abstract:** *Purpose:* Micro-finance institutions have a great contribution to the development of every country's economy through strengthening society's financial requirements. The institutions need to have adequate liquidity to generate sustainable profit. The main intention of the paper was to investigate liquidity's impact on Micro-finance institutions' profitability. **Research Methodology:** Ten years of secondary data were used from 12 Microfinance institutions and fixed effect regression analysis by the use of E-views version 7 software. Return on assets used as the proxy of profitability to evaluate the financial healthiness of MFIs. **Results:** This study found that the deposit loan ratio has a significant and negative impact on profitability statistically. Whereas, the debt-to-equity ratio shows a negative signal on Micro-finance Institutions (MFIs) profitability but statistically insignificant. The impact regarding size and deposit asset ratios was positive and significant on MFIs' profitability of Ethiopia. **Limitations:** Lack of empirical study on the topic was the basic constraint of the study. **Contribution:** The study concentrated on the financial institutions specifically on microfinance firms. This study helps the institution's management to give appropriate considerations for each component to preserve an optimal level of liquidity and sustainable profit.

**Keywords:** Viability, Effect, liquidity, Microfinance, Ethiopia

## I. INTRODUCTION

Micro-finance has a huge contribution to every country's economic growth. Micro-finance is one of the financial service providers for societies, especially which have not alternative to obtain conventional bank services. In most developing countries population number is incredibly increasing from time to time [13]. explained as micro-finance are providers of financial service to poor people in which the credit amount is to be repaid in installment or in full against the loaned money. The users of such services are persons who are unemployed or engaged in entrepreneurship activities they can be individual(s) or groups. To start a small business society borrows from microfinance as per their financial need [9] and [3]. This type of financial tradition is empowered to address particularly poor societies. Small enterprises and poor societies have a limited way of deposit and credit facilities informal financial institutions [1] and [5]. The micro-finance institution's role is one of progressively and attractively escalating the financial segment of investment, especially

in developing countries [16] The sector provides numerous financial services, for an instant, cash loans, deposit savings accounts, and insurance availability comparatively in small amounts to lower-income societies [9]. Financial institutions aimed to ensure adequate liquidity of assets to meet up their customer's demand and to live-long profitably in the sectors [15]. The availability of adequate liquidity secures the capacity of institutions in switching assets into cash intended to address customers' interest in fund withdrawal, loan demand, and to assure borrowers as per their need. As cited by [8] around 90 percent of the societies in developing countries have no access to institutional financial services [17]. Because of that in such countries, investors prefer to involve by investing their assets in the expansion of microfinance institutions. Liquidity and viability/profitability matters of businesses are a decisive concern in the development and continued survival of microfinance and the capability to hold required short-term and long-term assets at an optimum level [1].

According [2] and [15], Financial institutions are greatly involved in securing liquidity of assets than non- financials satisfy their customers' demand and to retain in competitive system profitably. Having adequate liquidity in micro-finance institutions there is a high-level possibility in converting financial transactions into cash in an easy way. The contribution of liquidity to settle short-term obligations is not a comparable issue. Organizations invest in current assets to cover dues of their short-term debt in particular. Although the Institution's liquidity position strengths when they hold surfeit current assets but it shrinks the opportunity of profitability. [4] stated that liquid assets have less profitable circumstances than fixed assets. In other words, investment in current assets does not generate production or sale because of that less profit occurs. Thus, appropriate measurement is required to settle issues of liquidity and profitability.

In Ethiopia, Microfinance institutions are established by proclamation in the year 1996. The sector is acceleratingly addressing a large number of societies since it launched. Ethiopia's national bank report depicts that registered MFIs carried out total capital and total asset in 2011/12 were \$ 200 million and \$710 million respectively [18]

Microfinance institutions contribute to the country's rapid economic growth in different aspects. Among the mentionable contributions, they are giving service as a bridge or as a financial intermediary for the money savers and the investors.

The sympathetic impacts of liquidity and drivers of MFIs liquidity for that matter are indispensable and critical to the steadiness of the financial institution's system [8]. Even if broad research studies, have not been conducted to look into liquidity

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impact on micro-finance institutions profitability in Ethiopia.

