

Determinants of Micro Finance Bank Stability in Pakistan

Muhammad Ali, Jimisiah Jaafar, Hassan Jahangiri, Ahmad Fakhruddin, Noor Farris Aqmal

Abstract: *In developing countries like Pakistan MF is anticipated to play a vital part in lowering poverty and raising the standard of living of people. The performance of MF is a key to the development of society and economy of Pakistan. A sustainable MF structure in a country can be helpful in developing small scale businesses. Success of MF in Bangladesh and other parts of the world is a signal that the field has major role in changing lives of low people. Despite the importance of the field of micro finance in a country like Pakistan, it has been explored rarely by academicians. The study is aiming to investigate the fiscal viability of MF banks in Pakistan. MF Banks are institutions that provide micro fiscal assistance to people. The study is based on the MF banks in Pakistan. Performance of MF can be judged through various dimensions. The study is limited to the analysis of fiscal sustainability of MF. The scope of study is limited to the MF banks in Pakistan. The time period of the analysis is from 2010 to 2017 due to availability of the data for this time period.*

Index Terms: *Microfinance, banking sector, financial stability.*

I. INTRODUCTION

A. Introduction

MF is an infant industry and growing rapidly in Pakistan and it has a great contribution in reducing poverty in Pakistan. MF is provided by Banks, institutes and non-government organizations. There are 06 MF banks operating in Pakistan, 13 MFIs (MFI) and 5 rural support programs (RSP's). The figure of active borrowers is 12 million as of 2018 served by 1480 branches of MF across the country. The total market size is 27 million as of 2018. MF is still very young in Pakistan and has a tremendous period in future. MF can be defined as finance for non-financeable people or banking for non-bankable. Provision of fiscal assistance to low people. According to Asian Development Bank MF includes broad range of fiscal assistance such as loan, deposits, monetary assistance, to low and low-earning households. MF not only provides fiscal assistance but also it has a major contribution in reducing poverty and maintaining social coherence in a society.

Fiscal viability is essential for micro finance institute. Fiscal Viability is ability of MFI to cover all types of expenditure by

generating earning from own sources. MF Fiscal viability means a MFI is able to meet expenditures without the support of external sources of finance such as donors and subsidy. It is also referred as fiscal self-sufficiency. Fiscal viability is key determinant of viability of MFI. Covering operating expenditures of the firm from its own sources of earning is operational efficiency and covering funding expenditure from self-generated sounds is called as fiscal self-sufficiency. Fiscal Viability depends on many factors. Current study aims at identifying the factors responsible for fiscal viability of MFIs in Pakistan. In this study Fiscal Viability will be dependent variable and efficiency, size, leverage, growth, risk and outreach of micro finance bank will be explanatory variables.

MF offers wide categories of fiscal assistance like: loans, payment assistance, insurance, money transfer and deposits to low, low-earning and unbanked families and their micro-enterprises held in both urban and rural areas. Copestake [1] defines MF as offering fiscal assistance to the extremely low people who are freelancing and to those making less than the national average earning.

II. PROBLEM STATEMENT

A sustainable micro finance is critical to cope with the problem of poverty in a country. This study focuses on fiscal viability of MF Banks in Pakistan. Pakistan is a developing economy. The level of poverty is wide and deep especially in remote rural areas of country. Major macroeconomic policies made in Pakistan were directed towards development of rich class of society. Most of the studies revealed that MF has an impact on reducing poverty and raising the standards of living. MF helps to provide the low access to fiscal assistance which has not been provided by tradition fiscal instruments; moreover, MF helps to build small and medium enterprises which can be used as a tool of earning generation. MF is new in Pakistan with an age of 12 years. A sustainable micro finance is required for pro low growth and development in Pakistan. Viability is a problem for MFIs as it is highlighted in many researches. This problem has attracted the attention of academicians in the last decade. MF banking in parallel to Non-Governmental Organizations faces difficulties to run the Micro Finance for the sake of cost effectiveness, especially in a country like Pakistan where rural support programs run by government and NGO's limit the accessibility and viability of MF banks. There is a need to address this issue and develop strategies for sustainable MF. All Low families have not the same access as others so "MFIs" filled that gap all over the emerging market. MFIs have become central players in socio-economic development

Revised Manuscript Received on February 08, 2020.

Muhammad Ali, Universiti Kuala Lumpur Business School, Malaysia. Email: Muhammad.ali16@s.unikl.edu.my

Jimisiah Jaafar, Universiti Kuala Lumpur - MITEC, Johor Bahru, Malaysia. Email: jimisiah@unikl.edu.my

M. Hassan Jahangiri, Universiti Malaysia Terengganu, Malaysia. Email: muhammadhassanjahangiri@gmail.com

Ahmad Fakhruddin, Universiti Kuala Lumpur - MITEC, Johor Bahru, Malaysia. Email: afakhruddin.dailami@s.unikl.edu.my

Noor Farris Aqmal, Universiti Teknologi Malaysia.

especially in developing countries.

Micro-finance institute is an organization that offers fiscal assistance to the low. They are also expert in providing fiscal assistance to the micro-enterprises [2] :

Various MFIs were started as charitable and or donor-supported programs to allot sustainable funding to low society; performed under the support of non-governmental organizations that are Opportunity International and Mercy Corps. In 1970's, policies expanded and for producing earning-generating activities, building personal assets, and institutional support for its assistance suppliers, MF had increase healthcare and social assistance

From 1980 to 1990, mostly MFIs begin transforming into for-profit units. Since the 1990's, many MF organizations altered into MFI's, both regulated and non-regulated organizations, as non-bank fiscal institutes or even commercial banks. Presently almost 3,100 MFIs exists worldwide (another estimate is 10,000 in total), some are small and local, excluding 100 that are considered on top line. One of these two MF models is used by MFIs. Models names are: individual and group lending. Loans ranging from \$10 to \$ 100, Group or Peer Lending exercises a joint liability model or cross guarantees, no collateral and peer burden for repayment. Individual Lending involves greater credit amounts, and depends on individual's cash flow or collateral, and possibly be comprise of 'graduates' of the group-lending cycles.

III. LITERATURE REVIEW

Micro Finance is not new to the world. Ample research has been conducted in the field of micro finance both in the developed and developing markets across the globe. Micro finance has been practiced and academicians and fiscal experts have done a lot of work in the field since its inception. Fiscal viability is a key measure of performance of micro banks.

A. MF as a field of study

According to Patten, Rosengard & Johnston [3] MF provides small-scale fiscal assistance mainly savings and credit to the people having fish or herd or farm; operating such microenterprises where production, recycling, repairing, or selling of manufactured goods subsist; utilizing their abilities; receiving wages or commissions against their service; earning from small amounts of land's rent outs, also from machinery, , or vehicles and tools; and to other rural and urban's households and Communities of developing countries [3].

As same like the Asian development bank [4] presents a concise definition of MF, they define it as MF as a broad range of fiscal assistance basically payment assistance, deposits, loans, insurance and money transfers to the poor individuals and low-earning households and their farm and non-farm micro-enterprises.

Micro credits are being used to establish micro businesses or to increase existing business size this will support necessities of very low. Besides microcredit or loan, MF is offering low households savings, insurance money transfers and other fiscal assistance, through progressive lending, regular repayment schedules, collateral substitutes, group lending or to individual clients.

B. Cost effectiveness of MF

In these days it is generally recognized that a relatively attractive potential for profits generation and growth is provision of loans to micro-entrepreneurs. Cost effectiveness defined by Morduch [5] as "The ability of providing monetary rewards sufficient to develop interest and maintain funding". According to Honohan [6], in some areas, like Asia, Africa and Latin America the cost effectiveness of MF banks have already been compressed by high competition in the industry. Thus, due to the fast growth of the industry, now main priority is cost effectiveness that has main concern in becoming sustainable. MF viability is a step towards cost effectiveness; however, both can be achieved when the institutes have ability to reduce their transaction expenditures, providing improved products and assistances that fulfill customer needs and make sufficient revenues and also have ability to locate latest funding ways to low households.

As in favor of above concept "Micro finance cost effectiveness is related to their fiscal viability" Hartarska & Nadolnyak [7] define the non-profit equivalent of cost effectiveness is fiscal self-sufficiency. Profit could be a core variable in determining a firm's fiscal viability, other things remain equal. Using this approach, if and only if MF banks are better capable of covering all their operating and fiscal expenditures from self-owned resources particularly from interest rate charges, MF banks will be considered sustainable.

