



Analyzing the Contribution of Social Microfinance to Rural Financial Progress: Entrepreneurial and Social Dimensions in a Developing Nation

Abid Hossain Shawon¹

¹Ph.D. Research Fellow, Yunus Social Business Centre, School of Business, Zhengzhou University, Henan, China, Email: shawon.abid@gmail.com

ARTICLE INFO

Article History:

Received: January 10, 2025
Revised: February 21, 2025
Accepted: February 23, 2025
Available Online: February 25, 2025

Keywords:

Social microfinance; Rural Reconstruction; Low-income; Entrepreneurial strategies; Emerging Economy

Corresponding Author:

Abid Hossain Shawon

Email:

shawon.abid@gmail.com

ABSTRACT

Rural Financial development requires a comprehensive approach that addresses both immediate needs and structural challenges in an emerging economy. By focusing on economic empowerment and social protection, social microfinances are trying to create an environment where individuals and communities can not only escape poverty but also achieve sustainable growth and prosperity. This study examines the impact of social microfinance on rural development and poverty alleviation. The research also investigates key theoretical frameworks, including rural financial and institutional theory, and social capital theory, to assess the effectiveness of rural social microfinance institutions for sustainable development in this region. Utilizing secondary data from the Center for financial inclusion, spanning from 2019 to 2023. Through empirical analysis, the study identifies that critical financial component such as, institutional social performance, operational scale, information transparency, and the ratio of gross loan portfolios to total assets positively influence sustainable rural development outcomes. By combining both theoretical perspectives and empirical findings, this research underscores the dual objectives of social microfinance in Bangladesh, balancing social welfare goals with entrepreneurial strategies. The findings suggest that when rural social microfinance institutions operate with a social enterprise model, that not only significantly contribute to poverty reduction efforts but also ensure sustainable development without relying on subsidies.



1. Introduction

The issue of rural underdevelopment remains one of the most pressing challenges to the economic advancement of Bangladesh. At its core, the problem revolves around the enhancement of income for impoverished populations, with the key to resolving this issue lying in the development of the rural economy. Consequently, addressing the "three rural issues" a term that encompasses rural economic development, poverty reduction, and rural financial inclusion necessitates robust financial support for rural areas. The presence of a well-functioning financial market is instrumental in mitigating economic risks, facilitating more efficient resource allocation, enhancing savings rates, and reducing transaction costs. These financial functions are pivotal, not only in fostering capital accumulation and technological innovation but also in driving sustainable economic growth. However, Bangladesh financial landscape is characterized by a dual economic structure, which complicates the situation. As noted by Tchuigoua et al. (2020), and Afrifa et al. (2019), the financial system in developing nations like Bangladesh region consists of a fragmented network of cooperative finance, commercial finance, policy finance, governmental and non-governmental organizations, international agencies, and private lending sources. These institutions, while working toward rural development, face inherent challenges such as market fragmentation and financial suppression, leading to inefficiencies in financial intermediation.

The institutions responsible for implementing rural social microfinance in Bangladeshi economy can be broadly categorized into four types: bilateral agencies, non-governmental organizations (NGOs) managing poverty alleviation microfinance projects, government-established institutions dedicated to social microfinance, and small loans directly administered by financial institutions. These projects have made notable progress in bridging the gap between rural financial supply and demand, increasing the income of the poor, and contributing to poverty reduction. The prevailing view among scholars suggests that financial development and economic growth are mutually reinforcing processes, with the development of one fostering the expansion of the other.

Yet, the rural financial sector continues to grapple with several systemic issues. As highlighted by Patten and Johnston (2001), formal credit systems often exclude low-income populations, particularly rural farmers, due to a lack of adequate collateral, high transaction costs, and information asymmetries. Rural credit cooperatives, which serve as the primary formal financial institutions in these areas, suffer from inefficiencies and a lack of democratic governance, further hindering their ability to serve the financial needs of rural communities. Consequently, the management of these institutions is often marked by inefficiencies and opportunistic behavior, which results in low operational effectiveness and limited loan accessibility for farmers.

Social microfinance has emerged as a crucial tool in addressing these gaps. Building on the lessons learned from formal financial institutions' attempts to serve the poor, as well as the practices of private lending, social microfinance offers innovative financial products, organizational structures, and systems designed to cater to the credit needs of impoverished groups. Unlike traditional financial institutions, social microfinance operates on the assumption that poor populations lack sufficient credit access due to a lack of collateral. As noted by Rambaud et al. (2023), social microfinance has successfully challenged the previous notion that lending to the poor is unprofitable, developing loan models that are tailored to meet the needs of low-income clients. These models, founded on the principles of credit rationing, aim to reduce information asymmetry and transaction costs, thereby improving the accessibility of credit for marginalized communities. Finally, social microfinance has proven to be an effective means of addressing the financial constraints faced by rural populations in Bangladesh. By offering tailored financial products and

creating a dynamic incentive mechanism for repayment, social microfinance has achieved high loan recovery rates, ensuring both financial sustainability and long-term developmental impact.

This research is of critical significance as it explores the role of social microfinance in fostering rural development and alleviating poverty in Bangladesh. By analyzing the impact of financial components such as institutional performance, information transparency, and loan portfolio management, this study aims to provide a comprehensive understanding of how these factors contribute to sustainable development. The study's primary objectives are: 1) to assess the influence of social microfinance on rural poverty alleviation, 2) to examine the role of social enterprise models in enhancing financial inclusion, 3) to investigate how the integration of financial innovation and organizational models within microfinance institutions strengthens rural economies, and 4) to propose policy recommendations for improving microfinance systems and enhancing their effectiveness in poverty reduction. Additionally, this paper identifies key areas for future research that can further optimize the impact of social microfinance and provide valuable insights for more effective poverty alleviation strategies in the region.

2. Literature Review

2.1 The Sustainability of Social microfinance Institutions

A well-performing social microfinance institution achieves sustainable development while poverty alleviation (Zeller, 2001). The research on the sustainability of social microfinance in foreign academic circles is mainly based on the study of financial sustainability and then analyzes each organizational management factor that impacts the financial viability of social microfinance institutions in order to accomplish sustainable institution development. Representatives of this approach include (Pitt & Khandker, S.R., 1998) other aspects of sustainable development of social microfinance have been studied: (Rahman, Razzaque, M.A., Nargis, N., Hossain M.I., & Nasreen, 2005) pointed out that the policy environment is unfavorable, the financial base is not suitable, the retail capacity of the Institution is limited, and the investment in agriculture and rural development is insufficient. The development of social microfinance in some countries is at a backward stage. (Griffin & Husted, B. W, 2015) Believes that special regulations should be introduced for social microfinance to avoid excessive intervention in the development of social microfinance businesses, and (Cobb J. A., Wry, T., & Zhao, E. Y., 2016); research shows that many non-governmental organizations that implement social microfinance are not real financial institutions, and their business development is subject to more restrictions. Therefore, more and more NGOs have begun to transform into formal financial institutions in order to expand their business scale for sustainable development.

