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Determinants of Microfinance Profitability: Evidence from Latin America

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Abstract

This study attempts to find out the determinants of profitability of Microfinance Institution (MFI) operating in the Latin American region using the data for the period of 2005-2018. We used numerous variables as determinants of the profitability of microfinance institutions. We used Ordinary Least Square (OLS) and the most sophisticated methodology of dynamic panel data, the generalized method of moment (GMM), in this study.The factors that were considered very significant in the determination of profitability of microfinance institutions are Average loan balance (ALB), Number of the active borrower (NOAB), Borrower per staff member (BPSM), AGE, Equity to Assets (ETA), and COUNT hence increase the profitability of microfinance institutions. While, Portfolio Quality(P30), Number of offices (OFF), SIZE, and regulation status(RG) harm profitability(ROA) hence decrease the profitability of microfinance institutions. However, cost per borrower (CPB), Number of diamonds (DM), and Gross domestic product(GDP) have an insignificant effect on profitability(ROA).The result suggests that if microfinance institutions want to increase their profitability, they have to increase their borrowers while decreasing the number of offices simultaneously.The findings of this study will help reach a deep understanding to verbalize the future policy concerning to development of microfinance institutions.

Introduction

Development is crucial in any society. Adopting a bottom-up development approach is strategic, which gives birth to a consistent change in society. Nobel laureate Robert E. Lucas in his 1990 article, explains why there is no flow of capital from developed to global south countries. He based his arguments on the concept of calculation that shows the marginal product of capital was 58 times higher in India than in the United States at the time of research. Two concepts emerge with relevance when applying Basic economic theory. The first concept is the Law of diminishing returns founded by early economic scholars such as Smith and Ricardo. They made an implication that the marginal product of capital decrease as the capital stock increase. The second concept is that of economic rationality that suggests that investments and capital flows seek the allocation of capital that produces the highest return. There is inconsistency by comparing the two theories and the findings of Lucas in his article 1990.

Following the search for higher returns, capital is expected to have an unprecedented flow rate to the developing countries from the western world to search for high returns. This will lead to the receiving country getting more vital economic development, though this has not been the case in the recent development. Loans tend to have short maturity periods in more inferior parts administered by local loan sharks who provide at increased interest rates. According to Grameen, Microfinance institutions have the most successful aimed projects to tackling capital intensity which is low to developing countries, as seen in the case of the Grameen Bank in Bangladesh, where it was grown to have clients of more than 7 million, thereby creating credit access to a larger population.

MFIs are proved as an essential instrument, over the last several decades, for encouraging growth and sustainable progress (Yunus, 1998) as they provide small-sized, generally uncollateralized loans to the poor using group lending methodology for the generation of their regular source of income. Microfinance has been placed as an essential segment of the financial sector, particularly in developing countries. In international finance, microfinance is recognized because of its bottom-up approach. Microfinance is seen as a practical instrument to achieve the holytrinity of outreach, impact, and sustainability (Harper 2002).

Microfinance has been regarded as an important tool for economic development, particularly in developing countries (Nwakanma, Nnamdi, and Omojefe, 2014; Carter, 2013; McKinnon, 2010; Shaw, 1973). Later, Ledgerwood (1999) also noticed microfinance as an economic development tool aimed at reducing poverty. Many MFIs primarily depend on donations or subsidies for reducing poverty via bringing fundamental changes in socio-economic structure that are counted as a primary objective for the existence of MFIs (Morduch, 2000). According to the World Bank report in 2000, the highly significant purpose that MFIs are

required to accomplish is poverty alleviation and a "bottom-up" socio-economic growth. The collateral-free micro-financing to low-income clients is risky as they earn low payoff from their investments and costly too as reaching and serving to such clients include high costs of completing transactions and conveying information (Pollinger et al., 2007). Nevertheless, for making MFIs capable of providing more comprehensive financial products with sufficient ability to turn down reliance on donations and subsidies, obtaining profitability is part and parcel in the long run (Weiss and Montgomery, 2007).