It has been clear from the above evidence that MF banks that exclusively rely on their own created funds to maintain their present level of operations and be able to achieve their preferred level of growth till now, cost effectiveness is a key premise of measuring fiscal viability.

C. Viability of MF

At the point when the term MF appeared, the issue emerges whether giver backing is required in the long haul and furthermore the issue of supportability of such foundations happens. It tends to be discussed that the long-haul supportability of MF banks isn't significant as long as cash was given to miniaturized scale businesspeople and a startup help was given. This may infer that manageability of the small-scale undertakings is more crucial than the long-haul subsistence of the money related foundation that stood following the start up.

The MFI's viability could be defined in numerous ways, which in essence, measures the ability of the institute to meet out its expenditures. That is why Kurosaki & Khan [8] defines viability as; the power of continuing any given action into the future within the possible remaining assets of a company, as part of its current monetary and management processes. In common viability means the ability of a strategy to constantly carry out endeavors and assistance in practice of its legislative objectives.

Past investigations in MF field have characterized maintainability from productivity perspective. They think gainfulness as an elevated expectation determinant of MFBs execution [9]. With this methodology MFBs are expected reasonable just on the off chance that they are able to cover all their working and money

related expenditures from their own earned earnings principally through loan fee charges.

They more characterize supportability as the degree of monetary activity where all expenses of the loan specialist are completely secured from the intrigue charges, and these charges have nor been financed to some degree or nor completely secured from outside sources [10].

D. Viability and Fiscal Self Sufficiency of MF Banks

The research held by the Ohio State University Rural Finance Program, examined that fall down of many rural credit systems during 1960 to 1970 had a direct effect of lacking institutional viability. This study developed two key results:

1. To provide fiscal assistance to the low income successfully, it has been critical to have institutional viability.
2. Fiscal viability is considered as precondition for institutional viability.

According to Ahlin, Lin, & Maio [11] most of the literature in MF were relating the concept of viability to achievement of 'fiscal' viability. In contrast of fiscal viability notion, being suggested to as 'viability', many academics have been split the terms into two separate levels as: operating self-sufficiency and fiscal sufficiency [12].

E. Operational Self sufficiency

This level suggests expenditure-covering capacity of MF banks, this means that they are able to produce adequate proceeds to cover operating expenditures (not necessarily the total expenditure of capital). According to Smith [12] OSS suggests the capability of the MF banks to meet its operational expenditures from its operating earnings despite the fact whether it is subsidized or not.

As in another idea operational supportability go together with the idea of operating independence (OSS) which estimates working earning as an extent of working and monetary expenditures, comprising advance misfortune arrangement expenditure and such. In the event that this proportion is more noteworthy than 100%, the MFI has been taking care of the majority of its expenses from its very own activities and has not relying upon gifts or appropriations from contributors to subsist [13].

In fact, operational viability related to the future viability of the MFI's OSS. To achieve OSS for maintaining viable and further improvement in their operations is considered a key role of MFIs.

F. Fiscal Self -Sufficiency

The Fiscal Viability described as the ability of MF banks, to use subsidized resources and funds efficiently, to create revenue. Fiscal viability of MF banks is the key dimension of MF viability. According to [1], fiscal self-sufficiency is the ability of micro finance banks to meet out all its expenditures from its own generated revenues from operations not being dependent on outside aid or fiscal assistance. Fiscal viability is also defined as the capability to up keep MF objective without stopping donor assistance by Jain & Mansuri [14]. The above definitions focus on depending self-controlled operations and also imply the opportunity of making profit out of the MF operations. On the contrary, MF banks have been fiscally self-sufficient as they are capable of covering from their own generated earning, both operating and

funding expenditures and other forms of market price valued subsidy.

The above definitions discourse suggests that a misfortune making MF banks (MFB with low budgetary execution) can't be named monetarily economical. Likewise, the benefit making MFI, whose gainfulness has been found in the wake of covering a portion of the working expenses by sponsored assets or awards, ought to likewise not be considered as monetarily reasonable.

According to Gerlitz, Hunzai, & Hoermann, [15], Depth of outreach and fiscal viability of MFIs, he took the depth of outreach as independent variable and fiscal viability as dependent variable and found that there is positive association between them. Gerlitz et al., [15] was of the view that the main reason to sponsor MFIs (MFIs) is their enrichment of societal wellbeing by broadening level of credit to the low individuals. Utilizing data from 702 MFIs working in 83 nations, Gerlitz et al., (2012) observed facts of a positive parallel association between depth of outreach and fiscal viability.

F. Evidence from World

Kurosaki & Khan [8] investigated Fiscal Viability of MFIs (MFIs). He identified factors affecting fiscal viability of MFIs. MF is used for poverty reduction; MF is making finance and fiscal assistance easier. MF helps to improve welfare of low. The examination found that MF expansiveness of effort, profundity of effort; reliance proportion and expenditure per borrower influence the budgetary manageability of MF establishments in Ethiopia, in any case, the MF capital structure and staff efficiency show inconsequential connection with money related maintainability of MFIs.

Ghalib [16] published an article on Determinants of Fiscal Viability of MFIs. A sustainable MFI will help to maintain poverty reduction level. The study discovered that loan intensity and loan size are positively and significantly related to fiscal viability while management inadequacy and portfolio at risk negatively affect fiscal viability, moreover scope of outreach and deposit utilization were unrelated to fiscal viability of MFIs.

Hartarska & Nadolnyak [7], investigated that, the size of a MFI's advantages and a MFI's capital structure are related with manageability. They found that a large figure of individuals in creating nations had given simple way to deal with formal money related administrations through MF. Mersland and Øystein Strøm [17] analyzed the current wellsprings of subsidizing for MFIs by geographic district and researched how changes in capital structure could improve the proficiency and monetary supportability of MFIs. They further expressed that in the realm of money the issue which is viewed as most noticeable is the capital structure of loaning foundations.

H. Weber, [18] contemplated Factors Influencing the Viability of Micro-Finance Institutes. The investigation found that money related guidelines, figure of customers served, monetary inclusion and volume of credit executed were the elements that exceptionally influenced the maintainability of MF organizations

Holvoet [19] investigated the fiscal viability of MFIs. It had

been considered that all the selected MFIs were not fiscally sustainable. The micro-lenders have given lowest degree of fiscal unviability while the multi-purpose co-operatives as highest which are involved in provision of MF.

Hermes et al., [20] in his article on Micro Finance they found that industry competition increases viability of MFIs and reduces the dependency rate. Viability is considered as an increasing with the rate of increase in men borrowers. Mainly the men's share in all borrowers is statistically significant and favorable effect on viability and decreasing the influence on subsidy dependency rates, lowered the rate of default or the portfolio at risk (PAR) could be if MFIs targets more men borrowers.

Montgomery & Weiss, [21] conducted a study on economic efficiency of micro finance institutes. The study revealed that expenditure per borrower, age and savings are important indicators of economic efficiency of micro finance units. The study result shows an overall average economic efficiency indicating a high degree of inefficiency in the economic behavior of the units in the industry.

Khavul, Chavez, & Bruton [22] in their paper on viability of MFIs discovered that there was a negative shift in performance of MF sector. They further revealed that during the time of fiscal crises the micro finance sector was badly effected as there was a significant decline in figure of borrowers, thereby decrease in return on assets (ROA) of firms.

Cull et al., [23] conducted a research on Viability, Cost effectiveness and Outreach Tradeoffs and discovered that outreach to the low has a positive association with both viability and cost effectiveness measures. Cost effectiveness focus has a negative effect on outreach of micro finance. Weber & Ahmad [24] analyzed the presence of tradeoffs between viability, cost effectiveness and outreach to the low. Panel data for of 4 years from 47 MFIs has been used.

In the modern world of industrialization, the "MF" is new and somewhat vague term. The need for such industry arise which will be liable for improving the living standards of low people. Therefore, attention moves towards establishment of highly fiscally sustainable organizations. After this, an issue has arisen; how such organization will affect the low? With the help of the research MFIs main features will be better explained [25]. And, other features which separates the MFIs from their non-sustainable counterparts. The research has shown that for-profit MFIs are self-sufficient to a larger degree than other non-sufficient institutes; it may because of the pressure of delivering value to shareholders. Further, the technological advantages or different lending methods may result of improving more efficiency of self-sufficient MFIs.