2.2 Rural Social microfinance in emerging countries

The systematically analyzed the motives of NGO transformation in underdeveloped regions of the world and the main problems faced in the transformation process. (Hartarska, 2005) Conducted relevant research on the experience of formal financial institutions operating social microfinance in developing countries since 1990, and believed that there are a large number of low-income groups in most developing countries, so there is a certain profit margin in the social microfinance market, and formal financial institutions have certain advantages in entering the social microfinance market. Rural social microfinance in foreign is developed on the basis of experience in Bangladesh. The research on the sustainable development of social microfinance and its development trend has laid a solid foundation for the research on the sustainable development and trend of rural social microfinance in the world. However, due to the change of time and space, the

sustainable development of Bangladeshi rural social microfinance has its particularity, so it is necessary to conduct systematic research on it.

2.3 The Determinants of Social microfinance for Poverty Alleviation

(Milana & Ashta, A., 2020) Believes that social microfinance is to improve the sustainable access of low-income groups. The opportunities and ways to obtain credit services, and in the process, indirectly improve their opportunities and ability to obtain other properties. The determinants of whether social microfinance can alleviate poverty in the short term can be summarized as the return rate of funds must be greater than the actual interest rate of loans, which is a necessary condition for poverty alleviation. Otherwise, social microfinance can help low-income groups overcome life difficulties and smooth consumption; second, low-income groups must be able to generate cash to meet installment repayments and daily production and living needs after obtaining micro-credit flow. (Bogan & V. L., 2012 and Shawon, A. H., 2025), Affirmed that social microfinance is an effective way to alleviate poverty, but at the same time, pointed out that its establishment and development should be suitable for the developing country's national conditions and suggested that the development of social microfinance should be linked to agricultural industrialization, urbanization, and industrialization.

2.4 Impact of Social microfinance on Rural Financial Reform and Poverty Reduction

Since the late 1990s, people have gradually realized the importance of social microfinance as a form of finance, which is closely related to deepening rural financial reform and has become part of the rural financial innovation strategy. (Mersland & Strøm, R., 2009) Research shows that at the macro level, the institutional arrangement of rural social microfinance is a modification of the production function; at the micro level, social microfinance has altered the structure of the credit market in rural areas, the asset structure, and the rural industrial structure, thereby creating incentives for farmers' credit levels. (Liu & Zhang, 2018) Used the anti-lock-in model of social microfinance to prove that social microfinance has overcome the dilemma of farmers increasing production but not increasing income through three ways: industry anti-lock-in, technology lock-in, and structural anti-lock-in, and reduced the poverty level of farmers. At the same time, empirical evidence points out that social microfinance increases poor household operating income and reduces poverty.

2.5 Impact of Social Enterprises on Economic and Social Development

Innovative characteristics of entrepreneurial social enterprises can increase the total wealth of society and broaden the scope of beneficiary groups to include those who have been excluded from the market for an extended period of time. (Hartarska, Shen, X., & Mersland, R., 2013) Believed that social enterprises can promote economic development in three aspects: transformation in the welfare system, creation of employment opportunities, and promotion of regional development; (Schreiner & Crez R, 2002) believed that social enterprises could not only promote In addition to economic development, has also made significant contributions to social cohesion, the development of social capital, and the dynamics of the third sector. In the 2006 "Social Enterprise Action Plan," the British Third Sector Office believed that social enterprises could help realize the government's vision of a fairer and just society and help the government achieve its important goals. (Schicks, 2007) Believes that social enterprises can shape a social culture interpreted as "social enterprise spirit", which emphasizes on the importance of the integration of value creation, innovation, and social responsibility for the sustainable development of the future society.

2.6 Existing Research Gaps

While extensive research has been conducted on social microfinance, particularly its role in poverty alleviation and rural development, several gaps remain in the existing literature. First, while much of the existing research focuses on individual financial components such as loan portfolio management and institutional performance, there is limited comprehensive analysis that examines the interplay between these factors and their cumulative impact on sustainable rural development. Second, while the concept of social enterprises within the microfinance sector has gained attention, there is a lack of studies exploring how these models, specifically in Bangladesh, effectively balance social goals with business strategies to ensure long-term sustainability. Additionally, most studies focus on the impact of microfinance at a broad level without considering the regional variations and challenges specific to Bangladesh. There is also a shortage of empirical research that integrates both theoretical frameworks and real-world data to assess the effectiveness of microfinance institutions in bridging the gap between financial inclusion and economic development. Finally, while policy suggestions exist in the literature, there is insufficient evidence on how these policies could be tailored to the specific needs of rural communities within emerging countries. This study aims to fill these gaps by providing a comprehensive, region-specific analysis and offering actionable policy recommendations.

3. Theoretical Analysis

3.1 The emergence, development and characteristics of rural social microfinance

Bangladesh has historically supported agricultural productivity via financial programs. Social legal person governance structure, improve cooperative finance, study and expand Bangladesh Agricultural Bank's agricultural services, develop new rural financial institutions, standardize and guide various types of capital to support modern agriculture, vigorously develop micro-credit and various micro-finance services, etc. After 2000, policy defined "poverty" as relative to the poor. (Ahlin, Lin, J, & Maio, M, 2011) Believes that in Bangladesh, the rural poor account for the vast majority of the poor. The exploration of credit services provided by international organizations and developing countries to the low- and middle-income classes began in the 20th century. (Saad-Filho, 2010) Believes that in the 1980s, the world social microfinance organization developed into a social microfinance institution that could cover its operating costs with reasonable interest rates and achieve a high loan repayment rate through continuous improvement and innovation. In 1983, the world's first social microfinance organization was established Grameen Bank of Bangladesh. After more than 30 years of development, social microfinance has played an increasingly important impact, and different types of social microfinance institutions in various countries have developed rapidly and diversified. At present, there are about 8,000 to 10,000 social microfinance institutions in the world, with a total operating capital of more than 150 billion US dollars approximately, covering about 100 million people in the world. (Wrold, 2017). Social microfinance is not only regarded as a "magic weapon for poverty alleviation" in underdeveloped countries but also has been widely used for reference in developed countries. It fills the gap in financial services in areas where conventional commercial banks are unwilling to intervene.

3.2 Features and dominant models of social microfinance

The characteristics of social microfinance compared with traditional credit methods are mainly as follows: First, the target of the loan is poor households. This group of people has a strong need to improve their lives, but in real life and the production process, one of the main reasons for their poverty is the lack of funds required for production. (Montgomery, 1996) Believes Social

microfinance came into being to meet the financial needs of these groups. Second, the loan amount is small and repayable in installments. Social microfinance is generally mainly used to meet the production needs of poor households. Ayoungman, F.Z., Shawon, A.H., et al. (2022). Third, loan interest rates are generally higher than traditional credit methods. This is an important feature that distinguishes micro-credit funds from other poverty alleviation project funds. Fourth, loans do not require collateral or have flexible and diverse forms of guarantee. Addresses the exclusion of poor groups from financial services due to lack of collateral. Fifth, the principle of involuntariness. In this mode, the members of the credit group are voluntarily combined, and the members have similar social and economic backgrounds, which can externalize the risk cost. Compared with traditional credit methods, the main characteristics of social microfinance are shown in Table 1.