Conning (1999) states profitability as a crucial element for providing services to the poorest of the poor. With shrinkage in donations and subsidies in recent years, profitability has become vital for MFIs, and a recent literature prominence the significance of greater profitability in MFIs such as Fries et al. (2002) also noticed that to perform as a reliable tool for diminishing poverty and increasing development, the profitability of MFIs is of vital significance. Therefore, MFIs are endeavoring to obtain self-sustainability to remove their traditional status of donation and subsidy-reliant institutions by converting to autonomous institutions rather than depending on aids and grants. Famous examples of such institutions include BancoSol and Unit Desa from Bolivia and Indonesia, respectively, transformed from societal orientation to profit orientation reported by Bhatt and Tang (2001).

Rhyne (1998) argues that profitability is not an ultimate goal but a way to obtain the eventual goal of increasing social welfare. The favorable outcomes of MFIs' intrusion cannot be persistent unless MFIs obtain profitability along with outreach on their own. It entails that the objective for the existence of MFIs cannot be accomplished unless MFIs continuously serve the poorest of the poor (Ahlin and Jiang, 2008). Hollis et al. (1998) underscored the vitality of sustainability for MFIs, indicating that MFIs with greater dependence on subsidies cannot achieve economies of scale. Vinelli (2002) argues that sustainability is essential to make certain the long-term existence of MFI by outfitting investor's needs. A sustainable MFI can reach the un-served and un-bankable people can compete in a formal lending system, can obtain funds from various sources, and can adequately deal with the cost of lending to the poorest of the poor. Therefore, the study pertains to the profitability of MFIs is important.

The significance of profitability of MFIs may be evaluated at the macro as well as microeconomic level. At the micro-level, profitability is essential for the competitiveness of MFIs and is also deemed to be the economic source of finance. For successful operations in the industry, profitability is necessary for such a competitive financial environment. Therefore, an important purpose of MFI management is to achieve sufficiency of profitability for running a successful business (Mbugua, 2014; Bobakova, 2003). At the macro level, solid financial institutions are better able to contribute to strengthening the financial system. The significance of profitability of MFIs has encouraged researchers to identify determinants that are important for MFIs' profitability.

The determinants of profitability of MFIs have been investigated in literature from both theoretical and empirical perspectives. These studies may be divided into two categories, including country-level studies (Berger, 1995, Barajas, Steiner and Salazar, 2000 and Naceur andGoaied, 2001) and panel studies (Haslem, 1968, Short, 1979, Bourke, 1989, Molyneux and Thormton, 1992 and Demirgüç-Kunt and Huizinga, 1999, Khan, Ijaz and Aslam, 2014). These studies extracted firm-level factors that explain the profitability of the firm. For example, Bashir (2003) states that capital and loan ratios positively predict the profitability of Islamic MFIs'. Most of these studies were conducted in advanced countries that may differ from Latin American countries that necessitate studying profitability determinants in the Latin American context.

The attendant question to this issue is what marks a successful MFI program, and how do we determine what they are? Like investment decisions, the trader wants to acquire as broad and accurate information about the investment as possible. Nevertheless, research and analysis conducted on MFIs concentrating on microfinance as an investment perspective are hard to find. Few studies explore the return or profitability aspects, and even fewer check out the subject from the investor's perspective. The particular aggregate conclusion we observe is that there is still a vast unexplored market for credit with potential earnings reaching a manifold of what is observed in the developed world.

Along with previous research focused chiefly on outreach and poverty-reducing aspects of microfinance, the concept's marketability as an investment opportunity remains relatively unexplored. The lack of research on this aspect in change reduces investors' probability of assimilating relevant information for their choices resulting in skepticism towards investment opportunities from events that don't have the financial or management probability to check into the subject themselves. Our objective is to shine a light on the investment viewpoints of MFIs and thereby create materials for investors and future studies. We hope that this will help investigate the chance that microfinance can be financially beneficial for the investor and create development opportunities in the obtaining nations.

This study will incorporate predictors of ROA for Latin American MFIs integrating firm-specific and country-specific factors. Firm-specific predictors include outreach, efficiency, productivity, portfolio quality, number of offices, size, age, regulation status, disclosure quality, and capital structure. In contrast, country-specific predictors include GDP and number of MFIs in a country. Predictors of profitability of MFIs are the

locus of interest for policy formulation, donors, and experts as profitable MFIs are more accomplished to have long-run contributions towards maintainable financial inclusion.Data has been used for 405 MFIs in Latin America for 2005-2018, and panel data technique has been employed.