G. Viability of Micro Finance

Viability is essential for micro finance institute. Fiscal Viability is ability of MFI to cover all types of expenditure by generating earning from own sources. MF Fiscal viability means a MFI is able to meet expenditures without the support of external sources of finance such as donors and subsidy. It is also referred as fiscal self-sufficiency. Fiscal viability is key determinant of viability of MFI. Covering operating expenditures of the firm from its own sources of earning is operational efficiency and covering funding expenditure from self-generated sounds is called as fiscal self-sufficiency. Fiscal self-sufficiency is considered a measure of viability of

micro finance. Fiscal viability depends upon operating self-sufficiency and subsidy provided by the government. Various studies show that subsidized fiscal viability is not a correct stand-in for the measurement of viability and operating self-sufficiency is a correct stand-in to measure viability [26]. A micro finance bank that can cover its operating expenses by generating its own fiscal revenue will be able to sustain in a market for a longer period of time. Viability of micro finance banks depends upon various factors as identified in previous studies.

H. Outreach and fiscal Viability

As for as MF is concerned outreach of firm is considered vital for both operational and fiscal viability. It will be measured by natural logarithm of figure of active borrowers of MF firm [27]. Outreach is most discussed and investigated factor effecting efficiency and viability of micro finance. There is variety of measures used for quantifying the outreach. Two important factors are investigated for outreach i.e. scope and extent of outreach. By scope of outreach we mean figure of borrowers served by a micro finance bank. It is a biggest factor of viability.

Patten et al., [28], shown that there are six parts of estimating effort. They are profundity, worth of clients, expenditure to clients, expansiveness, length and degree. The profundity of effort alludes to "the worth the general public connects to the net increase from the utilization of the miniaturized scale credit by a given borrower Empirical shows that a large variety of products will increase operational and fiscal viability of a firm.

I. Size and fiscal Viability

Size of a firm significantly affects viability [29]. Large firms tend to be more sustainable than small firms as depicted in various studies. Various proxies are used to measure size of the firm. In finance natural logarithm of total assets or figure of employees in a firm are used as proxies for measurement of variables [30].

J. Operational Efficiency and fiscal Viability

Operational efficiency is a very important measure of operational self-sufficiency of firm. An efficient firm will be able to meet its expenditures form revenue and will be able to sustain in a market. Traditionally Expenditure per Borrower and Operating expense to Gross loan Portfolio are used as proxies for the measurement of operational efficiency of firm [31]. The study quantifies the effect of expenditure per borrower (CPB) on the fiscal viability of MF banks in Pakistan. The decrease in expenditure per borrower results an increase of fiscal viability or operational efficiency of MFIs. It is used as independent variable to measure fiscal viability. This variable measures the MF banks adequacy in expenditure control given the quantity of debtors they are working. This includes the job of expenditure increase in enhancing budgetary supportability. Morduch, [32] found that the expense per borrower estimates the estimation of money related and in-kind sources of info required to create a given degree of yield, as measures by borrowers. He further characterized that the expense per borrower is theorized to be contrarily connected with monetary independence.

K. Capital Structure and fiscal Viability

Gearing ratio is measurement of leverage of firm. It indicates the extent to which a firm financed its operations by borrowing from external sources. Debt divided by equity ratio will be used as stand-in for measurement of capital structure of firm [33].

There is mixed evidence in literature regarding capital structure and viability. Mersland [34] found negative relation of capital structure with performance of a firm. This shows the degree of a company's funding with obligation in respect to value and its capacity to cover fixed charges. It is an estimation of the general degree of obligation. In this investigation, obligation to value is utilized as a free factor and a key money related proportion and utilized as a standard for making a decision about an organization's budgetary standing. MF establishments that utilize higher obligation in their capital structure are progressively productive, and exceptionally utilized MF organizations are increasingly gainful [35]. A few investigations have been led to clarify whether the capital structure decides the supportability of MF organizations. For example, Field and Pande [36] found that exceptionally utilized MF organizations have higher capacity to manage good risks and antagonistic choice than their partners with lower influence proportions. Besides, H. Weber [37] states that albeit how the capital has been organized influences the budgetary manageability, having various wellsprings of capital don't improve money related supportability. They likewise distinguished that value is a moderately less expensive wellspring of funding and, in this way, improves money related maintainability.

This proportion has been utilized to quantify establishments money related manageability. An obligation to-value proportion is determined by taking the complete obligation or liabilities and isolating it by investors' value:

$$\text{Debt to equity} = \text{Total Debt/ Total equity}$$

Equity-to-Asset Ratio:

This is simply a capital adequacy ratio as it is not considering risk weighted assets. Equity-to-asset ratio identifies the part of a business's equity that has been accounted for by holdings. The equity ratio finds how much of a firm's holdings have been funded by shareholders. An institute with higher equity ratios shows credibility of new investors and creditors. And willingness of investors to finance it with their savings. It can be found by dividing total equity to total assets.

Formula:

$$\text{Equity to asset} = \text{Total equity/ Total assets}$$

L. Credit Risk and fiscal Viability

Micro finance is funding for lowest of the low-income people. This will lead to more credit risk faced by firms. PAR>30 days Portfolio at Risk greater than 30 days is stand-in that shows that how much firm is facing risk of default. Portfolio at risk (PAR) suggests to collection speed of a firm. Higher PAR means low repayment rate and hence decrease fiscal viability and a low rate of Portfolio at risk increase fiscal viability of a firm. **Portfolio at risk (PAR):** is one more factor that can affect MF banks' fiscal viability. The portfolio at risk evaluates how MF bank is efficient in making collections. PAR>30days has a negatively

significant impact on fiscal viability. When PAR increases, repayment rates go down and consequently, less will be the fiscal viability. In this study PAR>30 days has been used. PAR>30days means "outstanding balance, loans overdue>30 days.

Adjusted Portfolio at Risk > (30, 60, 90 Days)

M. Age and fiscal viability

Figure of years a bank has been performing as a MF provider (MFP), or it shows the figure of years in operations. Age is used as independent variable by many researchers. Age of the MFI is a significant variable: more established, progressively develop MFIs that are past their start-up stage and attempt to expand their entrance to business capital may be increasingly inclined to dispense bigger advances and group out more unfortunate borrowers than more youthful organizations. A foundation's age is estimated in years from the date it began activities.

N. Evidence from Pakistan

MF is young field in Pakistan. In Pakistan major focus on researchers and academicians was in the field of traditional finance, corporate finance and investment analysis. Micro finance emerges as a field of study and got importance in the last decade. Limited literature is available in Pakistan. There are few studies that had been performed on the determinants related to the "viability of MFIs" in the past decades to assess the performance of MFIs. Here is the overview of some researches regarding determinants of viability of MFIs in Pakistan.

Mushtaq [38], investigated the development and performance of MF banks in Pakistan. They concluded that fiscal performance of the industry is feeble, its expense per debtor is expanding and efficiency proportions are low.

Sohail, Rasul, and Fatima [39] shed light on the job of MF foundations in business enterprise improvement in Pakistan. The examination presumed that MF organizations assume a critical job in enterprise advancement in Pakistan and the customers who are taking advance from the MF bank utilize this add up to begin a business than different ones who use it for marriage, training house building reason and so on

International Labour Organization (ILO) in collaboration with State Bank of Pakistan (SBP) published a comprehensive report on social and fiscal viability of micro finance institutes in Pakistan in 2009. The study based on qualitative approach. The study based on survey conducted in field from borrowers and loan officers. The study found that lack of product diversification and product development are major obstacles in the way of outreach. Survey has also disclosed that main apprehension of clients in micro finance sector is access to credit not interest rate. The report concluded that increase in allocative efficiency and client protection, micro credit information system and competition among the players will improve viability of micro finance institutes in Pakistan.

Qamar, Masood, & Nasir [40] conducted a research on MFIs (MFIs) struggle for fiscal efficiency and viability but also empowerment of the low.

Determinants of Micro Finance Bank Stability in Pakistan

This social character of MFIs is mainly financed by subsidies from the Donors. So the function of subsidies cannot be under estimated in MFIs efficiency and output analysis. Results support the exchange between outreach to the low and fiscal competence. Accordingly, MFIs which furnish to low lean to be incompetent than those with consumers comparatively wealthy. Circumstances shows a reality that funding to women is well-organized only in the existence of subsidies. MFIs in South Asia and Middle East & North Africa lean to be less competent than the others.