Table 1: The main characteristics of social microfinance in Bangladesh

Features	Traditional credit	Social microfinance
Ownership and Management	Institutional and individual shareholders pursue profit maximization.	Downsizing banks or transformed NGOs, in which case the shareholders are primarily not-for-profit.
Organizational Characteristics	Financial institutions organize the issuance of loans and are responsible for loan management throughout the process.	Democratic management and mutual supervision of social microfinance member groups.
Customer Features	All kinds of formal enterprises and wage earners People, the geographical distribution of customers is very scattered large amount, long term, low-interest rate.	Low-income business, owns an early-stage home business, does not have much formal documentation, is located in a specific geographic area, has a smaller amount, shorter term, and has a higher interest rate.
Loan method	Loan, guarantee, and official papers	Through on-site investigation, conduct character and cash flow analysis.

3.3 Transitional Model of Social microfinance in Alleviating Poverty

From the perspective of financial system development, social microfinance is a transitional financial operation system explored in the work of alleviating poverty. When poverty is eradicated, MFIs generally move towards the traditional commercial credit model, and their basic characteristics will change. Since the emergence of social microfinance, there are mainly many modes of operation in the world. There are Grameen Bank models, group loan models, credit union models, bank-guaranteed loan models, cooperative models, community bank models, etc., but in general, the existing dominant models and their basic features can be summarized in Table 2

Table 2 Social microfinance-dominated models and their basic features

Contents / Name of Organization	Grameen Bank	BRAC	ASA	RRF
	Village Bank	Microfinance	Microfinance	NGO
Number of customers	8.7 million	81503	2 million borrowing customers	89986
Average loan	\$910	\$535	\$1007	\$191

balance				
General Loan Term	1 year	4 to 12 months	3 to 24 months	4 months
Ratio of female clients	95%	61%	23%	95%
Operating area	Countryside	Town	Mainly in rural areas	rural areas
Whether group loan	Yes	Yes	No	No
Require a guarantee - Whether to emphasize	No	No	Yes	No
Voluntary savings	No	Yes	Yes	Yes
Loan system	Yes	Yes	Yes	Yes
Repayment rules	Weekly	Flexible	Flexible	Weekly
Target customers	The poor	Non-poor	Non-poor	The poor
Financially sustainable	No	Yes	Yes	No
Loan Nominal Annual Interest Rate	20%	47.5%-50.5%	32%-43%	--

3.4 The Perspective of Social microfinance of Bangladesh Rural Credit Market

In order to alleviate the problem of farmers' loan difficulties, rural social microfinance business was piloted in rural credit cooperatives nationwide in 1980. (Khandker, Khalily, M.A.B., , & Samad, H.A., 2003), (Rajan & Raghuram, G., 2008) Since then, financial institutions such as the Association for Social Advancement, Grameen Bank, Brac, Rural Reconstruction Foundation, and social microfinance companies have also begun to get involved in the field of social microfinance. The specific situation is shown in Figure 1: Social microfinance institutions and channels in rural Bangladesh are diverse, but many social microfinance initiatives are experimental and temporary, so the supply is still extremely limited.

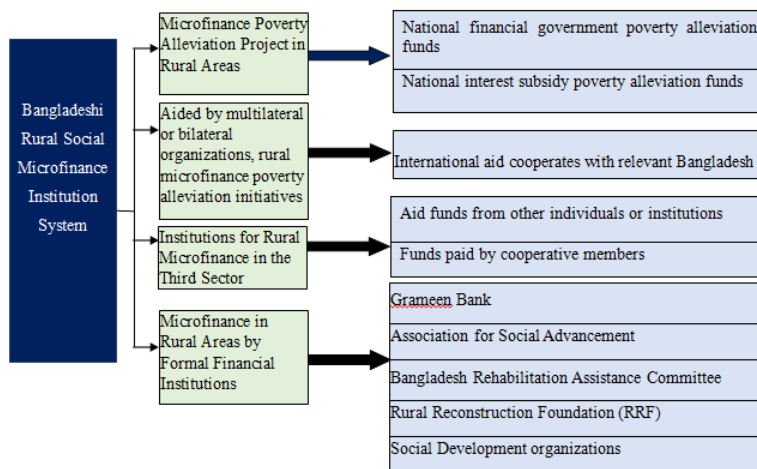


Figure 1: Rural Social microfinance Institution System in Bangladesh

3.5 Analysis of Factors Affecting the Sustainable Development

According to (Krauss & Walter, 2009), Financial sustainability and organizational sustainability are complementary and coordinated. The former is the basis for the existence and development of the latter, while the latter provides a good operating space for the realization of the former. As shown in Figure 2.

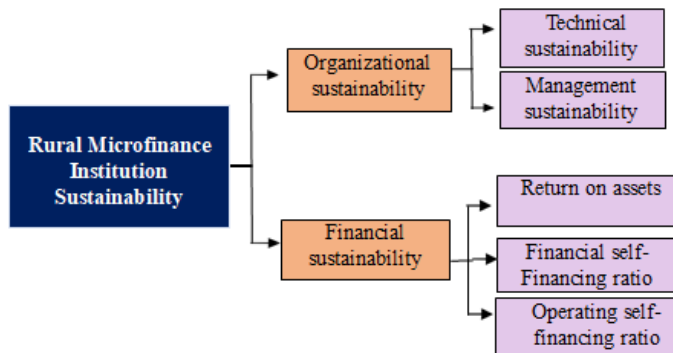


Figure 2: Components of Sustainable Development of Rural Social microfinance Institutions

3.6 Evaluation of sustainable development of rural social microfinance

A social microfinance organization must meet these requirements to grow sustainably: The agency is legal and somewhat independent. A rural Bangladeshi social microfinance institution should operate like a company, serving disadvantaged rural households. It can only do business and acquire income approval under relevant legislation. To ensure sustainable development, it must be independent and have autonomy in personnel and capital management. Second, poor rural households should be taken as the target group for their continuous selection. (Yunus, 1999) (Fairtown et al, 2023) due to cost and benefit considerations, formal financial institutions will not target poor rural farmers with financial services. In contrast, social microfinance institutions include poor rural farmers and micro-enterprises as target groups and continue to provide them. Services make up for the lack of formal financial institutions.

3.7 Factors Affecting the Sustainable Development of Social microfinance Institutions

The factors affecting the sustainable development of rural social microfinance institutions can be divided into external and internal factors. Internal factors, such as the management level of social microfinance institutions, are crucial to sustainable development. From successful foreign social microfinance in practice, it is because they have innovated according to the external environment and reduced costs.

(A) External factors: One is the role of the government. In all external circumstances, the government plays a decisive role. The first reason is that the government has strong organizational advantages and absolute political advantages. However, the government's intervention should also have a certain limit. The second is social culture. In Bangladesh's rural areas, most of them are self-sufficient in traditional agricultural production and management methods. (Halder & Stiglitz, J. E, 2014) The relationship between people is not based on commercial contracts but between people. Relationships from familiarity to trust. The financing channels of social microfinance include shareholder and commercial investment, borrowing, donation, and deposit absorption, among which deposit absorption should be an important source of funds.

(B) Internal influencing factors: An institutional scale and asset structure. According to (Xiong & Wang, Y., 2013), the size of an enterprise will affect its operating performance. Larger enterprises are easier to obtain funds and may have economies of scale. (Pollinger, Outhwaite, & Cordero-Guzmán, H., 2007) believes a company must have an acceptable asset structure to survive. If the company's debt is too large, it may go bankrupt and lose efficiency. Third: asset utilization. These metric measures social microfinance institution asset management. Fourth, risk management. Farmer credit levels determine rural social microfinance. This makes credit risk easier than with collateral-based credit products. Fifth: interest rates. Social microfinance income is most affected by interest rates.