There are a lot of research studies about liquidity to examine its impact on the financial concert of institutions. The previous studies mainly focused on the relation leverage, profitability, and firm size. The conducted studies outlined as a contradictory and inconsistent correlation between profitability and liquidity of the firm in different countries.

In Ethiopia, most of the conducted researches are focused on determinants of liquidity rather than in examining liquidity's impact on the profitability of the financial institutions. Therefore, one of the aims of this paper was to examine relationships between the debt-to-equity ratio (DER), total deposit to asset ratio (DAR), deposit to loan ratio (DLR), size (LNTA), and return on asset (ROA) throughout 2005 to 2014. Thus, based on the above studies, there is no empirical research done regarding the liquidity impact of the profitability of microfinance institutions (MFIs) in Ethiopia. The core objective of this investigation is to look at the impact of liquidity in respect to the profitability of microfinance institutions by developing a unique approach and to identify the variables that have a prominent effect on the profitability of microfinance. As it is known every institution has its vision and mission to maintain sustainable development by generating more profit from different day-to-day financial transactions. However, financial institutions are facing a shortage of contemporary assets like cash, receivables, and prepaid expenses for their instant transaction need. Contrary, they have more illiquid assets and more debts. If these two problems cannot be balanced the financial institutions unable to keep up the sound full financial system their competitors will take the upper hand on them. This struggle of steadiness motivates the researchers in filling the gap by putting our contribution to microfinance institution success.

## II. LITERATURE REVIEW

### A. Review of Related Empirical Studies

The following researchers have examined liquidity and profitability issues in wide aspects. Each empirical studies are accomplished by different scholars and presented below:

Studied on the liquidity effect focused on profitability in Kenya. His study used 9 micro-finance institutions secondary data obtained from the Kenya Central Bank which were operating from the year 2011 to 2014 [7]. The study composed data of return on assets and Deposit to loan (DTL) ratio aimed to measure profitability and liquidity of the financial institutions. Descriptive statistics and a regression model was used to examine the correlation between the variables. The Buseretse study revealed that as there was a weak correlation in liquidity and profitability of the institutions. He recommended that microfinance managers need to maintain liquidity at the optimal level to continue on profitable juncture.

Revealed that as there is a negative correlation between return on asset (ROA) and liquidity in his determinants of financial institution profitability study [4]. Hence, as to his finding liquidity level of financial institutions included in the study (Loan-to-deposit ratio) has no significant relationship on ROA. Additionally, he found that as there was a negative association exists between return on equity and liquidity.

Examined the association of liquidity and profitability of financial institutions in Pakistan [14]. For the study, the researchers have used correlation and regression tools. They used 5 years of secondary data. Their study paper found that liquidity and profitability of the financial institution have a significantly positive relationship.

Took five years of data of twenty-six firms and studied the relationship between the liquidity of institution and profitability [11]. The outcome signifies that there was a positive relationship between a firm's liquidity and profitability. Besides, in the study, they also indicated that unlike return on investment, return on equity has been greatly affected by current and quick ratios.

Reveals that there is a positive relationship between liquidity and operating performance [5]. The researcher took Seventeen (17) years of data of sampled firms. They investigated the relationship between profitability. Meanwhile, the research also revealed that the presence of a positive relationship in between. The result was also consistent with (Zhang's, 2011) suggestion as there was a positive relationship between the firm's liquidity and profitability.

According to [5] the study which was mainly dealt with the exploratory of profitability and liquidity relationships, shown as it is strongly significant and negatively correlated with each other. Eljelly tried to measure the relationship with the current ratio. The study also pointed out that the cash gap can measure liquidity at the financial institution level [15].

As [14] studied selected financial institutions' liquidity and profitability effect is descriptive research with the regression analysis model. The investigator incorporated five years from (2010 to 2014) secondary data. Based on the examination return on the asset has been significantly affected by liquidity ratio and they correlate positively to each other.

Examined on their study about the liquidity effect on the financial strength of financial institutions in Nigeria. They used secondary data from the year 2010 to 2018 [6]. In the study liquidity ratio, deposit to loan ratio, cash reserve ratio, and deposit ratio was used as a proxy of liquidity management, whereas, return on asset, return on equity and return on net interest margin, were for profitability (Sharma 2008) [12]. As per their investigation concerning liquidity management, had a significant outcome on return on asset. [13], examined financial institutions' liquidity determinants aimed to identify liquidity factors [1].