Zulfiqar [41] investigated the impact of growth strategy of MF sector and performance of MFIs. So, at the early phases of development, the “intensive growth strategy” could be more expenditure effective while striking the equilibrium between outreach and poverty relief. And this strategy is considered in improved efficiency, performance and productivity. While other having an “extensive growth strategy” which has involved enormous investment in physical infrastructure and swift rise in staffing and branch network. Therefore, more forces should be given by credit constrained institute on viability rather on social support a primary object. The sector having intensive growth strategy is not considering the term viability factor as central. The study proves that the expansion of the sector is being led by some neither unsustainable institutes that are operationally or fiscally self-sufficient. Last few years results impacted the growth of MF and it might be continued to also effect the development and performance of the sector till more resources are infused.

Yao, Haris, & Tariq [42] Micro finance banks are being come into view to close the space between the various formal and informal fiscal institutes like banks, credit unions and moneylenders. Poverty mitigation is the key purpose of MFBs inside a country by presenting more loans and related fiscal assistance to the low who are not self-sufficient. This research emphasizes to realize the range to which MFBs have achieved viability in Pakistan. By measuring the impact of their outreach, fiscal viability and welfare impact, the study can analyze the viability attained by MFBs in Pakistan. Semi structured interviews and focus group discussions of three MFBs in dual cities of Pakistan are used for data collection related to MFBs in country through accessible secondary sources.

IV. METHODOLOGY

A. Introduction

This section discusses the material and methods employed for conducting this research. The variables used in study. Theoretical framework for research is explained. Sampling technique, type of data and tools of analysis are discussed.

B. Fiscal viability

Fiscal viability is used as dependent variable while the analysis searches to distinguish factors of fiscal viability of MF banks. The dependent variable is a binary outcome reflecting whether or not a MF bank is fiscally sustainable It suggested that if MF bank is fiscally sustainable during a particular period it will be equal to 1 and otherwise =0. Fiscal viability is described as comprising of an operational viability level of 110% or more. Operational viability can be

computed as total fiscal revenue divided by (Fiscal expense + Operating expense + Loan loss provision expense). In this study for finding fiscal viability of MF banks total operating revenue is divided by operating expenses.

Fiscal viability = Operating Revenue/ Operating expenses

Independent variables:

Size of banks:

In this analysis, total asset is employed as a stand-in for bank size and maturity. Total assets were employed as a stand-in for measuring size of the firm in many studies.

Bank size = Total asset.

Asset size is positively and significantly related to bank's viability. Larger institutes are typically stable and consistent.

Age

Figure of years a bank has been performing as a MF provider (MFP) or it shows the figure of years in operations. Age is used as independent variable by many researchers.

Operational efficiency (Expenditure Per Borrower):

The study also quantifies the effect of expenditure per borrower (CPB) on the fiscal viability of MF banks in Pakistan. The decrease in expenditure per borrower results an increase of fiscal viability or operational efficiency of MFIs. This variable measures the MF banks effectiveness in expenditure control given the figure of debtors they are serving. This involves the part of expenditure increment in improving fiscal viability.

Expenditure per borrower was calculated by using the following formula

Expenditure per Borrower = Operating Expenditure/No of borrowers

Outreach:

the figure of active borrowers served by MF banks. In order to determine whether the different types of MF banks are targeting the same type of client or not. Outreach has a positive association with the fiscal viability. Increase in figure of borrowers, fiscal viability will also be improved. In this study outreach is measured by the figure of active borrowers.

Leverage (Debt to Equity):

This shows the extent of a business's funding with liability relative to equity and its ability to cover fixed charges. It is a magnitude of the comparative level of liability. In this study, debt-to-equity is used as an independent variable and a key fiscal ratio and employed as a benchmark for assessing a business's fiscal position.

This ratio has been used to measure institutes fiscal viability. A debt-to-equity ratio is determined by apportioning the total debt or liabilities by stockholders' equity:

Debt to equity = Total Debt/ Total equity

Capital (Equity-to-Asset Ratio)

Equity-to-asset ratio identifies the part of a business's equity that has been accounted for by holdings. The equity ratio finds how much of a business's holdings have been funded by

shareholders. An institute with higher equity ratios shows credibility of new investors and creditors. And willingness of investors to finance it with their savings. It can be found by dividing total equity to total assets.

Formula:

$$\text{Equity to asset} = \text{Total equity/ Total assets}$$

Total Equity:

Equity signifies the value of a company net of its liabilities). Equity balances are represented net of allocations, such as dividends.

Total assets:

Total net asset are all asset accounts net of any allowance. Generally, higher equity-to-assets ratios are favorable for the banks. Equity to total assets may have a positive or negative relation with the MF bank’s viability.

Portfolio at risk (PAR): is one more factor that can affect MF banks’ fiscal viability. The portfolio at risk evaluates how MF bank is efficient in making collections. It also signifies the level of credit risk or contrariwise portfolio value. PAR>30days has a negatively significant impact on fiscal viability. When PAR increases, repayment rates go down and consequently, less will be the fiscal viability. In this study PAR>30 days has been used. PAR>30days means “outstanding balance, loans overdue>30 days.

Portfolio at Risk > (30, 60, 90 Days)

Shows the credit risk of a debtor more than the particular figure of days (30, 60, 90) previous their due date for installment payment.

C. Theoretical Framework

Model Specification: General Model for Penal Regression

$$Y_{it} = \alpha_i + \beta X_{it} + \epsilon_{it}$$

Model for current study will have following shape

$$FS_{it} = \alpha + \beta_1(Out)_{it} + \beta_2(S)_{it} + \beta_3(OE)_{it} + \beta_4(Cap)_{it} + \beta_5(age)_{it} + \beta_6 (GR)_{it} + \beta_7(PAR)_{it} + \epsilon_{it}$$

Where

FS it = Fiscal Viability of a firm *i* in time *t*

Out it= Outreach of a firm *i* in time *t* (No of Borrowers)

S it = Size of a firm *i* in time *t* (Log of Total assets)

OE it = Efficiency of a firm *i* in time *t* (Expenditure per Borrower)

Cap it = Capital of a firm *i* in time *t* (equity to Total Assets)

Age it = Age of a firm *i* in time *t* (No of Years)

GR it = Gearing Ratio of a firm *i* in time *t* (Debt to Equity)

PAR it = Credit Risk of firm *i* in time *t* (PAR>30)

D. Measurement of Variables

Dependent Variable: This study aims to identify key determinants of fiscal viability of micro finance institutes in Pakistan. It takes the value of 1 if firm is fiscally sustainable during a particular year and zero otherwise.

E. Measurement of Explanatory Variables

The choice of independent variables based on logical and hypothetical association of variables with dependent variable. These variables are extracted from the previous studies.

Size: Various proxies are used to measure size of the firm. In finance natural logarithm of total assets or figure of employees in a firm are used as proxies for measurement of variables.

Age: Figure of years a firm is in operation will be used as a stand-in for measurement of age of the firm.

Operational Efficiency: Operational efficiency is a very important measure of operational self-sufficiency of firm. Traditionally Expenditure per Borrower and Operating expense to Gross loan Portfolio are used as proxies for the measurement of operational efficiency of firm.

Gearing Ratio: It indicates the extent to which a firm financed its operations by borrowing from external sources. Debt divided by equity will be used as stand-in for measurement of capital structure of firm.

Outreach: As for as MF is concerned outreach of firm is considered vital for both operational and fiscal viability. It will be measured by natural logarithm of figure of active borrowers of MF firm.

Credit Risk: PAR>30 days Portfolio at Risk greater than 30 days is stand-in that shows that how much firm is facing risk of default.