3.8 Measuring Indicators for the sustainable development of social microfinance

(1) Financial indicators: The sustainability of social microfinance projects or institutions has not established a set of generally recognized indicator systems. The indicators commonly used at this stage are mainly measured by some financial indicators, mainly Operational self-sufficiency ratio (Operational self-sufficiency), OSS), financial self-sufficiency (FSS), return on assets (Return on Asset, ROA), and subsidy dependence index (Subsidy depend on the index, SDI).

(2) Social performance indicators: In addition to financial sustainability, a rural social microfinance institution's continued support for poor rural households' financial services, including breadth and depth, must be assessed to determine its sustainable development. Average loan amount and active borrowers measure these two indicators. (1) Number of active borrowers (Number of active borrowers, NAB): refers to the unit or individual of the current rural households lending to rural social microfinance institutions. This indicator can be used to measure the value of social microfinance institutions. (2) Relative average loan balance (Average loan balance per borrow/GNI per capita, ALBG) is the ratio of the average loan balance per borrow/GNI per capital divided by the country's per capita national income to offset the differences caused by the different income levels of various countries.

4. Methodology

4.1 Data collection

Sourced from Center for financial inclusion (Social microfinance Information Exchange, MIX) and Statistics from Bangladesh, Data on about 190 MFIs in Bangladesh from 2019 to 2024. MIX is a non-profit organization established in 2002 whose main objective is to provide data and information. The objective information of social microfinance institutions (MFIs) is an independent, neutral, and transparent platform. Since MIX has been established for a long time, considering the availability and completeness of the data, the paper selects the data of the past five years and, after eliminating the samples with low transparency and incompleteness, selects about 4847 samples collected for research.

4.2 Model Selection and Construction

From the financial sustainability perspective, rural social microfinance institutions can be divided into two types: financially sustainable and financially unsustainable. The paper takes whether the Institution is economically sustainable as the explained variable. Development factors, so the discrete binary model is used in the analysis of this discrete problem. Since the paper uses the five-year data of thousands of social microfinance institutions in developing nations as an analysis

sample, it is a large sample, so the Probit model is a better fit. The model uses a cumulative normal probability function, and the specific form of the model is:

$$Y^* = \alpha + \beta X_i + \epsilon \tag{1}$$

$$Y = \begin{cases} 1, & \text{When } Y^* \geq 0 \text{ times, sustainable development of social microfinance institutions} \\ 0, & \text{When } Y^* < 0 \text{ times, the social microfinance institution is unsustainable} \end{cases}$$

It is a random disturbance item that obeys the standard normal distribution and reflects some unobservable other influencing factors. Thus, the binary discrete choice model that affects the sustainable development of social microfinance institutions can be expressed as: The latent variable Y^* can be modeled as a linear function of the observed explanatory variables X_i :

$$Y^* = \alpha + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k + \epsilon \tag{2}$$

Where: Y^* is the unobservable latent variable representing the sustainable financial development of the institution. X_1, X_2, \dots, X_k are the observed explanatory variables such as institution size, asset structure, risk management level, deposit absorption capacity, asset utilization ability, and institutional social performance. α is a constant (intercept), and $\beta_1, \beta_2, \dots, \beta_k$ are the coefficients of the explanatory variables. ϵ is the error term, assumed to follow a standard normal distribution.

The probability that $Y=1$ (the institution is financially sustainable) is given by the cumulative distribution function Φ of the standard normal distribution:

$$Prob(Y = 1 | X = x) = \Phi(\alpha + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k) \tag{2.1}$$

Where: Φ is the standard normal cumulative distribution function (CDF), which maps the linear combination of explanatory variables into a probability between 0 and 1. Equivalently, this can be written as:

$$Prob(Y = 1 | X = x) = 1 - \Phi(-(\alpha + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k)) \tag{2.2}$$

Maximum Likelihood Estimation (MLE) To estimate the coefficients α and β , the maximum likelihood estimation (MLE) method is used. The likelihood function for the Probit model is:

$$L(\alpha, \beta | Y, X) = \prod_{i=1}^n [\Phi(\alpha + \beta_1 X_{i1} + \dots + \beta_k X_{ik})^{Y_i} \cdot (1 - \Phi(\alpha + \beta_1 X_{i1} + \dots + \beta_k X_{ik}))^{(1-Y_i)}] \tag{2.3}$$

Where: Y_i is the observed outcome for the i -th observation (either 0 or 1). $X_{i1}, X_{i2}, \dots, X_{ik}$ are the explanatory variables for the i -th observation. n is the total number of observations. Equivalently, this can be written as:

$$\ell(\alpha, \beta) = \sum_{i=1}^n [Y_i \log(\Phi(\alpha + \beta_1 X_{i1} + \dots + \beta_k X_{ik})) + (1 - Y_i) \log(1 - \Phi(\alpha + \beta_1 X_{i1} + \dots + \beta_k X_{ik}))] \tag{2.4}$$

$\beta_1, \beta_2, \dots, \beta_k$ The estimated coefficients provide insights into the direction and magnitude of the relationship between each explanatory variable and the probability of an institution achieving financial sustainability. A positive coefficient suggests that the factor increases the likelihood of sustainability, while a negative coefficient suggests the opposite. α The intercept term, representing the baseline probability of financial sustainability when all explanatory variables are zero.

4.3 Variable Definition and Description

4.3.1 Definition of variables and expected direction of change

In order to find out the influencing factors on the sustainable financial development of social microfinance institutions, according to the availability of data, the paper selects social microfinance institutions' institutional information transparency, institution size, asset structure, risk management level, ability to obtain funds, and asset utilization. Capabilities and institutional social performance as influencing factors. Among them, institutional transparency (Diamond, DM), institutional size uses total assets (Total asset, TA) and the number of employees (Personal, PS) as variables, asset structure uses equity ratio (Debt to equity ratio, DE) as variables, risk management level Using bad debt write-off ratio (WO) and loan loss provision ratio (Provision for loan impairment/assets, PLIA) as variables, the ability to obtain funds is measured by the total capital deposit rate (Deposit/Asset, DA) is used as a variable, the asset utilization capacity is used as a variable, the gross loan portfolio/Asset (GLPA) is used as a variable, and the social performance is used as a relative per capita loan amount (Average loan balance per borrower / GNI per capita, ALBG) and the number of active borrowers (Number of active borrowers, NAB) as variables. The definition of variables and the expected direction of change of explanatory variables are shown in Table 3.

Table 3: Social microfinance-dominated models and their basic features

Variable Definition Expected Change	Variable Definition Expected Change	Variable Definition Expected Change
Dependent variable Y	Institutional financial sustainability = 1, OSS \geq 100%	
Institutional Transparency DM	Institutional Financial Unsustainability = 0, OSS < 100%	+
Institution Total Assets TA	The degree of information disclosure is divided into five levels; the higher the level, the more transparent ¹⁰	+
Size Number of employees PS	Total Assets = Total Liabilities + Net Assets	+
Equity ratio DE	Total number of employees of MFIs	uncertain
Risk Bad debt write-off ratio WO	Equity ratio = total liabilities / net assets	-
Management Loan Loss Provision Ratio PLIA	Bad debt write-off ratio = bad debt written off / loan loss provision	-
Total capital deposit rate DA	Loan loss provision ratio = loan loss provision / total assets	+

Gross Asset Loan Ratio GLPA		Total capital deposit rate = deposit balance / total assets	+
Social Number of Active Borrowers NAB	Social Number of Active Borrowers NAB	Number of people credited by MFIs	uncertain
Performance Relative per capita loan amount ALBG	Performance Relative per capita loan amount ALBG	Relative per capita loan amount = loan balance / (active borrowers	+
		Number x	GNI per capita

5. Results of empirical analysis

5.1 Statistical Description of Variables

As can be seen from Table 4, the scale of social microfinance institutions, the number of services they provide, and their capacity to absorb deposits have all increased, reflecting an increase in the level of risk management, while other indicators have not changed much.