1. Literature Review

Theoretical underpinning behind empirical investigations on profitability determinants has been provided by Ho and Saunders (1981) that included capital structure, interest rate, and competition as predictors of profitability. The followers extended their model by including credit risk (Angbazo, 1997) and operating cost (Maudos et al.,2004) as profitability predictors. Nonetheless, the primary purpose of MFIs is to include the poor in their service dome; MFIs are analogous to banks in some aspects. Mainly, retail banking functions are very similar to MFIs. Therefore, the early studies on MFI profitability relied on retail banking profitability theory presuming that MFIs provide some services similar to the banks. Traditionally, retail banks obtain funds from the people who have money in surplus and lend it to the people with money in deficit. The difference between interest earned on the amount lent and interest paid on the amount borrowed is considered as the profit of the bank called margin spread. Margin spread is deemed to be a major source of income for the banks. The rest of the income comes from several other services, including insurance, money exchange, consultancy services, and investment services. The most important factor that predicts a bank's profitability is the number of customers that it serves. Similar is the case with MFIs, where customers are considered the most important for success, but for different reasons that vary according to the goals of MFIs, either it is people-oriented or profit-oriented. Therefore, the researchers include similar profitability predictors to the banks while including some MFI specific predictors such as the extent of outreach and percentage of women served.

Theories further posit that MFIs need to maintain a minimum cost and high repayment rate (Von Pischke, 1996). Dissanayake et al. (2012) provide empirical analysis on these theoretical propositions that found that ROA is significantly determined by repayment quality and capital structure using data for Sri Lankan MFIs for 2005 to 2010. Using ROE as a measure of profitability, they found capital structure and efficiency as important determinants.

A similar study is conducted by Muriu (2011) with different datasets as they used African MFIs to determine the predictors of profitability. The study found that efficiency significantly determines profitability. Their findings are consistent with the theoretical consideration that high efficiency improves the profitability of MFIs (Woller, 2000). In addition to efficiency, they also found that credit and capital structure qualityare significant determinants of profitability.

Dissanayake (2012) investigated the relationship between profitability measured with ROE and several internal and external factors in Sri Lanka using data for 2005 to 2011. The study collected data from the database of MixMarket. The study found that leverage measured with debt to equity ratio and efficiency measured with operating expense ratio negatively relates to profitability. Portfolio quality expressed with write-off ratio and efficiency measured with cost per borrower is found to relate with profitability positively. Moreover, productivity is not found to have significant relation with ROE.

Jorgensen (2011) investigated the determinants of profitability of MFIs, taking 879 institutions. The profitability was measured using ROA, ROE, and gross portfolio yield as proxies. The purpose of the study was to highlight the determinants of profitability. Data was collected from the MixMarket database for the year 2009. The selected factors include outreach, capital structure, efficiency, portfolio quality, age, legal status, and deposit acceptance. The study found that the number of active borrowers, cost per borrower, and legal status significantly negatively impacted profitability measured with ROA. On the other extreme, gross loan portfolio, capital structure, portfolio quality (gross loan portfolio/assets), age, and operating expense ratio were found to have a significantly positive relation with ROA. Additionally, the study found no evidence for cointegration between interest rate and profitability.

Ayayi et al. (2010) investigated the predictors of FSS for more than 200 institutions from 101 countries. They found that important predictors include interest rate, quality of repayment, and quality of management. The study also found that age and outreach havea positive impact on FSS. Their findings are matched with theoretical studies such as Meyer (2002) that found a positive relationship between interest rate and FSS, and Conning (1999) found a positive relationship between outreach and FSS.

Jordan (2008) determined the impact of macroeconomic factors on sustainability in Latin American Countries over the sample of 85 MFIs. The study also obtained data from the MixMarket database from 1999 to 2005. The study used two different measures of sustainability, including ROE and repayment rate. None of the selected macroeconomic determinants is found to have a significant impact on repayment rate. On the other side, GDP has a significant impact on ROE. The study divided the analysis into two parts based on GDP, including low-income GDP countries and high-income GDP countries. Thus, only high-income GDP countries were found to have significant relation between GDP and ROE. Other included macroeconomic factors, including inflation, interest rate, and unemployment rate, were not significant.