Table 3.1 MEASUREMENT OF VARIABLES

Name of Variable	Symbol	Formula	Expected Sign
Dependent Variable			
Financial Sustainability	FSS	Revenue/Operating Expenses	
Independent Variables			
Size of Firm	TA	Total Assets	+
Age of Firm	Age	Number of years in operations	+
Operational Efficiency	CPB	Cost per Borrower	-
Capital	Cap	Equity to Total Assets Ratio	+/-
Leverage	Gr	Debt to Equity Ratio	+
Outreach	Borr	Number of borrowers	+
Credit Risk (portfolio at Risk)	PAR	PAR>30 days Portfolio at Risk greater than 30 days	-

Determinants of Micro Finance Bank Stability in Pakistan

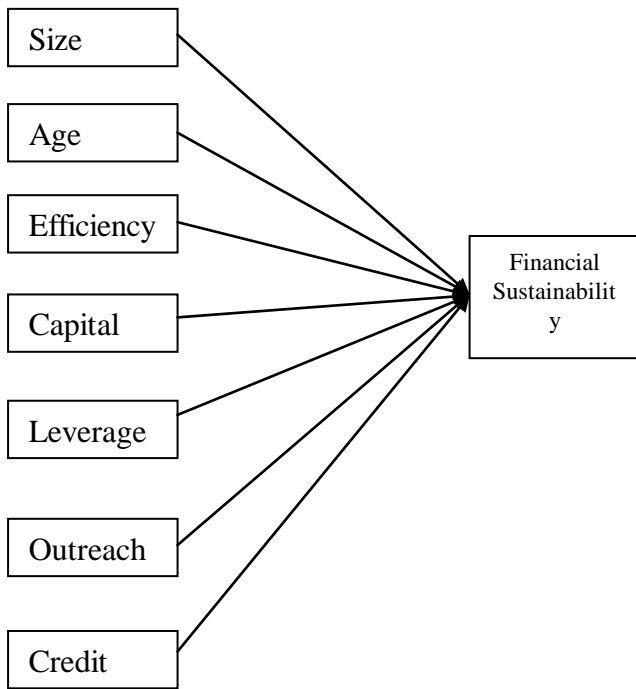


Figure 3.1 Conceptual Framework of study

F. Hypotheses

- H1: There is a positive relationship between Size of firm and financial sustainability of firm.*
- H2: There is a positive relationship between age of firm and financial sustainability of firm.*

- H3: There is a positive relationship between operational efficiency of firm and financial sustainability of firm.*
- H4: There is a positive relationship between capital of firm and financial sustainability of firm.*
- H5: There is a positive relationship between gearing ratio and financial sustainability of firm.*
- H6: There is a positive relationship between Outreach of firm and financial sustainability of firm.*
- H7: There is a negative relationship between credit risk of firm and financial sustainability of firm.*

G. Research Design.

Unit of Analysis: The study is about sustainability of microfinance banks in Pakistan. Micro Finance banks will serve as a unit of analysis. The nature of data is panel. It involves the pooling of observations on a cross-section of units over several time periods. The panel data contains the elements of both cross sectional and time series data.

Sources of Data: The secondary data was used for the study. The data was collected from Financial Statements of Microfinance Banks, State Bank of Pakistan, Pakistan Microfinance Network.

Population: Micro Finance sector of Pakistan

Sample: 06 Microfinance Banks operating in Pakistan. The time period for the study was 07 years, i.e. from 2010-2017.

V. RESULTS AND ANALYSIS

Table 4.1 DESCRIPTIVE STATISTICS

Variable	Sustainability	Size	Age	Efficiency	Capital	Leverage	Outreach	Credit Risk
Symbol	FSS	TA	AGE	CPB	ETA	DE	BORR	PAR
Mean	1.015	6.12	5.024	13.384	0.663	2.042	86583	32187
Median	1.047	6.19	5	6.25	0.402	1.3	20038	14958
Maximum	1.931	7.13	11	257.92	9.039	9.2	352962	252518
Minimum	0	4	1	0	0	0	0	0
Std. Dev.	0.519	0.75	2.928	39.495	1.373	2.315	108865	48052
Skewness	-0.18	-0.7	0.344	5.997	5.714	1.486	1.201	2.96
Kurtosis	2.58	2.76	2.303	37.659	35.4	4.568	3.204	12.72
N	42	42	42	42	42	42	42	42

Explanation: The above results have been found after application of descriptive statistics on 42 observations of dependent and independent variables over the period of 07 years. The detail of results is as under.

Dependent Variable

The Fiscal viability is used as dependent variable. It is the ratio of total fiscal revenue from the operations over total operating expenses incurred. If the ratio is equal to 1 or above it indicates the fiscal viability of MF banks. The table shows that the mean of FSS is 1.015 indicating fiscal viability. Medium value for FSS is 1.047. The minimum value is 0.000000 and maximum value is 1.931713. Standard deviation for this variable is 0.519600, it shows 51.19600%

dispersion in the viability of MF banks studied. The skewness of FSS is -0.18 and kurtosis is 2.588855.

Independent Variables

A total of seven independent variables' results are shown as in above table. The descriptive results of such variables are illustrated in detail as;

Total assets (TA)

Total Assets is an independent variable used as stand-in for bank size having a mean of 3227742. It is an indicator of serving relatively non-low clients. The median of this variable according to descriptive statistic is 1452273. Minimum value of TA

is 70831.00, maximum value is 13348220, standard deviation is 3310460, skewness is 0.939530 and kurtosis result is 3.160807.

Age (AGE)

Age is an independent variable indicates figure of years in operations. The mean of age is 5.0 years. The median of this variable according to descriptive statistic is 5.000. Minimum value of AGE is 1.00, maximum value is 11.00 years, standard deviation is 2.928206, skewness is 0.344668 and kurtosis result is 2.303324.

Expenditure per borrower (CPB)

Expenditure per borrower is an independent variable having a mean of 13.38. It indicates the expenditure of loan borrowed by each borrower. The median of this variable according to descriptive statistic is 6.250. Minimum value of CPB is 0.00, maximum value is 257.92, standard deviation is 39.495, and skewness is 5.997 and kurtosis result is 37.65.

Equity to total assets (ETA)

Equity to total assets is an independent variable. The equity ratio finds how much of a business's holdings have been funded by shareholders. ETA has a mean of 0.663. It is an indicator of a business's equity that has been accounted for by holdings. The median of this variable according to descriptive statistic is 0.402. Minimum value of ETA is 0.0 maximum value is 9.03, standard deviation is 1.373, skewness is 5.71 and kurtosis result is 35.40.

Debt to equity (DE)

Debt to equity is an independent variable and a solvency ratio used to measure bank's fiscal viability having a mean of 2.04. It is a standard for judging a company's fiscal standing. The median of this variable according to descriptive statistic is 1.300. Minimum value of TA is 0.00, maximum value is 9.20, standard deviation is 2.31, skewness is 1.48 and kurtosis result is 4.568.

Figure of borrowers (BORR)

Figure of borrowers is an independent variable that shows total figure of clients served by MF banks. The mean value of BORR is 86583. Outreach indicates the assessment of the figure of under-privileged clients served by MFBs. The median of this variable according to descriptive statistic is 20038.00. Minimum value of BORR is 0.00, maximum value is 352962, standard deviation is 108865, skewness is 1.20 and kurtosis result is 3.20.

Portfolio at risk (PAR)

Portfolio at risk (>30 days) is an independent variable having a mean of 32187.24. The portfolio at risk evaluates how MF bank is efficient in making collections. The median of this variable according to descriptive statistic is 14958.00. Minimum value of TA is 0.000000, maximum value is 252518.0, standard deviation is 48052.85, skewness is 2.969406 and kurtosis result is 12.72784.

4.2 Panel Least Square Regression

Panel least square is applied to examine the effect of variables on dependent variable. The econometric test applied through E-views shows the statistical significance association between the dependent variable and independent variables of the model.

Table 4.2 Panel Least Square Regression

Dependent Variable: FSS
Method: Panel Least Square
Sample: 2010-2017
Periods included: 7
Cross-sections included: 6
Total panel (balanced) observations: 42

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ETA	0.008660	0.012752	0.679147	0.5015
DE	0.036690	0.011869	3.091274	0.0039
CPB	-0.001633	0.000587	-2.784616	0.0086
BORR	1.0106	4.3907	2.295057	0.0278
AGE	0.157729	0.026915	5.860214	0.0000
PAR	-1.16E-06	3.1007	-3.752933	0.0006
C	0.337536	0.116212	2.904492	0.0063

Weighted Statistics				
R-squared	0.735180	Mean dependent var		1.408116
Adjusted R-squared	0.689783	S.D. dependent var		0.965682
S.E. of regression	0.335209	Sum squared resid		3.932771
F-statistic	16.19423	Durbin-Watson stat		1.472659
Prob(F-statistic)	0.000000			

Unweighted Statistics				
R-squared	0.563649	Mean dependent var		1.028469
Sum squared resid	4.844026	Durbin-Watson stat		1.141670

Explanation:

The above regression a result shows that the coefficient of PAR is negative indicating an inverse association with fiscal viability that an increase in PAR decreases the fiscal viability. This result can be described as because the more MFBs are rendering credit risk, the higher will be the unpaid loans and lost interest earning which reduces fiscal viability of MFBs. T-statistics and probability results show that portfolio at risk (PAR) has a significant impact on the fiscal viability (FSS) hence, H1 is accepted.