They took a sample of ten financial institutions data from the year 2007 to 2013 of Ethiopia. The variable was analyzed by the fixed effect regress model [1]. Their study revealed that return on assets has a significant impact on the liquidity of financial institutions of Ethiopia.

However, Loan growth is found as it has an insignificant impact on the period.

As [3] studied on 6 selected micro-finance which were operating in Ethiopia. The study focused on the profitability and sustainability trends of the institutions by taking five years (2002 to 2006) secondary sources. Based on the study majority of MFIs have a strong liquidity impact on their performance. Alemayehu found that majority of microfinance institutions were used their assets for principal purposes. In other words, they used

their assets for loaning to small scale entrepreneurs and obtaining funds from the borrowed amount.

According to [13], a study that was focused on analysis on the credit risk effect control relying on the effectiveness of financial institutions used annual reports and the Ethiopia National Bank secondary data from the year 2000 to 2018 [14]. The study employed a regression as a tool to analyze the findings. The result indicated that the existence of a negative and significant effect between credit risk management and return on asset (profitability) [15]. Thus, the researcher suggested that the financial credit risk management should provide strong curiosity for the credit management system [16].

To sum up, the empirical literature indicated that there is a strong relationship between the liquidity and profitability of micro-finance institutions. Liquidity can be maintained by giving appropriate consideration in all institution's elements.

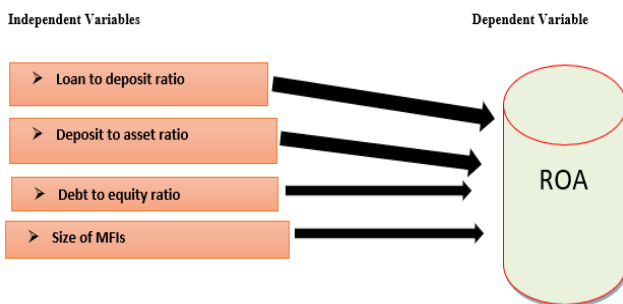
### B. Hypothesis Development

To realize the effort of the study, researchers developed the following four hypotheses:

- H1: Deposit to loan percentage has a positive and significant relationship with the viability of microfinance institutions.
- H2: Debt to equity percentage has a negative and significant relationship with the viability of microfinance institutions.
- H3: The size of MFIs has a positive and significant relationship with the viability of microfinance institutions.
- H4: Deposit to asset percentage has a significant and positive correlation with the viability of microfinance institutions.

### C. Conceptual Framework

A conceptual framework helps the reader to promptly understand the relationship between the variables in a simplified manner.



Source: Conceptual outline developed by the researcher, 2019.

The study consisted of two variables, dependent as well as an independent variable. Independent variables were a loan to deposit, deposit-to-asset, debt-to-equity ratios, and size of MFIs. Return on the assets of microfinance institutions was the dependent variable of this study. The following conceptual framework is constructed to show the liaison between the two variables of this study:

## III. RESEARCH METHODOLOGY

The study used explanatory research design. The research design was furthermore supported by a quantitative research approach to examine the impact of liquidity on the profitability of selected microfinance institutions. The researchers employed secondary sources of data that were collected from the audited financial descriptions of the MFIs

and taken from the association of microfinance institutions in Ethiopia. The research was focused on the population of all MFIs' which were register by the National Bank of Ethiopia (NBE). As per NBE (2015/16) annual report (*see appendix IV*) 34 microfinance institutions were operating in Ethiopia. To select a sample of twelve MFIs the study was used a purposive sampling method. The selected institutions were OCSSCO ACSI, DECSI, OMO ADCSI, SFPI, AVFS, Meklit, Gasha, Busagonfa, PEACE, and Wasasa from the total population of 34 MFIs in the country due to limited data for other microfinance institution. The basis for selecting MFIs was based on the availability of full-year audited financial data starting from the year 2005 to 2014 (i.e 10 ) years of the operating period. Therefore, based on the taken sample size and the covered period, the sample consisted of 120 observations.