Table 4: Variable descriptive statistics Unit: Ten thousand, dollars, person, %

Index	Parameter	2019	2020	2021	2022	2023	2019-23
Finance can	Average	118.27%	116.65%	116.67%	116.92%	112.12%	116.07%
Persistent	Variance	0.60	0.70	0.45	0.67	0.44	0.58
OSS	Coefficient of variation	0.51	0.60	0.39	0.58	0.39	0.50
Asset structure	Average	34.66	4.89	5.62	1.94	4.33	9.37
DE	Variance	731.34	130.15	51.68	91.97	19.80	312.28
	Coefficient of variation	21.10	26.61	9.20	47.47	4.57	33.33

Extended table 4 of descriptive statistics

Index	Parameter	2019	2020	2021	2022	2023	2019-23	
Organization size	TA	Average	2581.35	3524.29	4221.50	4675.46	6008.43	4268.02
		Variance	17263.81	21452.50	17078.11	18701.50	22676.74	19622.55
		Coefficient of variation	6.69	6.09	4.05	4.00	3.77	4.60

Risk Management	PS	Average	295	338	378	405	472	381
		Variance	1660.33	1807.16	1716.45	1591.39	1651.34	1685.50
		Coefficient of variation	5.63	5.34	4.54	3.93	3.50	4.42
Social performance	WO	Average	1.35%	1.31%	1.56%	1.67%	2.45%	1.68%
		Variance	0.03	0.03	0.05	0.04	0.06	0.04
		Coefficient of variation	2.56	2.62	2.97	2.19	2.52	2.64
	PLI	Average	1.68%	1.81%	1.62%	2.03%	2.38%	1.92%
	A	Variance	0.03	0.04	0.03	0.03	0.04	0.03
		Coefficient of variation	1.74	1.97	1.73	1.67	1.57	1.74
	NA	Average	52037	59319	65653	70521	88449	67796
	B	Variance	330120	360717	393365	418510	475691	401417
		Coefficient of variation	6.34	6.08	5.99	5.93	5.38	5.92
	AL	Average	78.88%	83.09%	79.81%	65.18%	61.20%	73.25%
	BG	Variance	1.94	2.29	1.86	1.17	1.18	1.73
		Coefficient of variation	2.47	2.75	2.33	1.79	1.94	2.36
Asset utilization		Average	74.53%	74.82%	77.63%	76.37%	74.75%	75.68%
Rate GLPA		Variance	0.18	0.18	0.86	0.17	0.18	0.42
		coefficient of variation	0.24	0.24	1.11	0.23	0.25	0.56
Storage capacity		Average	12.92%	16.97%	20.15%	24.59%	22.75%	19.80%
DA		Variance	0.24	0.27	0.28	0.30	0.32	0.29
		Coefficient of variation	1.87	1.57	1.38	1.23	1.39	1.45
Transparency		Average	4	4	4	4	4	4
DM		Variance	0.76	0.75	0.76	0.77	0.77	0.76

Coefficient of variation	0.19	0.19	0.19	0.20	0.19	0.19
-----------------------------	------	------	------	------	------	------

5.2 Multicollinearity analysis

In order to avoid serious collinearity problems among variables, the paper first conducted a correlation analysis on the independent variables (see Table 5) High correlations are found between headcount (PS), a measure of institution size, total assets (TA), a measure of institution size, and a number of active borrowers (NAB), a measure of the breadth of credit services offered by MFIs. It can be seen from the statistical expression of the variables that the coefficient of variation of the total assets of the organization is slightly larger than the number of employees of the organization. Therefore, the variable with a small coefficient of variation, that is, the number of employees of the organization (PS), is eliminated here. In addition, there is a certain correlation between total assets and the number of active borrowers, reflecting loan loss provision ratio (PLIA) and bad debt write-off ratio (WO). When explaining these variables to the financial sustainability of social microfinance institutions, we should consider the interactions between these variables in Table 5.

Table 5: Correlation analysis among variables in the model

Variables	ALB	DA	DE	DM	GLPA	NAB	OW	PLIA	PS	TA
ALBG	1.00	0.07	0.00	-0.04	0.00	-0.11	-0.02	-0.04	0.02	0.08
DA	0.07	1.00	0.05	-0.10	-0.05	0.04	-0.05	-0.06	0.14	0.22
DE	0.00	0.05	1.00	-0.06	0.01	0.02	-0.04	-0.04	0.01	0.00
DM	-0.04	-0.10	-0.06	1.00	0.06	0.15	0.00	0.01	0.18	0.19
GLPA	0.00	-0.05	0.01	0.06	1.00	0.00	-0.06	0.01	-0.04	-0.02
NAB	-0.11	0.04	0.02	0.15	0.00	1.00	0.01	0.01	0.75	0.44
WO	-0.02	-0.05	-0.04	0.00	-0.06	0.01	1.00	0.38	0.00	-0.02
PLIA	-0.04	-0.06	-0.04	0.01	0.01	0.01	0.38	1.00	0.01	0.00
PS	0.02	0.14	0.01	0.18	-0.04	0.75	0.00	0.01	1.00	0.61
TA	0.08	0.22	0.00	0.19	-0.02	0.44	-0.02	0.00	0.61	1.00

The following heatmap provides more clearer understanding regarding correlation analysis on the independent variables High correlations are found.