The coefficient of age is positive showing positive association with the fiscal viability, as the bank grows older the fiscal viability is verified. The result is statistically significant at the p-value 0.000. T-statistic and probabilities values of age has a significant impact on the fiscal viability (FSS) hence, H2 is accepted.

In addition, the results of both the CPB, BORR revealed that there is a tradeoff between these variables and fiscal viability of MFBs in Pakistan. The coefficients of CPB negative indicating negative association with the fiscal viability. Through the results of t-statistic (-0.001633 and -1.0106) and probability of 0.000 both the variables are statistically significant and effect the fiscal viability of MF banks negatively. An increase in expenditure per borrower is a sign of decreasing efficiency of the bank hence decrease the cost effectiveness of bank.

Outreach of MF banks is an important measure of fiscal viability. Outreach was measured by figure of borrowers MF bank is serving.

Finally, the coefficients of debt to equity (DE) has positive association with the fiscal viability, increase in the variable cause increase in the fiscal viability. Presence of debt in the bank will increase the fiscal standing of the firm hence will effect viability in positive direction-statistic and probabilities values of and DE have shown significant impact on the fiscal viability (FSS)



Determinants of Micro Finance Bank Stability in Pakistan

The coefficient of equity to total assets is positive but the effect of equity to total asset on fiscal viability is insignificant.

4.3 Goodness of fit of the model

As R-squared shows the proportion of total variation in dependent variable which is described by independent variable.

Here R-squared 0.73 explains that 73% of the variation in dependent variable i.e. Fiscal Viability (stand-in for viability) is due to variations in independent variables taken together which are portfolio at risk, equity to total assets, debt to equity, age, expenditure per borrower. The value of F statistics shows overall goodness of fit of the model.

4.4 CORELLATION ANALYSIS

Table 4.3 CORELLATION ANALYSIS

	FSS	PAR	TA	ETA	DE	CPB	BOR R	AGE
FSS	1.00							
PAR	-0.45	1.00						
TA	0.61	0.55	1.00					
ETA	-0.20	-0.12	-0.25	1.00				
DE	0.40	0.32	0.45	-0.26	1.00			
CPB	-0.08	-0.14	-0.20	-0.03	-0.10	1.00		
BOR R	0.55	0.67	0.76	-0.24	0.45	-0.19	1.00	
AGE	0.75	0.65	0.63	-0.29	0.43	-0.02	0.72	1.00

a. Predicators: (Constant).TA, AGE, ETA, DE, CPB, BORR, PAR

b. Dependent Variable: FSS

The table 4.3 shows the results of correlation analysis of all the variables. Explanation of the correlation analysis is given as under.

Portfolio at risk and fiscal viability:

The coefficient of correlation between portfolio at risk and fiscal viability is -.45, negative correlation indicates negative association between portfolio at risk and fiscal viability, this shows that an increase in portfolio at risk which is a stand-in for default risk by customers will decrease the fiscal viability of MF banks.

Total Assets & Fiscal Viability:

The correlation analysis shows that there is a positive association between Total assets and fiscal viability of MF banks. Total assets were used as a stand-in for size of the firm; the results showed that the bigger size MF banks are more fiscally sustainable than the smaller size micro finance banks in Pakistan.

Equity to Total Assets and Fiscal Viability:

The correlation coefficient between equity to total assets and fiscal viability is -.20 which is negative indicating a negative association between equity to total assets ratio and bank fiscal viability. It is concluded that MF banks relying on external equity are less fiscally sustainable.

Debt to Equity ratio and fiscal viability:

The correlation coefficient between debt to equity ratio and fiscal viability is positive with a value of .40. This indicates that as long as MF banks increase debt to finance its assets the fiscal viability will increase. Higher debt to equity ratio shows that debt is playing a positive role in fiscal viability of MF banks in Pakistan. Pakistan fiscal market is characterized by higher debt, 75% of fiscal sector based on

banks. Therefore, the role of debt in governing fiscal institutes is positive.

Expenditure per borrower and Fiscal Viability:

Expenditure per borrower was used as a stand-in to measure operational efficiency of MF banks, the higher expenditure per borrower indicate inefficiency and vice versa. The correlation coefficient between expenditure per borrower and fiscal viability was found negative with a coefficient value of -.008. This indicates that expenditure per borrower is negatively affecting fiscal viability of MF banks in Pakistan.

Outreach and fiscal Viability:

Outreach of MF banks is an important measure of fiscal viability. Outreach was measured by figure of borrowers MF bank is serving. The correlation coefficient between expenditure per borrower and fiscal viability is positive with a coefficient of 0.55, this showed a positive association between figure of borrowers and fiscal viability, it implies that the MF banks having more figure of borrower will be more fiscally sustainable.

Age and fiscal viability

MF banking industry is relatively new in Pakistan. The association between age fiscal viability was found positive with a correlation coefficient of .75, indicating that MF bank having longer life shall be more fiscally sustainable.

VI. CONCLUSIONS AND RECOMENDATIONS

A. Conclusion

The objective of this study was to investigate the determinants of viability of MF banks in Pakistan. MF is finance for small and medium enterprises; micro finance banks are growing in the world to fiscally support to small entrepreneurs across the globe. Small entrepreneurs account for large figure of business in the world. Economy strength does not depend on few large corporate giants, but it is mostly affected by large figure of small firms working in a country. MF is not new to the world. Dr Younis success of Grameen in Bangladesh had changed the world view of focusing on rich corporate sector to the most neglected small business which can act as a backbone to economy. The model of micro finance provided by Dr Younis has gained considerable appreciation in last 3 decades and adopted in most of the developed and developing markets of the world. A sustainable MF sector is key to the success and development of small businesses in the country. MF banks which provide support to small business in the form of micro credit can help in growth of small business in a developing country like Pakistan. MFIs were established in Pakistan for about 17 years ago with a main objective to alleviate poverty. The objective of the study is to examine the determinants of viability of MFBs in Pakistan. In this research a sample of 6 MFBs is used and data is obtained from MFBs of Pakistan covering the time period of seven (7) years from 2010 to 2017 combined from secondary data sources mentioned in the methodology. For the analysis, panel data for 42 observations from 2010 to 2017 provided the basis for the econometric analysis. The data was analyzed by using various statistical techniques.

B. Findings of the Study:

MF is new in Pakistan it is passing through introductory stage of its life. The correlation results indicate that there is a significant negative correlation between portfolio at risk and fiscal viability is -0.45 , negative correlation indicates negative association between portfolio at risk and fiscal viability, this shows that an increase in portfolio at risk which is a stand-in for default risk by customers will decrease the fiscal viability of MF banks.

Total assets were used as a stand-in for size of the firm; the results showed that the bigger size MF banks are more fiscally sustainable than the smaller size micro finance banks in Pakistan.

The correlation coefficient between equity to total assets and fiscal viability is -0.20 which is negative indicating a negative association between equity to total assets ratio and bank fiscal viability. It is concluded that MF banks relying on external equity are less fiscally sustainable.

This indicates that as long as MF banks increase debt to finance its assets the fiscal viability will increase. Higher debt to equity ratio shows that debt is playing a positive role in fiscal viability of MF banks in Pakistan. Pakistan fiscal market is characterized by higher debt, 75% of fiscal sector based on banks. Therefore, the role of debt in governing fiscal institutes is positive. Expenditure per borrower was used as a stand-in to measure operational efficiency of MF banks, the higher expenditure per borrower indicate inefficiency and vice versa.

The correlation coefficient between expenditure per borrower and fiscal viability was found negative. This indicates that expenditure per borrower is negatively affecting fiscal viability of MF banks in Pakistan.

MF banks are new in Pakistan they have not achieved economy of scale in short period of time therefore expenditure per borrower is high indicating inefficiency on the part of MF banks to cover operating expenditure. In future as time goes on it is hopeful that MF banks will achieve efficiency in operations which will help MF banks to sustain.

Outreach was measured by figure of borrowers MF bank is serving. The correlation coefficient between expenditure per borrower and fiscal viability is positive with a coefficient of 0.55 , this showed a positive association between figure of borrowers and fiscal viability, it implies that the MF banks having more figure of borrower will be more fiscally sustainable. MF is new and access of MF banks is limited it has very small figure of users it is due to the fact that fiscal sector of the Pakistan is comprised of commercial banks which accounts for more than 70% of fiscal sector, moreover commercial banks are also granting small loans to business therefore outreach of MF in Pakistan is still very limited which is biggest problem in fiscal viability of MF Banks.