### A. Methods of Data Analysis

The collected panel data from 12 microfinance institutions were used to get adequate information in a cross-sectional approach. The data included cross-sectional data to have the advantages of handling individual variability and capturing of the dynamic character of the data. It is also indicated by [10] as more variable data ensures a better degree of freedom and efficiency. The panel data analyzed using descriptive statistics, correlations, and multiple linear regression models. To analyze, the tendencies mean, standard deviation, maximum, and minimum figures were used in descriptive statistics. Multiple linear regression model is used to demonstrate the correlation between dependent and independent variables. The Ordinary Least Square (OLS) done using E-VIEWS 7 software package. Heteroscedasticity, Autocorrelation, multi-colinearity, and normality tests were incorporated. In addition to this, to choose the appropriate model between the Random effect and Fixed effect models, the Hausman specification test was employed for the study. According to the test result, the fixed-effect model is taken as appropriate for the study.

According to [6], for the Hausman test, if the p-value is lesser than 5%, the fixed-effect is appropriate than the random effect based on the test.

According to Table 3.1 below, the Hausman specification tests show that the model has a (0.0001) P-value test. This indicates that the model is preferred because a P-value is not more than 0.05.

Therefore, in this paper, to test liquidity impact on the profitability of MFIs, the fixed-effect model was used.

**Table 1: Fixed versus Random Effect Models**

Correlated Random Effects and Hausman Test			
Equation: Untitled			
Test cross-section random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	24.8314	4	0.0001

Source: Computed from E-views 7 and own result

The following Multiple Regression model was used to perform the correlation along with the study variables:

$$Y_{it} = \beta_0 + \beta_1 (DLR_{it}) + \beta_2 (DAR_{it}) + \beta_3 (DER_{it}) + \beta_4 (LNTA_{it}) + \epsilon_{it}$$

I – point to observation number,  $Y_i$  – dependent variable, ROA-profitability indicator,  $\alpha$ - constant



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term,  $\beta$ - coefficient of the function,  $X_i$ -independent variables value,  $\varepsilon_i$  –disturbance or error term, LDR- Loan to Deposit

Ratio, DAR- Deposit o Asset Ratio, DER- Debt to Equity Ratio and LNTA- size

**Table 2: Variables, their Measures and Expected Sign**

Variable		Definition	Mathematical Expression	Expected Sign
Explained Variable	Return On Asset (ROA)	The ratio of net income divided by Equity	ROA = $\frac{\text{Net Income}}{\text{Total Asset}}$	NA
or    Control Variables	The debt to equity ratio (DER)	It shows the percentage of a company's debt to its total asset	DER = $\frac{\text{Total Liability}}{\text{Total equity}}$	-
	Deposit to Assets Ratio	It helps to show the impact of deposit or no deposit financing on profitability	DAR= $\frac{\text{Total Deposit}}{\text{Total Assets}}$	+
	Loan to Deposit Ratio	It helps to measure utilized funds from the deposit for the period	DLR= $\frac{\text{Total Loan}}{\text{Total Deposit}}$	+
	Size	It helps to analyze the impact based on the size of firms	SIZE =LNTA (Total Asset)	+

Source: compiled by the researchers

## IV. DATA ANALYSIS AND PRESENTATION

### A. Descriptive Statistics

The descriptive statistics for the endogenous and exogenous variables are presented in Table 3 below:

**Table 3: Descriptive Statistics of Dependent and Independent Variables (E-Views)**

	ROA	DER	DLR	DAR	SIZE
Mean	0.026	2.304	0.336	0.292	8.164
Median	0.03	1.99	0.29	0.246	7.949
Maximum	1.2	11.15	4.556	5.923	9.927
Minimum	-1.494	-0.14	0	0	6.713
Std. Dev.	0.184	1.853	0.435	0.554	0.853
Observations	120	120	120	120	120

As measured by the mean value of ROA in Table 3 a measure of profitability (dependent variable) which is computed by dividing Net Income by Total asset of the institution has a mean value of 0.026. The result revealed to on average for every birr investment in MFIs would earn a 2.5 percent return. The other measure, the median that is not disposed of by extreme values similarly shows that microfinance institutions have a return of 3 percent financed through their profit. The higher figure indicates that the institution management is more efficient in using its funds and be a sign of the ability to generate profits from MFIs. The maximum ROA was 1.2 and the minimum value was -1.494. This implies that the most profitable MFI earns 1.2 cents income and not profitable MFI loss was -1.494 cents income a birr investment in the institution's profit. The standard deviation of 0.184 shows the existence of a discrepancy in a generated profit value across the sampled MFIs.

