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Microfinance and poverty reduction: an empirical evidence from SAARC nations

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Abstract. *The article empirically examines the impact of microfinance on poverty alleviation in the SAARC region. The study uses panel data from 2000 to 2019 for five selected SAARC countries. The proxy variable for microfinance is gross loan portfolio per capita, and poverty is measured by household consumption expenditure per capita. The other variables are the percentage of active borrowers to the total population, government expenditure on education as a percentage of GDP, and credit to the private sector by banks as a percentage of GDP. The panel data regression model is used to explain the relationship among the variables. Hausman Test suggests the use of the Fixed Effect Model. The results of the Fixed Effect Model reveal that by controlling other variables, the countries having higher Gross Loan Portfolio per capita have higher household consumption expenditure per capita and thus have lower incidences of poverty. R2 value concludes that the concerned variables explain 94.1% of variations in household consumption expenditure per capita.*

Keywords: microfinance, poverty, SAARC, panel data analysis.

JEL Classification: I32, P46.

1. Introduction

Microfinance is the provision of financial services such as credit, savings, insurance, and deposit to the marginal section of society who do not have access to conventional financial services because they cannot offer collateral. "Microfinance can be broadly defined as the extension of financial and other non-financial services to poor and low-income people who generally do not have access to traditional banking facilities" (Buera et al., 2012). The idea behind microfinance is to extend financial services to low-income people so that they can participate in economic activities. Over the past years, microfinance has become a widely used financial tool to combat poverty. Currently, microfinance programmes are recognized as a crucial approach to combating poverty. "The poor possess the capacity to implement income-generating activities but are limited by a lack of access and inadequate provision of savings, credit, and insurance facilities" (Hulme David, 2009).

Poverty can be defined as the inability to attain a certain predetermined minimum level of consumption at which the basic needs of a society or country are assumed to be satisfied. Living in poverty is not having enough money to meet your fundamental requirements. The amount of money a person earns (income), the amount he spends (expenditure or consumption), the amount that is saved, or the value of his assets may all be used to measure poverty. "The World Bank defines "extreme poverty" as living on less than $ 1.90 per person per day. In 2021, an estimated 698 million people, or 9 percent of the global population, are living in extreme poverty, i.e., living on less than $ 1.90 a day. Over one-fifth of the global population live below the higher $ 3.20 poverty line (1,803 million people), and over two-fifths (3,293 million people) live below $ 5.5 daily" (*Global Poverty Trend: Devinit.Org]*, n.d.).

2. Regional Poverty Trends

"The world has made considerable strides in overcoming global poverty. More than 1.2 billion people have emerged from acute poverty since 1990. Now, 9.2 percent of the world survives on less than $ 1.90 a day compared to nearly 36 percent in 1990. Since 2010, countries in the regions of East Asia, the Pacific, and South Asia have significantly reduced the number of people living in extreme poverty. East Asia and the Pacific have seen the most significant change. In 2010, the region was home to 19 percent of the world's people who live in extreme poverty (over 214 million), but by 2021 this had dropped to 3 percent (19 million)." (*Global Poverty Trend: Devinit.Org]*, n.d.)

All the countries in South Asia saw poverty fall between 2010 and 2021. India stands out, with 257 million people no longer living in extreme poverty. The proportion of the population living in extreme poverty reduced by 22 percent from 30 percent to 8 percent.

The number of people living in extreme poverty increased between 2010 and 2020 for 26 countries in Sub-Saharan Africa.

2.1. Microfinance and Poverty

The effectiveness of microfinance as a technique for eradicating poverty and promoting economic empowerment has been widely acknowledged. Among the numerous available tools for reducing poverty, microfinance can be a successful one. Fighting poverty is made possible by microfinance, especially in rural areas where most of the world's poorest people reside. Providing financial services like loans, savings, and insurance to the poor is one approach to increasing their capacity and preparing them for self-employment. Despite having sizable banks and cooperative financial institutions, the formal financial sector struggles to assist the poor appropriately. For the impoverished, obtaining formal financial services is challenging. The requirement for collateral imposed by these organizations is the principal issue that the poor have to deal with when attempting to get loans from official financial institutions.

Microfinance can be a key element of an effective strategy for eradicating poverty. Increased entrepreneurship and spending by households and people show a direct link between microfinance activities and poverty alleviation. Indirect connections mostly concern how an economy's financial markets have evolved. (International Finance Corporation, IFC). The poor can smooth their consumption, better manage their risk, build up their assets over time, and expand their microenterprises with improved access to an efficient supply of savings, credit, and insurance services. “Microcredit for consumption purposes may reduce poverty by allowing poor individuals/families to invest in human capital, such as borrowing to invest more in their education or that of their children, which improves their access to higher-paying jobs” (Banerjee et al., 2015; Buera et al., 2012; Chatterjee et al., 2006). “Credit for consumption may also help reduce poverty by allowing individuals/households to better cope with external shocks and achieve consumption smoothening” (Kai & Hamori, 2009).