Muriu's (2011) study is considered one of the most critical studies on MFI profitability conducted in African countries. They investigated several factors determining the profitability of MFIs using GMM on the

panel of 210 MFIs over 32 countries for the year 1997 – 2008. The factors considered for the study include capital, age, credit risk, size, efficiency, GNI, inflation, and institutional development. The study found capital, institutional development, and size as positive predictors of profitability, whereas credit risk and efficiency as negative predictors of profitability. Additionally, GNI and inflation were found to be insignificant.

Financial institutions are influenced by the environment in which they operate. The country's financial structure, economic conditions, and political structure determine the performance of MFIs (Mcdonald, 1999). Regarding country-level factors, the most comprehensive studies include that conducted by Ahlin (2011). Using 373 MFIs over several countries, economic growth measured with GDP is a significant determinant of the profitability of MFIs. GDP is supposed to affect several factors like demand and supply of credits and deposits that influence the profitability of MFIs. Several studies claim positive relation between the profitability of institutions and GDP, such as Stailouras and Wood (2004).

A study is conducted by Hossain and Khan (2016) with different datasets as they used data of Bangladesh MFIs to determine the predictors of profitability. Capital asset ratio influences financial sustainability; however, there is no significant influence of AGE, SIZE, savings and debt-equity ratio,etc., on financial sustainability. A similar study by hermes and hudonthat there is both positive and negative impact of MFI determinants on sustainability and profitability (Hermes, 2018).Another study expresses that MFI determinants and macroeconomic have both positive and negative impacts on profitability (Ibrahim, Kamaruddin, & Daud, 2016).However, in another study, there is an insignificant negative influence of liquidity and credit risk on profitability—this study is based on secondary data of microfinance banks in Kenya.(Ngumo, 2017). The objective of the study is to examine the impact of MFI determinants on profitability. It reveals that size, yield, loan, risk, and efficiency are fundamental factors that considerably impact profitability (Naz, & Ali, 2019).

Another important macroeconomic variable that is expected to affect the profitability of MFIs is inflation. As Staikouras et al. (2003) state, inflation may cause an increase in labor cost, interest rate, and asset prices thataffectthe profitability of MFIs. Tariq et al. (2014) and Perry (1992) state that the effect of inflation on the profitability of MFIs depends on either inflation is anticipated or not. In case of anticipated inflation, the entrepreneurs can adjust prices accordingly that may increase revenue. On the other side, it may adversely affect profitability in case of unanticipated inflation as it may increase cost rather than revenue. Demirguc-Kunt and Huizinga (1999) determined the impact of the financial sector and stock market development on the financial performance of MFIs. The study found that MFIs are less profitable where the financial sector is developed. The study also found that stock market development is negatively related to performance that shows substitutability between stock market development and performance of MFIs.

We all extend the present literature in MFIs profitability in different ways as we all extend the research associated with Ayayi and Sene (2010) that calculate the determinants associated with financial self-sufficiency (FSS) by estimating the particular determinants of coming back on assets (ROA), return on collateral (ROE) and internet interest margin (NIM). We are the cause of determination and dynamic character of profitability plus endogeneity once we use dynamic generalized method of times (GMM) estimation. Moreover, Muriu (2011) study analyzes the profitability of Sub Saharan Africa, but determinants of South Hard anodized cookware MFIs' profitability have never been explored in the literature so much.

This study will provide an exhaustive examination of the determinants of profitability by a deep investigation of updated literature by empirical analysis of firm-level datasets combined with macroeconomic determinants. The study will add to the existing body of profitability determinants literature in the case of MFIs.

2. Research Methodology

2.1. Data Collection and Measurement of Variables

The data was collected from the MixMarket dataset covering 405 MFIs over 21 countries in Latin America. The data was collected from 2005 to 2018 with some missing values, i.e., we used unbalanced panel data. Additionally, the World Bank database is used to collect country-level factors. The profitability of MFIs is measured with ROA. ROA is a widely used measure of profitability that specifies the ability of MFIs to produce a return on assets utilization.

Outreach is included in two dimensions, including depth and breadth. Depth of outreach is measured with average loan balance (ALB), and breadth of outreach is measured with Number of Active Borrowers (NOAB). These proxies have been borrowed from previous studies such as Quayas et al. (2012).