The association between age fiscal viability was found positive with a correlation coefficient of 0.75 , indicating that MF bank having longer life shall be more fiscally sustainable. MF banks have a short life of 15 years as time goes on, they will be able to improve fiscal viability.

The econometric results indicate that the fiscal viability of MF banks in Pakistan is positive and significantly influenced by the age, debt to equity ratio, while expenditure per borrower, figure of borrowers and portfolio at risk have

negatively significant influence on fiscal viability of MF banks. Therefore, by affecting these factors, MF banks may be able to enhance fiscal viability. Thus, these factors are important determinants of MFB's fiscal viability in Pakistan.

C. Regression Analysis

Panel regression result shows that the coefficient of PAR is negative indicating association with fiscal viability that a decrease (an increase) in PAR increases (reduces) the fiscal viability. This result can be described by since the more MFBs are rendering credit risk, the higher will be the unpaid loans and lost interest earning which reduces fiscal viability of MFBs.

The coefficients of both Total assets (TA) and CPB are positive showing positive association with the fiscal viability, increase in the variable cause increase in the fiscal viability. T-statistic and probability values of TA and CPB both have a significant impact on the fiscal viability (FSS).

The coefficients of Age is positive showing positive association with the fiscal viability, increase in the variable cause increase in the fiscal viability. . The result is statistically significant at the level of 1%. T-statistic (4.955455) and probabilities value (0.0001) of AGE have a significant impact on the fiscal viability (FSS) .

In addition, the results of BORR revealed that there is a tradeoff between this variable and fiscal viability of MFBs in Pakistan. The coefficient of BORR is negative indicating negative association with the fiscal viability. The results of t-statistic and probability of the variables is not statistically significant.

Finally, the coefficients of ETA, DE both are positive showing positive association with the fiscal viability, increase in the variable cause increase in the fiscal viability. Tstatistic (1.720355 and 0.411520) and probabilities values (0.0994 and 0.6847) of ETA and DE have shown insignificant impact on the fiscal viability (FSS) hence, H1 is rejected. Hence, dependent and independent variables are not closely related to each other.

D. Recommendations

Fiscally sustainable MFIs are critical to the growth of the MF sector in Pakistan. The notion of micro finance is growing in both the world of academicians and practitioners. In a developing country like Pakistan, sustainable micro finance not only help the small entrepreneur to grow but also will strengthen the fiscal structure of Pakistan by increasing the figure of savers and channelizing savings into a profitable opportunity. The study was aimed at determining the important factors affecting fiscal viability of MF bank. The research discovered that MF banks are facing many obstacles in the way of fiscal viability.

Based on the findings the study recommends.

- Government should establish Pakistan MF regulatory authority to regulate the affairs of micro finance institutes, banks, rural support programs, so that the efforts of micro finance institutes can be integrated to achieve a common goal of eradicating poverty and increasing development.
- The author has observed in the literature that the lending rate of micro finance bank is very high in

Determinants of Micro Finance Bank Stability in Pakistan

Pakistan, which is main cause of credit default on the part of borrowers, central bank of the country should apply prudential regulations to and should take measures to decrease the very high interest rate charged by micro finance banks which is increasing portfolio at risk.

- Micro finance banks should increase figure of borrowers to reach very part of the country, more accessible MF will help the people to easily benefit from the facilities.
- It has been found that there is least figure of MF banks operating in Baluchistan, which is an opportunity that should be exploited as the Baluchistan is having a greater figure of low people than any province in Pakistan.
- It has been found that micro finance banks are facing low economies of scale and high operating expenditure per borrower which is creating hindrance in the way of fiscal viability, the management of MF banks should improve efficiency in operations so that expenditure can be controlled to improve fiscal viability.
- Micro finance banks should expand branch network in Pakistan to provide more accessibility.
- MF banks in Pakistan should rely on external sources of finance which are debt and equity to finance operations.

E. Limitations and Further research directions:

For further research MFBs should have to clear their objectives and aims in order to manipulate their future strategies. This may attract great figure of investors and low households. The study can be conducted to including other variables. Here, only fiscal viability component is focused, other dimensions may also examine like mission viability, program viability, and human resource viability of MFBs in Pakistan.

Finally, further study could investigate the other factors that may have significant effect on the fiscal viability of the MFBs in Pakistan.

The practical conclusions drawn from the evaluation are characteristic of ongoing exploration on viability discourse in MF. The findings are constrained to the time period and country under study.

- i. Sample size was limited to the MF banks of Pakistan only.
- ii. There was lack of proper availability of secondary data on MFBs'.
- iii. This study is restricted only to the MF Banks while all MFIs could be focused for a comprehensive research.

REFERENCES

1. Copestake, J. (2007). Mainstreaming Microfinance: Social Performance Management or Mission Drift? *World Development*, 35(10), 1721–1738. <https://doi.org/10.1016/j.worlddev.2007.06.004>
2. Sjöström, A. S. R. and T. (2004). Grameen Lending Incentives Efficient? and Insurance in Village Economies. *The Review of Economic Studies*, 71(1), 217–234
3. Patten, R. H., Rosengard, J. K., & Johnston, D. E. (2001). Microfinance success amidst macroeconomic failure: The experience of bank Rakyat Indonesia during the East Asian crisis. *World Development*, 29(6), 1057–1069. [https://doi.org/10.1016/S0305-750X\(01\)00016-X](https://doi.org/10.1016/S0305-750X(01)00016-X)
4. Hermes, N., Lensink, R., & Meesters, A. (2011). Outreach and Efficiency of Microfinance Institutions. *World Development*, 39(6), 938–948. <https://doi.org/10.1016/j.worlddev.2009.10.018>
5. Morduch, J. (1999). The role of subsidies in microfinance: Evidence from the Grameen Bank. *Journal of Development Economics*, 60(1), 229–248. [https://doi.org/10.1016/S0304-3878\(99\)00042-5](https://doi.org/10.1016/S0304-3878(99)00042-5)
6. Honohan, P. (2008). Cross-country variation in household access to financial services. *Journal of Banking and Finance*, 32(11), 2493–2500. <https://doi.org/10.1016/j.jbankfin.2008.05.004>
7. Hartarska, V., & Nadolnyak, D. (2007). Do regulated microfinance institutions achieve better sustainability and outreach? Cross-country evidence. *Applied Economics*, 39(10), 1207–1222. <https://doi.org/10.1080/00036840500461840>
8. Kurosaki, T., & Khan, H. U. (2012). Vulnerability of microfinance to strategic default and covariate shocks: Evidence from Pakistan. *Developing Economics*, 50(2), 81–115. <https://doi.org/10.1111/j.1746-1049.2012.00160.x>
9. Cull, R., Demirgüç-Kunt, A., & Morduch, J. (2011). Does Regulatory Supervision Curtail Microfinance Profitability and Outreach? *World Development*, 39(6), 949–965. <https://doi.org/10.1016/j.worlddev.2009.10.016>
10. Tsai, K. S. (2004). Imperfect substitutes: The local political economy of informal finance and microfinance in rural China and India. *World Development*, 32(9), 1487–1507. <https://doi.org/10.1016/j.worlddev.2004.06.001>
11. Ahlin, C., Lin, J., & Maio, M. (2011). Where does microfinance flourish? Microfinance institution performance in macroeconomic context. *Journal of Development Economics*, 95(2), 105–120. <https://doi.org/10.1016/j.jdeveco.2010.04.004>
12. Smith, Y. (2001). Infrastructure and rural development: insights from a Grameen Bank village phone initiative in Bangladesh*. *Agricultural Economics*, 25(2-3), 261–272. Retrieved from <http://www.news-medical.net/health/Thalassemia-Prevalence.aspx>
13. Karlan, D. (2006). Teaching entrepreneurship: Impact of business training on microfinance clients and institutions. *The Review of Economics and Statistics*, 93(May), 510–527. Retrieved from http://www.mitpressjournals.org/doi/pdf/10.1162/REST_a_00074%5Cnpapers3://publication/uuid/80CCC3B1-66B7-4B7D-B216-3F81C4DF4D19
14. Jain, S., & Mansuri, G. (2003). A little at a time: The use of regularly scheduled repayments in microfinance programs. *Journal of Development Economics*, 72(1), 253–279. [https://doi.org/10.1016/S0304-3878\(03\)00076-2](https://doi.org/10.1016/S0304-3878(03)00076-2)
15. Gerlitz, J. Y., Hunzai, K., & Hoermann, B. (2012). Mountain poverty in the Hindu-Kush Himalayas. *Canadian Journal of Development Studies*, 33(2), 250–265. <https://doi.org/10.1080/02255189.2012.689613>
16. Ghalib, A. K. (2013). How effective is microfinance in reaching the poorest? Empirical evidence on programme outreach in rural Pakistan. *Journal of Business Economics and Management*, 14(3), 467–480. <https://doi.org/10.3846/16111699.2011.639796>
17. Mersland, R., & Øystein Strøm, R. (2009). Performance and governance in microfinance institutions. *Journal of Banking and Finance*, 33(4), 662–669. <https://doi.org/10.1016/j.jbankfin.2008.11.009>
18. Weber, H. (2010). Review of International Political Economy The 'new economy' and social risk: banking on the poor? The 'new economy' and social risk: banking on the poor? *Review of International Political Economy*, 11(2), 37–41. <https://doi.org/10.1080/09692290410001672859>
19. Holvoet, N. (2005). The Impact of Microfinance on Decision-Making.pdf, 36(1), 75–102.
20. Hermes, N., Lensink, R., & Meesters, A. (2011). Outreach and Efficiency of Microfinance Institutions. *World Development*, 39(6), 938–948. <https://doi.org/10.1016/j.worlddev.2009.10.018>
21. Montgomery, H., & Weiss, J. (2011). Can commercially-oriented microfinance help meet the millennium development goals? Evidence from Pakistan. *World Development*, 39(1), 87–109. <https://doi.org/10.1016/j.worlddev.2010.09.001>
22. Khavul, S., Chavez, H., & Bruton, G. D. (2013). When institutional change outruns the change agent: The contested terrain of entrepreneurial microfinance for those in poverty. *Journal of Business Venturing*, 28(1), 30–50. <https://doi.org/10.1016/j.jbusvent.2012.02.005>
23. Cull, R., Demirgüç-kunt, A., Morduch, J., The, S., Journal, E., Feb, F., & Demirgüç, A. (2014). Financial Performance and Outreach: A Global Analysis of Leading Microbanks FINANCIAL PERFORMANCE AND OUTREACH: A GLOBAL ANALYSIS OF LEADING MICROBANKS *, 117(517).
24. Weber, O., & Ahmad, A. (2014). Empowerment through microfinance: The relation between loan cycle and level of empowerment. *World Development*, 62, 75–87. <https://doi.org/10.1016/j.worlddev.2014.05.012>
25. Mersland, R. (2009). The Cost of Ownership in Microfinance Organizations. *World Development*, 37(2), 469–478. <https://doi.org/10.1016/j.worlddev.2008.03.006>
26. Monne, J., Louche, C., & Villa, C. (2016). Rational Herding toward the Poor: Evidence from Location Decisions of Microfinance Institutions within Pakistan. *World*