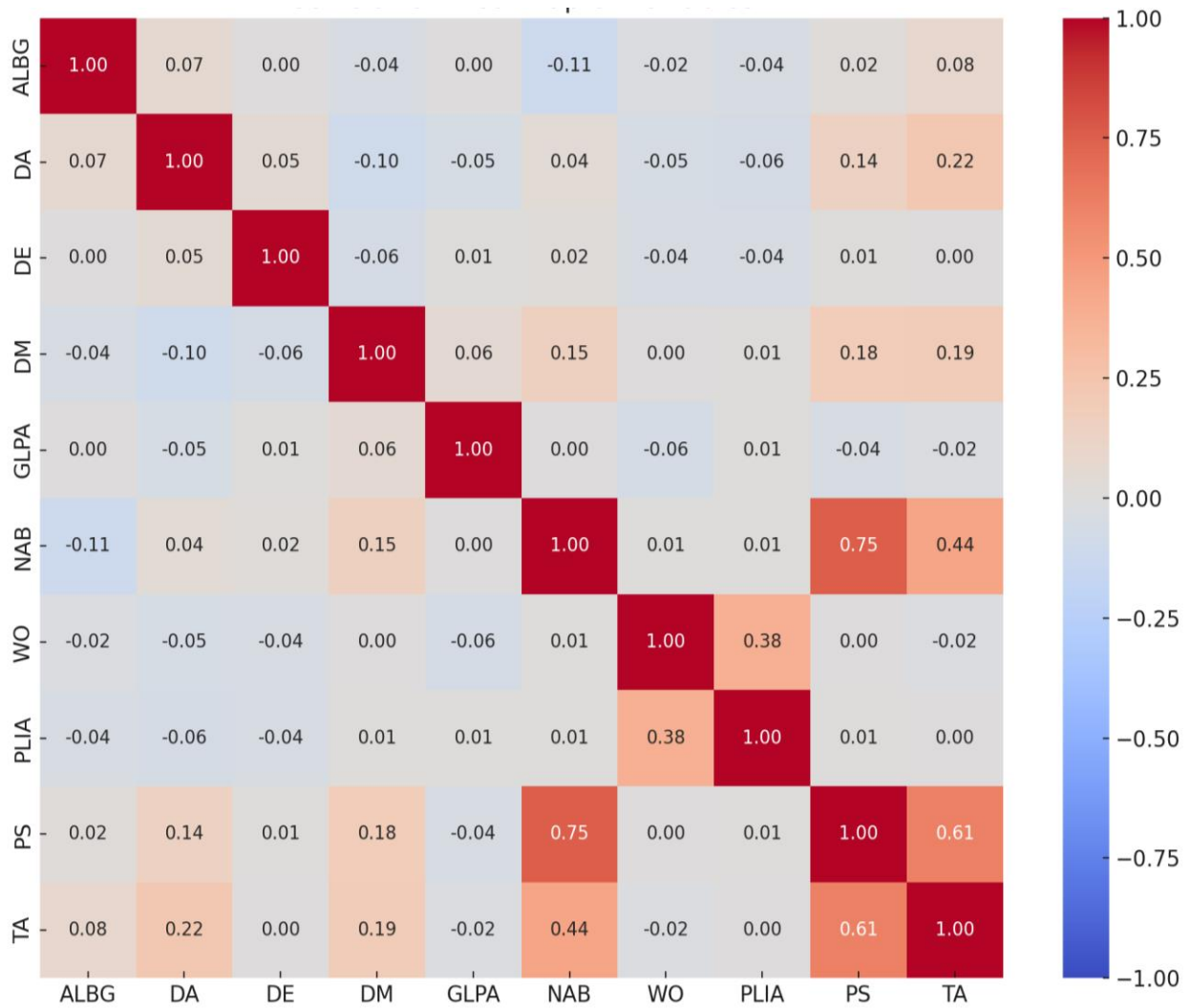


Figure 3: Correlation Heatmap of Variables

5.3 Model results

After eliminating some highly correlated ones, the paper uses EViews V11 software to estimate the model using the maximum likelihood estimation method, and the results are shown in Table 6, Model 1 is the result of the first estimate, and Model 2 is the result of re-estimation after removing two variables that have not passed the statistical significance test on the basis of the first estimate.

Table 6: Difference analysis between Model 1 & Model 2

Variables	Model 1			Model 2		
	Estimated parameters	Z-statistic	Probability	Estimated parameters	Z-statistic	Probability
C	-1.459073	-10.48480	0.0000	-2.692144	-11.00513	0.0000
ALBG	0.035218	2.543282	0.0110	0.064969	2.461374	0.0138
DA	0.367281	4.906268	0.0000	0.799433	5.629292	0.0000

DE	-0.000214	-0.375541	0.7073			
DM	0.239883	8.524541	0.0000	0.397553	8.003463	0.0000
GLPA	1.790752	15.14570	0.0000	3.298172	15.56204	0.0000
NAB	-2.89E-08	-0.393513	0.6939			
WO	-2.078730	-3.398722	0.0007	-3.171498	-2.895731	0.0038
PLIA	-11.20615	-13.22073	0.0000	-19.84823	-12.91117	0.0000
TA	3.800110	2.087094	0.0369	9.210210	2.345867	0.0190
LR statistics		715.2265			743.7494	
Log Likelihood		-2369.662			-2365.45	
Number of samples		4771			4780	

The estimated results of model 1: the coefficient of equity ratio is negative, indicating that the increase of institutional debt ratio may have a negative impact on the sustainable financial development of social microfinance institutions, but it failed the statistical significance test, indicating that the asset structure has little impact on the Institution's sustainable development, in contrast to commercial, financial institutions that offer more financial services. A wider range of financial services may increase costs for institutions, which may have a negative effect. However, although the coefficient of active lenders in Model 1 is negative, it shows that the increase in the number of lenders may have a certain negative impact on the sustainable development of institutional finance. Still, the statistical test is insignificant, indicating that this impact will not be obvious. From the estimated results of Model 2, except for the relative average loan amount and total assets, which are significant at the 5% level, all other indicators are significant at the 1% level and have a specific impact. Firstly, the relative average loan amount positively impacts the sustainable development of social microfinance institutions. The relative average loan amount is produced by dividing the per capita loan amount by the per capita national income of the country where the Institution is located. It is intended to reduce discrepancies caused by national income. The higher the relative average loan size, the fewer loans for the same amount, which lowers operational expenses and strengthens social microfinance firms. Thus, social performance improves social microfinance sustainability. Second, the deposit ratio of total assets helps social microfinance firms grow.

Social microfinance institutions receive low-cost deposits. The total asset deposit ratio shows social microfinance firms' ability to absorb deposits and raise capital. Thirdly, the sustainable impact of information transparency on the finances of social microfinance institutions is positive. Information transparency is of great significance to social microfinance institutions. Social microfinance institutions with higher information transparency have good operating performance and are more able to win investments from investors and donations from donors. Therefore, there is a benign interactive relationship between information transparency and the sustainable development of social microfinance institutions. Fourthly, the sustainable impact of asset

utilization on the finance of social microfinance institutions is positive. In general, The higher an asset's utilization rate, the higher its return and the institution's sustainability. Fifth, bad debt write-off and loan loss provision rates hurt social microfinance institutions' financial sustainability. These two indicators are used to measure the level of institutional risk management.

The larger the index value, the lower the level of institutional risk management, which will directly affect the sustainable development of social microfinance institutions. In addition, the coefficients of these two indicators are substantial, indicating that the level of risk management is a crucial factor for the sustainable development of social microfinance institutions. Sixth, the sustainable impact of total assets on the finance of MFIs is positive. The amount of total assets reflects the size of the social microfinance institution. The more total assets, the larger its scale and the greater the scale effect of the Institution. Therefore, the stronger the capital, the more conducive to the sustainable development of the social microfinance institution.