Among MFI specific predictors, efficiencyrefers to the ability of MFI to minimize cost while providing financial products to the clients (Bhatt et al. 2001). Cost per Borrower (CPB) is used to measure efficiency following previous studies such as Quayes (2012). Another similar measure is productivity that measures the output produced with minimum possible resources. Productivity is measured with Borrowers per Staff Member (BPSM).

Portfolio quality is measured including delinquent loans, i.e., loan overdue in the model measured with loan overdue for days more than 30 (P30) used most extensively (D'Espallier et al. 2011). The size of MFIs is measured using the log of assets to include in the model. AGE is measured using a proxy variable including

three dimensions: new, young and mature. The regulation status is measured including dichotomous variables suggesting either MFI is regulated or not. The number of diamonds (DM) given by rating agencies to MFIs is also included in the model ranging from 1 to 5 diamonds as a measure of disclosure quality. The ability of management to take risky activities is measured using equity to assets (ETA). The high value of ETA indicates high ability of MFI to take the risk, which is expected to generate high profitability. Moreover, number of offices is also among predictors of MFIs included in the model. Among country-level predictors, we included GDP to measure the economic growth of a given country and the number of MFIs (count) as a measure of the network of MFIs in a country.

2.2. Econometric Analysis

The model was developed based on well–recognized studies in banking and MFI literature, for example, Maudos et al. (2004) and Muriu (2011). The model includes firm-specific and environmental or country-level variables of Latin American MFIs to predict profitability. The model is given as follows:

$$P = \alpha_1 + \alpha_2 F_{it} + \alpha_3 C_{it} + \in_{it}$$

P represents the measurement of profitability as a dependent variable. F_{it} denotesa vector of firm-specific predictors of profitability. C_{it} denotes vectors of country-level predictors. Moreover, $\in_{it}$ is the error term.

Results

Overall results are presented in Appendix 2, Table 1 below. To check the robustness of the results, the data is divided into two categories: MFIs as per types and MFIs as per regulation status. MFIs types include banks, NGOs, NBFIs, and credit unions. Results are presented in Appendix 2, Table 2 below, whereas MFIs may be regulated or unregulated; results are presented in Appendix 2, Table 3 below. The study used two indicators for measuring the impact of outreach, including ALB and NOAB. ALB and NOAB are significant determinants of ROA in all models (i.e., OLS, RE, and GMM). The result is in line with several previous studies such as Olivares – Polanco (2005), Hulme et al. (1996), Makame and Murinde (2006), and Navajas et al. (2003). ALB and NOABare found to be significantly positive in all sub-samples. It strongly evidences mission drift or trade-off that profitability is associated with bigger-size loans rather than small loans to needy borrowers.

BPSM is a significant positive determinant of profitability, suggesting that MFIs are required to utilize their resources to the maximum extent to obtain profitability. It is consistent with the studies of Ayayi et al. (2010), Nyamsogoro (2010), Crombrugghe et al. (2008), and Gregoireand Tuya (2006). Similar coefficients are found in all subsamples consistently in the RE model. However, OLS is not consistent in different subsamples.

P30 strongly evidences a negative coefficient for ROA, suggesting that a high P>30 causes a low level of good debts that may inversely impact profitability. The result is in line with several other studies, such as Nadiya et al. (2012) and Nyamsogoro, (2010). The result is also consistent in all subsamples using all models.

The size of a firm has a significant impact on profitability. Pervan and Visic, in their research done in 2012, found that Managers of large firms pay attention to individual benefits hence decreasing profitability because of the interchange between the function of profit maximization with managerial utility maximization. The result is always consistent in all subsamples.

The AGE is also found to be a positive predictor of ROA, though insignificant in GMM. It indicates that MFI with experienced management can better earn greater profitability, as found by Caudill et al. (2009) that claims that experienced MFIs are more cost-efficient thus earn higher profitability. It is valid for all subsamples except for credit unions that have a negative coefficient though insignificant.

ETA is found to have a significantly positive relationship with profitability. It indicates that MFIs with high capitalization are less exposed to risk and are more profitable, as argued by Hartarskta et al. (2007). Moreover, the subsamples also show similar results.

COUNT is significantly positive throughout the models. It indicates that a competitive environment encourages the management of MFIs to work more effectively to increase profitability. The result is robust in subsamples. The Number of Offices and Regulation Status significantly negatively affect profitability because both increase the institution's cost, reducing profitability.However, CPB, DM, and GDP are found to have insignificant coefficients.