The composition debt-to-equity of MFIs has a ratio of a mean and median value of 2.304 and 1.99 respectively. This means the selected MFIs funding assets by using 2.3 percent of the debt. This implies that the mean value of the sampled microfinance was higher than the proposed standard of 1.5. As it is seen maximum and minimum values are 11.15 and -0.14 respectively. The values of the debt-equity ratio head off from its mean by 1.8 percent to both sides.

Another independent variable, deposit-to-asset ratio measured by dividing the sum of customers deposit to assets ratio of the sampled microfinance institutions during the period implied 29 percent, it reveals that total deposit represents on average 29 percent of total asset of a financial association in the country. In microfinance institutions when the deposit to asset ratio varies from the mean by 5.5 present, there was 5.923 percent the highest deposit to asset ratio in the specified period and 0 figure of minimum ratio.

As it is indicated, the natural logarithm (size) of the mean value was 8.164. Simultaneously the maximum and minimum figures were 9.92 and 6.713 respectively. Moreover, figure 0.853 was shown as the standard deviation variance in size.

The table indicated that the mean value of 0.336 under the deposit-to-loan ratio in MFIs.

The value discloses as the loan represents to a great extent above the deposit of financial institutions. The maximum LTD ratio was 4.556 and the minimum was 0. This implies that MFIs advances loans from both deposit and also from non-deposit sources of finance for their customers.

### B. Correlation Analysis of the Variables

The correlation matrix effect between the dependent variable (ROA) and independent variables (DER, DLD, DAR, and SIZE) is presented in Table 4:

**Table 4: Correlation Matrix for Variables (Dependent and Independent)**

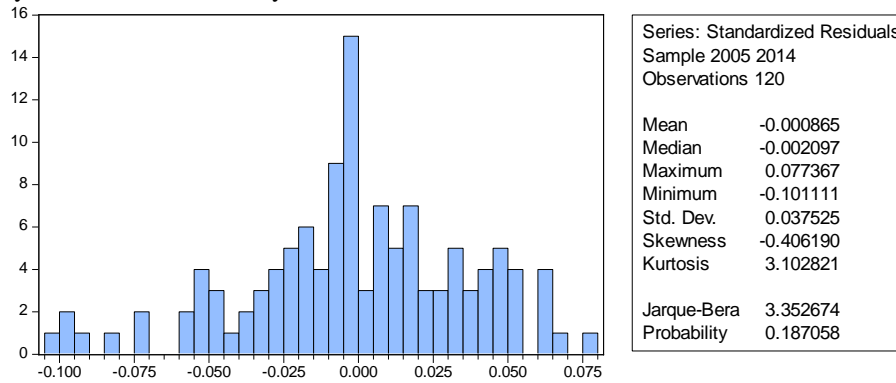
	ROA	DER	DLR	DAR	SIZE
ROA	1	0.065	-0.638	-0.563	0.051
DER	0.065	1	-0.018	-0.071	0.378
DLR	-0.638	-0.018	1	0.901	0.308
DAR	-0.563	-0.071	0.901	1	0.144
SIZE	0.051	0.378	0.308	0.144	1

As the result indicated in Table 4 DLR and DAR had a negative correlation to ROA with a coefficient of correlation -0.638, and -0.563 respectively. DER and SIZE of MFIs had a positive correlation to ROA with 0.0647 and 0.051 respectively. Hence, a positive signal of the coefficient means a positive linear relationship with return on asset and vice versa.