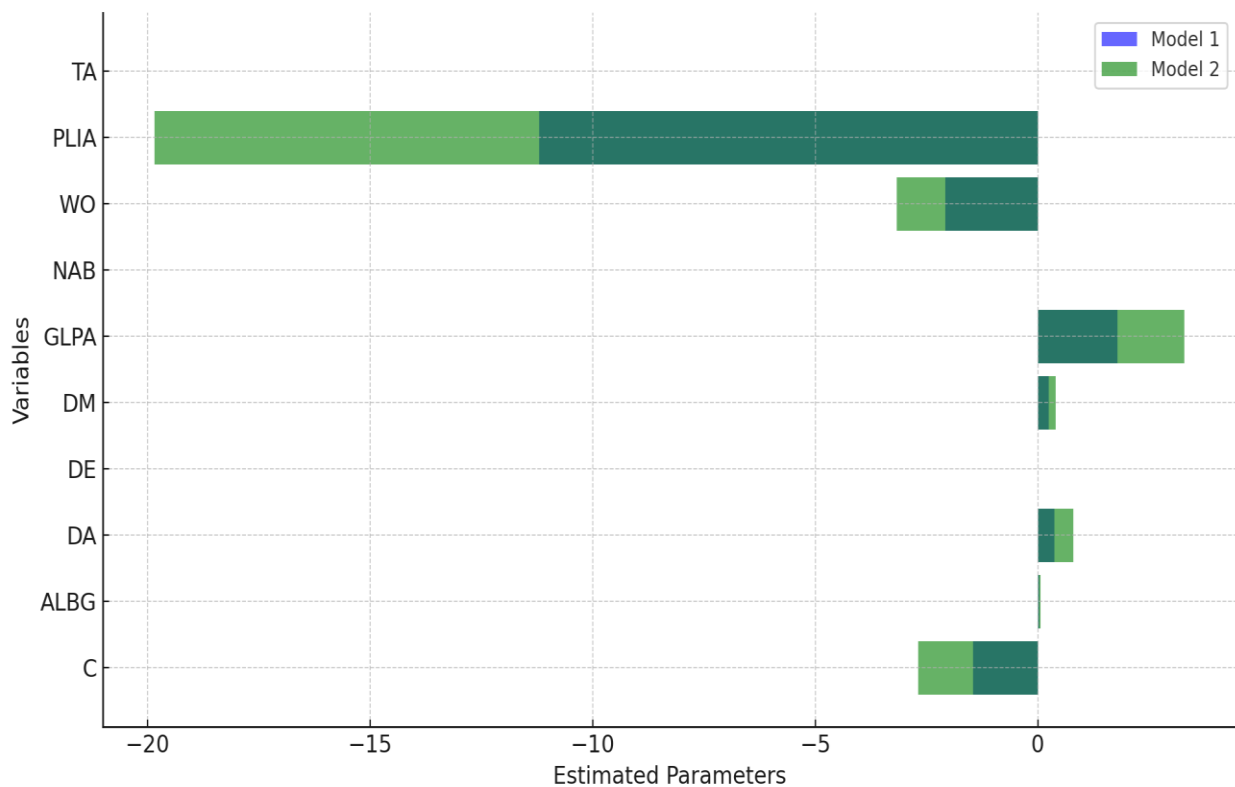


Figure 4: Comparison of Estimated Parameters between Model 1 and Model 2

According to the results of empirical research, it can be concluded that how to improve social performance, information transparency, institutional scale, asset utilization rate, ability to obtain funds, and risk management level of social microfinance institutions is an important factor for the sustainable development of social microfinance institutions factor. Social microfinance is a credit model initiated by the third sector to solve the unmet needs of low-income people for financial services. (Sainz-Fernandez, Torre-Olmo, B., López-Gutiérrez, C., & Sanf, 2015) Believes that Social enterprises sustainably produce goods, sell services, have a high degree of autonomy, and rely less on external traditions such as governments and charitable organizations. Fund sources and other characteristics provide a new perspective for us to study the sustainable development of Bangladeshi rural social microfinance institutions.

6. Conclusions and Policy Implications

6.1 Conclusions

This study offers a comprehensive analysis of the status of social microfinance within the rural credit market of Bangladesh, drawing from relevant literature across economics, accounting, and sociology. The research integrates both theoretical and empirical approaches, enriched by global and local experiences regarding the sustainable development of impoverished communities. It critically examines the advantages and challenges faced by social microfinance institutions in Bangladesh, with a particular focus on their role in fostering sustainable development. The findings of this study can be summarized as follows: While microfinance has played a pivotal role in improving the rural credit structure, enhancing employment opportunities for farmers, and contributing to poverty alleviation in rural Bangladesh, significant demand for social microfinance remains unmet. Therefore, it is crucial for the government to play an active role in supporting and guiding the growth of social microfinance, while also addressing its underlying factors.

To assess the sustainability of financial growth within social microfinance institutions, indicators such as the operating self-financing ratio and return on assets were utilized. The breadth and depth of financial services provided were measured through the number of active lenders relative to the average loan amount. The study establishes that the sustainable development of financial practices forms the foundation of an institution's overall longevity, which in turn facilitates a conducive operational environment. Empirical results indicate that several key factors—social performance, institutional scale, information transparency, asset utilization, and the ability to access funds—positively contribute to the sustainable development of social microfinance and, by extension, poverty alleviation. However, the study also identifies the alarming debt write-off rate and loan loss reserve ratio as critical risk indicators. These factors negatively affect the stability of social microfinance institutions, with risk management emerging as a central determinant in ensuring their long-term sustainability.

6.2 Policy Implications

The findings of this study provide several key insights with significant implications for policymakers aiming to strengthen the social microfinance sector in Bangladesh. First, the continued expansion of social microfinance is essential for addressing the unmet demand for financial services in rural areas. Policymakers should prioritize the enhancement of regulatory frameworks that facilitate the growth of these institutions while ensuring that they remain aligned with their social objectives. To support the sustainable development of social microfinance institutions, it is critical for the government to take a proactive role in offering targeted financial support, especially in areas where traditional credit systems fail to reach. This could include providing subsidies or low-interest loans to social microfinance institutions that operate in underserved rural areas. Furthermore, the government should invest in capacity-building initiatives for these institutions, equipping them with the necessary tools to manage risk, improve transparency, and scale effectively.

Additionally, given the importance of financial sustainability, policymakers should develop clear guidelines for the measurement and reporting of key financial indicators, such as the operating self-financing ratio and return on assets. By establishing standardized reporting practices, policymakers can ensure that social microfinance institutions are held accountable for their financial health, and their capacity to contribute to long-term poverty alleviation is maximized. Furthermore, addressing the challenges related to risk management is paramount. Policymakers

must introduce regulations that promote stronger risk management practices within microfinance institutions, particularly in relation to loan loss reserves and debt write-offs. These measures could be paired with the establishment of a national insurance scheme to protect microfinance institutions from default risk, further strengthening their sustainability. Lastly, given the positive role of social performance, institutional scale, and information transparency in driving the success of social microfinance, the government should incentivize institutions that demonstrate strong social and environmental outcomes. This could be achieved through tax breaks, certification programs, or eligibility for additional funding streams, creating a competitive environment where institutions are rewarded for their impact.