Microfinance has an impact that goes beyond only business financing. In addition to using financial services for commercial investments, the poor often utilize them to handle domestic emergencies, invest in health and education, and various other requirements. Access to financial services enables poor people to raise their household income, accumulate assets, and lessen their vulnerability to the crises that are so prevalent in their daily lives, according to evidence from the millions of microfinance clients around the world. Better nutrition and improved health outcomes, such as increased immunization rates, are also directly correlated with access to financial services.

Microfinance provides low-income individuals with the means to safeguard, diversify, and expand their income sources—a crucial step toward eradicating hunger and poverty. A first step in ending the cycle of poverty might be having the opportunity to borrow a small cash to take advantage of business possibilities, pay for school fees, or bridge a cash flow gap. Loans, saving, and insurance all contribute to maintaining consumption levels throughout tough economic times and reducing income volatility.

Microfinance has evolved as a need-based policy to cater to the deprived sections of society. Much existing literature empirically analyzes the relationship between microfinance and poverty. Most of these studies conclude that microfinance has the

potential to reduce poverty. Microfinance has become the most important investment opportunity in developing nations.

The SAARC nations' microfinance institutions have changed throughout time in terms of coverage, product design, price, and funding source. Microfinance programmes began at various times in SAARC nations, and their patterns of development have not always followed the same course. Bangladesh is where the contemporary microfinance industry was born and has experienced extraordinary expansion. A significant self-help group-based microfinance programme has grown in India. Other SAARC nations began later, and while the majority now have fully operational microfinance programmes, their type and degree of outreach differ. MFIs in these nations are now accessing new consumers who were previously excluded from this programme and covering new geographic areas. The link between microfinance and poverty is still debatable, and this paper provides some empirical evidence from SAARC nations on the poverty-reducing effects of microfinance.

3. Review of Literature

There is an extensive literature available that focuses on microfinance activities and poverty. These studies have produced mixed results regarding the impact of microfinance on poverty." (Imai et al., 2010) uses cross-country and panel data to analyze the impact of microfinance on poverty." The study tests the hypothesis that microfinance reduces poverty at the macro level. Their study found that as Microfinance Institutions' (MFIs') gross loan portfolio (GLP) per capita increases, poverty decreases. "(Miled & Rejeb, 2015) use both cross-sectional as well as panel data covering 40 and 57 developing countries respectively. They constructed poverty data for their panel by taking averages of poverty for 2000–05 and 2006–11 and applied OLS and IV estimation to their cross-sectional data and pooled OLS, FE, and RE estimation to their panel data." The distinctive aspect of the authors' analysis is that they have used household consumption expenditure as a proxy of poverty other than the poverty headcount ratio. Their analysis generates similar results as "(Ghalib et al., 2015) that the countries with higher microfinance gross loan portfolio per capita have lower poverty." "(Donou-Adonsou & Sylwester, 2016) examine the relationship between poverty and financial development. They compare the extent to which traditional banks and microfinance institutions each contribute to poverty reduction using bank credit and MFI credit. They find that banks reduce the poverty headcount ratio and poverty gap but have no significant effect on the squared poverty gap; on the other hand, their results indicate that MFIs have no impact on poverty, regardless of the measure used." (Khandker, 2005) in a study involving 1800 households in Bangladesh estimated the aggregate impacts of microfinance on consumption and poverty and found only marginal improvements for borrowers of microcredit. The study concluded that microfinance interventions do not only increase consumption but also benefit non-participants through growth in local income. (Amin et al., 2001) analyzed the impact of microfinance on the poor and vulnerable through 229 households in two villages in Bangladesh. The study found that microfinance is successfully reaching the poor but not vulnerable. (Franco, 2011) studied the impact of microfinance on poverty in Latin America and Caribbean regions through average borrowings, female borrowers as percentage of total borrowers, and gross loan portfolio

per capita, and the results showed the significant positive impact of microfinance on poverty in both regions. (Samer et al., 2015) found that though microfinance has been considered as an effective tool for poverty eradication and socio-economic development, its impact is still debatable and varies from one country to another and even from urban to rural areas. In Pakistan (Ghalib et al., 2015) found that microfinance has successfully reduced poverty, which shows up in household income and spending.

4. Data and Methodology Used

The study uses purely secondary data while adopting a quantitative approach to examine the impact of microfinance on poverty alleviation. The data has been sourced from the World Development Indicator (WDI) and MIX Market (Microfinance Information Exchange). The study uses panel and cross-country data sets from 2000 to 2019 (Appendix 1). The sample of five selected SAARC countries, i.e., Bangladesh, Sri Lanka, India, Pakistan, and Nepal, has been analyzed using the Panel Data Regression Model. Hausman Test is used to check whether to use the Fixed Effect Model or the Random Effect Model.

4.1. Variables Used

The study uses household consumption expenditure per capita to measure poverty as the proxy variable. Gross loan portfolio per capita* is used as the proxy variable for microfinance. The other variables are the percentage of active borrowers to the total population, government expenditure on education as a percentage of GDP, and credit to the private sector by banks as a percentage of GDP. To minimize heteroscedasticity, all the variables have been converted into natural logarithms. Moreover, log transformation makes it easier to interpret the estimates in percent changes.