### C. Normality Assumption Test

The normality assumption test shows the outline of variables data distribution in the graph. The researcher employed Bera-Jarque for a property of random variable which normally distributed and that the entire distribution is characterized by the first two instants mean and variance (Brooks, 2008). In this study, the Bera-Jarque test was used by the researchers to check the assumption of the normality test. Graph 4.1 below connotes that, kurtosis has come near 3 (i.e. 3.10), and the Bera-Jarque statistic p-value was not significant at 5% coefficient level and p-value has 0.18 form. In this case, the null hypothesis exists as normally distributed and not rejected. Thus, it is possible to say that there is no problem of normality on models because

residuals are normally distributed in this study.



[Fig.1: Normality Test Using Histogram]

## D. Analysis of Regression Results

Table 5: Results of the Regression Analysis

Method		Panel Least Squares		
Dependent Variable		ROA		
Date		05/10/19		Time 16:48
Sample		2005 2014		
Periods included:		10 years		
Cross-sections included:		12 MFIs		
Total panel (balanced) observations: - 120				
Variables	Coefficient	Std. Error	T-Statistic	Prob.
C	-1.812	0.275	-6.595	0.000
DER	-0.007	0.010	-0.679	0.499
DLR	-0.858	0.102	-8.407	0.000
DAR	0.435	0.076	5.720	0.000
SIZE	0.247	0.034	7.097	0.000
	Specification Effects			
Cross-section fixed (dummy variables)				
R-squared	0.667	Mean Dependent Var		0.026
Adjusted R-squared	0.618	S.D Dependent Var		0.184
S.E. of regression	0.114	Akaike Info. Criterion		-1.387
Sum squared resid.	1.344	Schwarz Criterion		-1.016
Log-likelihood	99.247	Hannan-Quinn Criter.		-1.237
F-statistic	13.858	Durbin-Watson stat		1.366
Prob. (F-statistic)	0.000			

Source: Audited Financial Statement of MFIs and E-views output Coefficient significant at 1%, and \*\* Coefficient significant at 5%

As in Table 5 shown, the fixed effect regression result of  $R^2$  is 0.667 which indicates that the independent variables which used in the study elucidated 66.6 percent of the dependent variable. On the other hand, factors that are not included in this study took 33.3 percent.

As Table 5 indicates, deposit to asset ratio, size, and loan to deposit ratio had a positive and statistically significant influence at 1% level on MFIs profitability (ROA), but debt to equity ratio indicates a negative effect on the profitability of MFIs of which statistically insignificant influence at 5%. P-value (F-Statistic) 0.000 indicated that as there is the existence of strong statistical significance, which improved the steadfastness and soundness of the model.

## E. Regression Result Discussion

### i. Deposit to Loan Ratio

H1: Deposit to loan percentage has a positive and significant relationship on the profitability of microfinance institutions.

The outcome of the fixed-effect model Table 5 indicated that deposit to loan had a negative relationship with profitability (return on asset) and statistically significant with p-value = 0.000 at a 1% coefficient level.

This implies that every Ethiopian currency birr 1 change in MFIs loan to deposit ratio keeping other things constant had ensuing change of -85 cents (Coeff. = -0.858) on profitability (return on asset) in the opposite direction. This finding is not consistent with (Botoe, 2012) finding.

### ii. Debt-to-Equity Ratio

H2: Debt to equity proportion has a negative and significant correlation with the profitability of microfinance institutions.

The fixed-effect model result in Table 5 is shown as the coefficient of the debt to equity ratio (DER) negative - 0.007 and statistically negative insignificant level at 5%. This validates that the covered period in the study starting from 2005 up to

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2014 liquidity of MFIs have a positive relationship with return on the asset in consideration profitability as a proxy. This indicates that decreasing DER by one unit to ROA, changes -0.007 which means it decreases the financial health of the institutions' other variables, holding constant. This finding goes in line with Kamoyo, (2006) but the result opposes Javaid and Abrar, (2016). When ROA increases the profitability of the institution's decreases. Therefore, hypothesis 2 (H2) was accepted because the data support the hypothesis.

### iii. Size

H3: The size of microfinance institutions has a positive and significant relationship with the profitability of MFIs.