3. Conclusion

With the developing interest in MFIs as a venture vehicle for the west to access the pervert high marginal returns, the contention of benefit restricting development feeds a continuous worldwide debate. In this study, we have concluded that an ideal distribution of capital in the world will assist with energizing both monetary additions for the financial backers and developmental advancement for the receiving countries. In that view, we have investigated what denotes the best instances of such investments openings.

This paper intends to find out the determinants of benefit among microfinance foundations in Latin American nations. Utilizing a self-compiled dataset of unbalanced board data from 21 nations in Latin America during 2005-2018, we find MFI explicit qualities to be the fundamental determinants of MFI productivity. There is persuading evidence regarding macroeconomic determinants influencing MFI benefit, even though we

acknowledge our model might be limited in its capacity to show an exceptionally mind-boggling financial condition in Latin America. Given these study findings from the model, we conclude that a section of enormous worldwide monetary organizations in the microfinance industry in Latin America would no doubt be commonly valuable. They would be provided with an enormous, conceivably diversified market and are of possible immense benefits. While adding to the microfinance institution, utilizing their experts' skills within the main boundary of our work to expand the modest credit provision and lower world poverty

Performing our study of MFIs on an international level addressing Latin American nations presented both opportunities and challenges. 1st, being conducted on a regional degree, the study produces interesting results relevant on a broader level than if we had only observed just one country. However, the cross-country aspect also infers a risk that nationwide distinctions in dimension and transparency of data are more significant. More specifically, we noticed a bigger fall-out of findings from some countries when processing the dataset; other countries nevertheless remained to a more significant degree, producing better portrayal in the last data. Second, as not limited our research based on a certain level of reporting accuracy/transparency, the reliability of the data within our research may be wondered, a flaw that we are completely aware of and accepted to maintain an acceptable number of findings.

This study adds to the books by serving as the first summary of future investment evaluation of MFIs. It offers some evidence regarding what aspects play a role on the local level. Further research may expand the field by looking into these aspects on the national level, therefore offering more specific results for traders and policymakers enthusiastic about a particular country.

References

Ahlin, C., & Jiang, N. (2008). Can micro-credit bring development? *Journal of Development Economics*, *86*(1), 1-21.

Angbazo, L. (1997). Commercial bank net interest margins, default risk, interest-rate risk, and off-balance sheet banking. *Journal of Banking & Finance*, *21*(1), 55-87.

Ayayi, A. G., &Sene, M. (2010). What drives microfinance institution's financial sustainability. *The Journal of Developing Areas*, 303-324.

Barajas, A., Steiner, R., & Salazar, N. (2000).The impact of liberalization and foreign investment in Colombia's financial sector. *Journal of development economics*, *63*(1), 157-196.

Bashir, A. H. M. (2003). Determinants of profitability in Islamic banks: Some evidence from the Middle East. *Islamic economic studies*, *11*(1).

Berger, A. N., &Udell, G. F. (1995). Relationship lending and lines of credit in small firm finance. *Journal of business*, 351-381.

Bhatt, G. D. (2001). Knowledge management in organizations: examining the interaction between technologies, techniques, and people. *Journal of knowledge management*.

Bhatt, N., & Tang, S. Y. (2001).Delivering microfinance in developing countries: Controversies and policy perspectives. *Policy studies journal*, *29*(2), 319-333.

Bobáková, I. V. (2003). Raising the profitability of commercial banks. *Biatec*, *11*, 21-25.

Carter, S. H. (2013). *Financial intermediation, growth, and microfinance in Turkey: A quantitative study* (Doctoral dissertation, Syracuse University).

Cashdollar, K. L., Weiss, E. S., Montgomery, T. G., & Going, J. E. (2007). Post-explosion observations of experimental mine and laboratory coal dust explosions. *Journal of Loss Prevention in the Process Industries*, *20*(4-6), 607-615.

Caudill, S. B., Gropper, D. M., &Hartarska, V. (2009). Which microfinance institutions are becoming more cost effective with time? Evidence from a mixture model. *Journal of Money, Credit and Banking*, *41*(4), 651-672.

Conning, J. (1999). Outreach, sustainability and leverage in monitored and peer-monitored lending. *Journal of development economics*, *60*(1), 51-77.