References

1. Afrifa, Gyapong, E., & Zalata, A. M. (2019). Buffer capital, loan portfolio quality and the performance of social microfinance institutions: A global analysis. *Journal of Financial Stability*, 44, 100-691.
2. Ahlin, C., Lin, J., & Maio, M. (2011). Where does social microfinance flourish? Social microfinance institution performance in macroeconomic context. *Journal of Development Economy*, 95, 105–120.
3. Ayoungman, F.Z., Shawon, A.H., et al. (2022). A Study On The Effectiveness Of Sustainable Structure Of Emerging Social Enterprises To Eradicate Impoverishment: The Rehabilitation Paradigm In Bangladesh. *Russian Law Journal*, (X1 (4s), 471–494. <https://doi.org/10.52783/rj.v11i4s.868>
4. *Bangladesh Banking and Financial Statistics*. (2017). Dhaka: Bangladesh Banking Regulatory Bureau's. Retrieved from <https://www.bb.org.bd/bbstats/bdstats/bdstats2017.html>.
5. Bogan, & V. L. (2012). Capital structure and sustainability: An empirical study of social microfinance institutions. *Review of Economics and Statistics*, 94(4), 1045–1058.
6. Cattai, M. (2001). *The OECD Observer*, 43–44. Retrieved from <https://ezproxy.udem.edu.mx:2119/central/docview/217472620/fulltextPDF/DA4215832D54064PQ/1?accountid%417236>
7. Christen RP, R. E. (1995). Maximizing the outreach of microenterprise finance: an analysis of successful social microfinance programs. . *USAID*, 53-65. Retrieved from www.academia.edu/1495608/Maximizing_the_Outreach_of_Microenterprise_Finance_An_Analysis_of_Successful_Social_microfinance_Programs
8. Cobb J. A., Wry, T., & Zhao, E. Y. (2016). Funding financial inclusion: Institutional logics and the contextual contingency of funding for social microfinance organizations. *Academy of Management Journal*, 59(6), 2103–2131.
9. Fairtown Zhou Ayoungman , Abid Hossain Shawon , Md. Shoriful Islam , & Abul Kalam (2023). A study on the effectiveness of sustainable structure of emerging social enterprises to eradicate impoverishment: the rehabilitation paradigm in Bangladesh. *Russian law journal*, 11 (4s), 471-492.
10. Government, B. (2017). Dhaka: Bangladesh Bank Financial Inclusion Report, . Retrieved from https://www.bangladesh-bank.org/pdf/FI_Report_2017.pdf.
11. Griffin, D., & Husted, B. W. (2015). Social sanctions or social relations? Social microfinance in Mexico. *Journal of Business Research*, 68(12), 2579–2587.
12. Haldar, A., & Stiglitz, J. E. (2014). The Indian social microfinance crisis: The role of social capital, the shift to for-profit lending and implications for social microfinance theory and practice. . *Columbia University, New York*.
13. Hartarska. (2005). Governance and performance of social microfinance institutions in

- Central and Eastern Europe and the newly independent states. *World Development*, 33(10), 1627–1643.
14. Hartarska, V., Shen, X., & Mersland, R. (2013). Scale economies and input price elasticities in social microfinance institutions. *Journal of Banking & Finance*, 37(1), 118–131.
 15. Khandker, S., Khalily, M.A.B., & Samad, H.A. (2003). Beyond Ending Poverty – The Dynamics of Social microfinance in Bangladesh. *World Bank Group, Washington, D.C.*, 101-135.
 16. Krauss, N., & Walter. (2009). Can social microfinance reduce portfolio volatility? *Economic Development and Cultural Change*, 58(1), 85–110.
 17. Liu, Y., & Zhang, Z. (2018). Social microfinance and poverty alleviation: An analysis based on the anti-lock-in model. *China Economic Quarterly*, 17(2), 545-562.
 18. Mersland, R., & Strøm, R. (2009). Performance and governance in social microfinance institutions. *Journal of Banking & Finance*, 33(4), 662–669.
 19. Milana, C., & Ashta, A. (2020). Social microfinance and financial inclusion: Challenges and opportunities. *Strategic Change*, 29(3), 257–266.
 20. Montgomery, R. (1996). Disciplining or protecting the poor? Avoiding the social costs of peer pressure in micro-credit schemes. *Journal of International Development*, 8, 289-305.
 21. Patten, R. H., & Johnston, D. E. (2001). Social microfinance success amidst macroeconomic failure: The experience of Bank Rakyat Indonesia during the East Asian crisis. *World Development*, 29, 1057-1069.
 22. Pitt, M., & Khandker, S.R. (1998). The impact of group-based credit programs on poor households in Bangladesh: does the gender of participants matter? *Journal of Political Economy*, 106 (9), 958–996.
 23. Pollinger, Outhwaite, & Cordero-Guzmán, H. (2007). The question of sustainability for social microfinance institutions. *Journal of Small Business Management*, 45, 23-41.
 24. Rahman, A., Razzaque, M.A., Nargis, N., Hossain M.I., & Nasreen. (2005). Follow up Monitoring and Evaluation System Study of PKSf (Mimeo.). *Palli Karma Sahayak Foundation (PKSF), Dhaka*, 02-10.
 25. Rajan, & Raghuram, G. (2008). A hundred small steps. Report of the committee on financial sector reforms. *SAGE Publications India Pvt Ltd, New Delhi, India*.
 26. Rambaud, S. C., Joaquín López Pascual, & Emilio M. Santandreu. (2023). A socioeconomic approach to the profile of microcredit holders from the Hispanic minority in the USA. *Financial Innovation*, 9-10. Retrieved from <https://link.springer.com/article/10.1186/s40854-022-00422-w#citeas>
 27. Saad-Filho. (2010). Growth, poverty and inequality: Washington consensus to inclusive growth (UN/DESA. *Working Papers No. 100*. Retrieved from http://www.un.org/esa/desa/papers/2010/wp100_2010.pdf
 28. Sainz-Fernandez, Torre-Olmo, B., López-Gutiérrez, C., & Sanf. (2015). Crisis in social microfinance institutions: Identifying problems. *Journal of International Development*, 27(7), 1058–1073.
 29. Schicks, J. (2007). Developmental impact and coexistence of sustainable and charitable social microfinance institutions: Analysing BancoSol and Grameen Bank. *The European Journal of Development Research*, 551-568., 551-568.
 30. Schreiner, & Crez R. (2002). Aspects of outreach: a framework for discussion of the social benefits of social microfinance. *Journal of International Development* : Retrieved May 25, 2018,, 14(5), 591–603. Retrieved from <https://onlinelibrary.wiley.com/doi/pdf/10.1002/jid.908>
 31. Abid Hossain Shawon. (2025). Blockchain Resolutions for Credit Risk Management in

- Social Enterprise: Towards Sustainable Poverty Eradication in SAARC. *Journal of Economics, Management & Business Administration*, 4(1), 01–21. Retrieved from <https://www.journals.airsd.org/index.php/jemba/article/view/504>
32. Tchuigoua, H. T., Soumaré, I., & Hessou, H. T. (2020). Lending and business cycle: Evidence from social microfinance institutions. *Journal of Business Research*, 119, 1–12.
 33. Tchuigoua, H., Soumare, I., & Hessou, H.T. (2020). Lending and business cycle: Evidence from social microfinance institutions. *Journal Of Business Research*, 1-12.
 34. Van den Berg, M. L. (2015). Loan officers' gender and social microfinance repayment rates. *The Journal of Development Studies*, 51(9), 1241–1254.
 35. Wrold, B. (2017). *Global Findex Database*. US. Retrieved from <http://datatopics.worldbank.org/financialinclusion/country/all?display=map>
 36. Xiong, F., & Wang, Y. (2013). Empirical analysis on the mission drift of social microfinance. *Journal of Financial Development*, 07, 14-18.
 37. Yunus, M. (1999). *Banker to the Poor: Micro Lending and the Battle against World Poverty*. . New York, NY: Public Affairs.
 38. Zeller, M. (2001). The safety net role of social microfinance for income and consumption smoothing. *Shielding the Poor. Social Protection in the Developing World*, 217–238.