The natural logarithm was taken to measure the size for the total asset of the MFIs, the coefficient was positive (0.247) and it was statically significant to be taken in as a significant variable in the study. As per the result of Table 5 firms' size had positive relationships with the profitability of microfinance institutions, and statistically significant p-value (0.000), at a 1% significant level coefficient. Here, it noted that every 1 percent change in the MFI size, keeping other things constant, had a result of 24.6 percent change on

the profitability simultaneously. The output suggested as of the MFI getting bigger in its asset size, the more profitable it becomes. The possible reason is that larger firms are that much more flexible than smaller ones for having a better return. It is also consistent with Lemara, (2017), Mekbib, (2016), Aregawi, (2017). But the study is not in harmony with Haron (2004), Assfaw, (2019), and Tharu and Shrestha (2019).

### iv. Deposit to Asset Ratio

H4: Deposit to asset ratio has a positive and significant relationship with the profitability of microfinance institutions.

The figure in Table 5 shows as there was a statistically significant and positive correlation with (p-value of 0.000) at a 1 % coefficient level. This indicates that every 1 Ethiopia currency (birr) change in MFIs deposit to asset ratio had a result of 43 cents (Coeff. = 0.435) on the profitability. The Table result also demonstrates that financing with deposit has a positive impact on the profitability of MFIs. The result goes along with the result of Javaid and Abrar, (2016) but not in line with Botoe, (2012). The result is as expected i.e. hypothesis 4 (H4) was accepted.

## V. SUMMARY OF THE FINDINGS

Table 6: Summary of the Findings

No.	Hypotheses	Outcome
H1	The deposit-to-loan ratio has a positive and significant relationship with the profitability of microfinance institutions.	Rejected
H2	The debt-to-equity ratio has a negative and insignificant relationship with the profitability of microfinance institutions.	Accepted
H3	The size of microfinance institutions has a positive and significant relationship with the profitability of microfinance institutions.	Accepted
H4	Deposit to asset ratio has a positive and significant relationship with the profitability of microfinance institutions.	Accepted

## VI. CONCLUSION

The main purpose of this study was to examine the impact of liquidity on micro-finance institution's viability/profitability of Ethiopia. The study mainly concentrated on three theories of liquidity namely qualitative liquidity theory, liquidity motive theory, and shift-ability theory. To achieve the intended objectives the study used quantitative approaches panel data analysis methodology. The audited financial report was collected from twelve selected Microfinance institutions from the year 2005 up to 2014. The collected data were analyzed by supporting the fixed-effect model using the statistical package of E-views 7.0. The results of the fixed effect model indicated that liquidity which measured by deposit to asset ratio had a statistically significant positive correlation with profitability. The other variable debt to equity ratio had a statistically insignificant and negative relationship with profitability. In the same way, the loan to deposit ratio had also a negative and statistically significant relationship with viability/profitability. Moreover, size and profitability have a positive and statistically significant relationship. Generally, we can conclude that the findings of the study indicated as liquidity has a significant impact on the profitability of microfinance institutions.

Microfinance institutions should have to develop techniques, to generate more profit, and to manage their liquidity in an effective and efficient approach.

Developing techniques and procedural tools strengthen institutions on controlling of assets as well as debts in an

appropriate manner. Furthermore, microfinance institutions secure an adequate balance of cash as per their motives. If there is effective and efficient liquidity management, they will have an optimum level of liquidity and profitability.

### A. Limitation and Study Forward

This study examined micro-finances liquidity impact on viability by using debt-to-equity, deposit-to-asset, deposit-to-loan ratios, and size as dependent variables and return on an asset as an independent variable. Lack of empirical study was the most face-up hindrance task for this study.

Since the complexity of the financial environment, it's recommended for researchers to study other variables and research design for better enhancement in the area.

## DECLARATION STATEMENT

I must verify the accuracy of the following information as the article's author.

- **Conflicts of Interest/ Competing Interests:** Based on my understanding, this article has no conflicts of interest.
- **Funding Support:** This article has not been sponsored or funded by any organization or agency. The independence of this research is a crucial factor in affirming its impartiality, as it has been conducted without any external sway.
- **Ethical Approval and Consent to Participate:** The data provided in this article is exempt from the requirement for ethical approval or participant consent.

- **Data Access Statement and Material Availability:** The adequate resources of this article are publicly accessible.
- **Authors Contributions:** The authorship of this article is contributed solely.

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