D'espallier, B., Guérin, I., &Mersland, R. (2011). Women and repayment in microfinance: A global analysis. *World development*, *39*(5), 758-772.

De Crombrugghe, A., Tenikue, M., &Sureda, J. (2008).Performance analysis for a sample of microfinance institutions in India. *Annals of public and cooperative economics*, *79*(2), 269-299.

Demirgüç-Kunt, A., & Huizinga, H. (1999). Determinants of commercial bank interest margins and profitability: some international evidence. *The World Bank Economic Review*, *13*(2), 379-408.

Demirgüç-Kunt, A., & Huizinga, H. (1999). Determinants of commercial bank interest margins and profitability: some international evidence. *The World Bank Economic Review*, *13*(2), 379-408.

Dissanayake, D. M. N. S. W. (2012). The Determinants of Microfinance Profitability: Evidences From Sri Lankan Microfinance Institutions.

Dissanayake, D. M. N. S. W. (2012). The determinants of return on equity: evidences from Sri Lankan microfinance institutions. *International Refereed Research Journal*, *3*(2), 2.

Fries, S., Neven, D., &Seabright, P. (2002).Bank performance in transition economies.
Gregoire, J. R., &Tuya, O. R. (2006). Cost efficiency of microfinance institutions in Peru: A stochastic frontier approach. *Latin American Business Review*, *7*(2), 41-70.
Harper, D. (2002).Talking about pictures: A case for photo elicitation. *Visual studies*, *17*(1), 13-26.
Hartarska, V., &Nadolnyak, D. (2007). Do regulated microfinance institutions achieve better sustainability and outreach? Cross-country evidence. *Applied economics*, *39*(10), 1207-1222.
Ho, T. S., & Saunders, A. (1981). The determinants of bank interest margins: theory and empirical evidence. *Journal of Financial and Quantitative analysis*, *16*(4), 581-600.
Hollis, A., &Sweetman, A. (1998). Microcredit: What can we learn from the past?. *World Development*, *26*(10), 1875-1891.
Hossain, J., Khan, M. S., Hossain, M. D., & Ahmed, A. (2016). *Determination of active zone in expansive clay in North Texas through field instrumentation* (No. 16-2505).
Hulme, D., & Mosley, P. (1996). *Finance against poverty* (Vol. 2). Psychology Press.
Ibrahim, S. N., Kamaruddin, N. I., &Daud, S. (2016). Assessing the Determinants of Profitability Performance on Islamic Microfinance in Malaysia. *Journal of Economics, Business and Management*, *4*(3), 201-205.
Khan, M. M. S., Ijaz, F., &Aslam, E. (2014). Determinants of profitability of Islamic banking industry: An evidence from Pakistan. *Business & Economic Review*, *6*(2), 27-46.
Lakonishok, J., Shleifer, A., Vishny, R. W., Hart, O., & Perry, G. L. (1992).The structure and performance of the money management industry. *Brookings Papers on Economic Activity. Microeconomics*, *1992*, 339-391.
Ledgerwood, J. (1999). Sustainable banking with the poor microfinance handbook.
Lucas Jr, R. E. (1990). Liquidity and interest rates. *Journal of economic theory*, *50*(2), 237-264.
Makame, A. H., &Murinde, V. (2006).Empirical findings on cognitive dissonance around microfinance outreach and sustainability. *unpublished paper, Birmingham: University of Birmingham*.
Maudos, J., & De Guevara, J. F. (2004). Factors explaining the interest margin in the banking sectors of the European Union. *Journal of Banking & Finance*, *28*(9), 2259-2281.
Mbugua, F., &Rarieya, J. F. (2014). Collaborative strategic planning: myth or reality?. *Educational Management Administration & Leadership*, *42*(1), 99-111.
McDonald, J. T. (1999). The determinants of firm profitability in Australian manufacturing. *Economic Record*, *75*(2), 115-126.
McKinnon, R. I. (2010). *Money and capital in economic development*. Brookings Institution Press.
Meyer, R. L. (2002). Track record of financial institutions in assisting the poor in Asia.
Mohsin, S., Bashir, M. F., & Bin Tariq, D. (2018).Outreach and Performance Analysis of Microfinance Banks in Pakistan. *Syed Mohsin, Malik Faheem Bashir, Yasir Bin Tariq,(2018)" Outreach and Performance Analysis of Microfinance Banks in Pakistan", Business and Economic Review*, *10*(3), 1-28.
Molyneux, P., & Thornton, J. (1992). Determinants of European bank profitability: A note. *Journal of banking & Finance*, *16*(6), 1173-1178.
Morduch, J. (2000). The microfinance schism. *World development*, *28*(4), 617-629.
Muriu, P. (2011). Microfinance Profitability: Does financing choice matter. *Np*, *May*.
Muriu, P. (2011). Microfinance Profitability: Does financing choice matter. *Np*, *May*.
Naceur, S. B., &Goaied, M. (2001). The determinants of the Tunisian deposit banks' performance. *Applied Financial Economics*, *11*(3), 317-319.
Nadiya, M., Olivares-Polanco, F., &Ramanan, T. R. (2012).Dangers in mismanaging the factors affecting the operational self-sustainability (OSS) of Indian microfinance institutions (MFIs)-an exploration into Indian microfinance crisis. *Asian Economic and Financial Review*, *2*(3), 448.
Navajas, S., Conning, J., & Gonzalez-Vega, C. (2003). Lending technologies, competition and consolidation in the market for microfinance in Bolivia. *Journal of International Development: The Journal of the Development Studies Association*, *15*(6), 747-770.
Naz, F., Salim, S., Rehman, R. U., Ahmad, M. I., & Ali, R. (2019).Determinants of financial sustainability of microfinance institutions in Pakistan. *Управленец*, *10*(4).
Ngumo, I. K. (2017). *Effect of quality management on financial performance of Manufacturing Firms in industrial area, Nairobi county* (Doctoral dissertation, University of Nairobi).
Nwakanma, P. C., Nnamdi, I. S., &Omojefe, G. O. (2014). From Rural to Microfinance Banking: Contributions of Micro Credits to Nigeria's Economic Growth-An ARDL Approach. *International Journal of Financial Research*, *5*(3), 73.
Nyamsogoro, G. D. (2010). *Financial sustainability of rural microfinance institutions (MFIs) in Tanzania* (Doctoral dissertation, University of Greenwich).
Olivares-Polanco, F. (2005). Commercializing microfinance and deepening outreach? Empirical evidence from Latin America. *Journal of Microfinance/ESR Review*, *7*(2), 5.