- Development, 84, 266–281.
<https://doi.org/10.1016/j.worlddev.2016.02.004>
27. Zulfiqar, G. (2017). Financializing the poor: 'dead capital', women's gold and microfinance in Pakistan. *Economy and Society*, 46(3–4), 476–498. <https://doi.org/10.1080/03085147.2017.1412643>
28. Patten, R. H., Rosengard, J. K., & Johnston, D. E. (2001). Microfinance success amidst macroeconomic failure: The experience of bank Rakyat Indonesia during the East Asian crisis. *World Development*, 29(6), 1057–1069. [https://doi.org/10.1016/S0305-750X\(01\)00016-X](https://doi.org/10.1016/S0305-750X(01)00016-X)
29. Tsai, K. S. (2004). Imperfect substitutes: The local political economy of informal finance and microfinance in rural China and India. *World Development*, 32(9), 1487–1507. <https://doi.org/10.1016/j.worlddev.2004.06.001>
30. Field, E., & Pande, R. (2008). Repayment frequency and default in microfinance: Evidence from India. *Journal of the European Economic Association*, 6(2–3), 501–509. <https://doi.org/10.1162/JEEA.2008.6.2-3.501>
31. Ghalib, A. K. (2013). How effective is microfinance in reaching the poorest? Empirical evidence on programme outreach in rural Pakistan. *Journal of Business Economics and Management*, 14(3), 467–480. <https://doi.org/10.3846/16111699.2011.639796>
32. Morduch, J. (1999). The role of subsidies in microfinance: Evidence from the Grameen Bank. *Journal of Development Economics*, 60(1), 229–248. [https://doi.org/10.1016/S0304-3878\(99\)00042-5](https://doi.org/10.1016/S0304-3878(99)00042-5)
33. Hartarska, V., & Nadolnyak, D. (2007). Do regulated microfinance institutions achieve better sustainability and outreach? Cross-country evidence. *Applied Economics*, 39(10), 1207–1222. <https://doi.org/10.1080/00036840500461840>
34. Mersland, R., & Øystein Strøm, R. (2009). Performance and governance in microfinance institutions. *Journal of Banking and Finance*, 33(4), 662–669. <https://doi.org/10.1016/j.jbankfin.2008.11.009>
35. Hermes, N., Lensink, R., & Meesters, A. (2011). Outreach and Efficiency of Microfinance Institutions. *World Development*, 39(6), 938–948. <https://doi.org/10.1016/j.worlddev.2009.10.018>
36. Field, E., & Pande, R. (2008). Repayment frequency and default in microfinance: Evidence from India. *Journal of the European Economic Association*, 6(2–3), 501–509. <https://doi.org/10.1162/JEEA.2008.6.2-3.501>
37. Weber, H. (2010). Review of International Political Economy The 'new economy' and social risk : banking on the poor ? The 'new economy' and social risk : banking on the poor? Review of International Political Economy, 11(2), 37–41. <https://doi.org/10.1080/09692290410001672859>
38. Mushtaq, S. (2016). Causality between bank's major activities and economic growth: evidences from Pakistan. *Financial Innovation*, 2(1), 7. <https://doi.org/10.1186/s40854-016-0024-y>
39. Sohail, S., Rasul, F., & Fatima, U. (2017). Is internal and external mechanism of governance enriching the performance of the banking sector of Pakistan? *Corporate Governance (Bingley)*, 17(4), 629–642. <https://doi.org/10.1108/CG-05-2016-0116>
40. Qamar, M. A. J., Masood, S., & Nasir, M. (2017). Impact of microfinance on the non-monetary aspects of poverty: evidence from Pakistan. *Quality and Quantity*, 51(2), 891–902. <https://doi.org/10.1007/s11135-016-0317-2>
41. Zulfiqar, G. (2017). Financializing the poor: 'dead capital', women's gold and microfinance in Pakistan. *Economy and Society*, 46(3–4), 476–498. <https://doi.org/10.1080/03085147.2017.1412643>
42. Yao, H., Haris, M., & Tariq, G. (2018). Profitability Determinants of Financial Institutions: Evidence from Banks in Pakistan. *International Journal of Financial Studies*, 6(2), 53. <https://doi.org/10.3390/ijfs6020053>



Ahmad Fakhruddin Ahmad Dailami, He has completed his bachelor in Logistic Management from University Kuala Lumpur, Malaysia. Currently, a Master of Management (by Research) and Assistant Lecturer in Universiti Kuala Lumpur.



Muhammad Hassan Jahangiri, is a PhD candidate at Universiti Malaysia Terengganu. He has an Master of Science in Management from Pakistan. He has served in academia as a lecturer since 2012 and taught entrepreneurship and project management.



Noor Farris Aqmal, completed his Master of Science in Transportation Planning in Univeriti Teknologi Malaysia. Currently, a PHD Candidate in Transportation Planning Univeriti Teknologi Malaysia. He has interest in Logistics, Supply chain, and Management research field.

AUTHORS PROFILE



Muhammad Ali, is a doctoral candidate at Universiti Kuala Lumpur, Malaysia. He has an MS and an MBA in finance and has been associated with Banking sector and NGO sector before joining the academia.



Economics.

Jimisiah Jaafar, is Head of Section for Advancement & Continuing Education. A lecturer for Principles of Management, Technopreneurship, Introduction of Entrepreneurship, Innovation Management, Project Management, Strategy Business Management and