ørgensen, A. N. (2011). The Profitability of Microfinance Institutions and the Connection to the Yield on the Gross Portfolio.Unpublished Thesis. Copenhagen Business School

Pollinger, J. J., Outhwaite, J., & Cordero-Guzmán, H. (2007).The question of sustainability for microfinance institutions. *Journal of Small Business Management*, *45*(1), 23-41.

Postelnicu, L., & Hermes, N. (2018). Microfinance performance and social capital: A cross-country analysis. *Journal of Business Ethics*, *153*(2), 427-445.

Quayes, S. (2012). Depth of outreach and financial sustainability of microfinance institutions. *Applied Economics*, *44*(26), 3421-3433.

Rhyne, E. (1998). The yin and yang of microfinance: Reaching the poor and sustainability. *MicroBanking Bulletin*, *2*(1), 6-8.

Shaw, E. S. (1973). Financial deepening in economic development.

Smith, R., Staikouras, C., & Wood, G. (2003). Non-interest income and total income stability.

Staikouras, C. K., & Wood, G. E. (2004). The determinants of European bank profitability. *International Business & Economics Research Journal (IBER)*, *3*(6).

van Rijn, J. The Impact of the Macroeconomic Environment on Microfinance Sustainability.

Vinelli, A. (2002). Financial sustainability in US microfinance organizations: Lessons from developing countries. *Replicating Microfinance in the United States, Washington DC, 2002*, 137-165.

Von Pischke, J. D. (1996). Measuring the trade-off between outreach and sustainability of microenterprise lenders. *Journal of International Development*, *8*(2), 225-239.

Woller, G. (2000). Reassessing the financial viability of village banking: Past performance and future prospects. *MicroBanking Bulletin*, *5*, 3-8.

World Bank. (2000). *World development report 2000/2001: Attacking poverty*. The World Bank.

Yunus, M. (1998). *Banker to the Poor*.Penguin Books India.

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