4.2. Econometric Model

We are referring to the basic growth-poverty model of "(Ravallion, 1997) and (Ravallion & Chen, 1997)"

$$logP_{it} = \alpha_{it} + \beta log\mu_{it} + y_{it} + \varepsilon_{it}$$

This model is used by (Donou-Adonsou & Sylwester, 2016) to estimate the impact of financial development in banks and MFIs on poverty in developing countries, as shown below:

$$logPov_{it} = \alpha_i + \beta_1 log\mu_{it} + \beta_2 logg_{it} + \beta_3 logx_{it} + \varepsilon_{it}$$

Where '*Pov'* represents the measurement of poverty in country '*i'* at the time '*t.' 'α'* is the fixed effect and shows time variation between countries, while β_1 is the "growth elasticity of Poverty" in terms of the mean of per capita income denoted by μ, β_2 represents the elasticity of poverty in terms of income inequality, given by Gini Coefficient 'g,' β_3 reflects the elasticity of poverty with respect to independent variable 'x,' whereas 'ε' is representing error term.

Based on the model, we are measuring the impact of microfinance on poverty alleviation through the following equation. Since Hausman Test suggests that the Fixed Effect Model

is preferable over Random Effect Model, the equation describing the relationship between the gross loan portfolio per capita (a proxy for microfinance) and household consumption per capita (a proxy for poverty) is as follows:

$$logHCE_{it} = (\alpha + \mu_i) + \beta_1 logAcBr_{it} + \beta_2 logCPr_{it} + \beta_3 logGLP_{it} + \\ + \beta_4 logGEE_{it} + \varepsilon_{it}$$

Where *HCE* shows the household consumption expenditure per capita for country *i* in period *t. AcBr* is the percentage of active borrowers to the total population, *CPr* is the credit to the private sector by banks as the percentage of GDP, *GLP* is the gross loan portfolio per capita, *GEE* is government expenditure on education as a percentage of GDP, μ_i is the fixed effect specific to each country and ε is the error term.

5. Results and Discussion

Table 1 summarizes descriptive statistics (Mean, Median & Standard Deviation).

Table 1. *Summary of Descriptive Statistics*

Variables	Mean	Median	Max	Min	St Dev
LnHCE	6.814	6.72	7.92	6.91	0.45
LnGLP	1.017	1.42	3.84	-5.29	2.02
LnGEE	0.955	0.91	1.53	0.00	0.32
LnCPr	3.523	3.51	4.36	2.72	0.38
LnAcBr	0.374	0.70	2.81	-5.29	1.73
Observations	100	100	100	100	100

Source: Author's Calculation.

The estimation results, as shown in Table 2, reflect the effects of microfinance on poverty. The table shows that the log of gross loan portfolio per capita is positively and significantly correlated with the log of household consumption expenditure per capita. A 1% increase in the GLP per capita increases the household consumption expenditure by 0.15%, which is consistent with our hypotheses that microfinance increases household consumption expenditure, which results in the reduction of poverty. The estimated coefficient is positive and significant at a 5% significance level. The results indicate that a higher gross loan portfolio per capita can increase household consumption expenditure and decrease poverty, which means that microfinance positively impacts poor people in SAARC countries. The percentage of active borrowers in the total population has a significant but negative impact on household consumption per capita. This contradicts the previous studies and is likely due to a high degree of correlation among the microfinance variables.

In this model, we control government expenditure on education as a percentage of GDP and credit to the private sector by banks as a percentage of GDP. The estimated results show that GEE and CPr positively and significantly impact household consumption per capita. A 1% increase in GEE leads to a 0.19% increase in HCE per capita, while a 1% increase in CPS leads to a 0.15% increase in HCE per capita.

We have found that the key variable, i.e., GLP per capita, which is the proxy for Microfinance, remains positive and statistically significant after introducing the control variables, which is consistent with (Miled & Rejeb, 2015).

The results demonstrate that the value of R^2 for the model is 0.9418, which means that the variables can explain 94.1% of the variation in Household Consumption Expenditure.

Table 2. *Fixed Effect Model Results (Dependent Variable LnHCE), coefficients are significant at a 1% significance level*

Variables	Coefficients	t-stat
LnGLP	0.154*	8.125
LnGEE	0.196*	2.474
LnCPr	0.153*	2.701
LnAcBr	-0.119*	-5.366
C	5.97*	28.017
R-squared	0.941856	
Adjusted R-squared	0.936744	
F-statistic	184.2593	
Prob(F-statistic)	0.00000	
Durbin-Watson stat	0.539916	

Source: Author's Calculation.

6. Conclusion and Recommendations

Microfinance has grown in popularity among decision-makers and other stakeholders lately. There have been collaborative efforts to expand microfinance programs to promote development and reduce poverty. Poverty being the major issue in the contemporary world, this study seeks to contribute to the literature regarding the use of microfinance as a policy weapon for combating poverty on a global level. The paper concentrates on the hypothesis that the countries with higher gross loan portfolio per capita have high consumption expenditure per capita and thus have lower poverty levels. We examined this relationship through macro-level panel data of SAARC countries from 2000 to 2019. Since GLP per capita measures the funds distributes to individuals we choose it as a measure of microfinance activity. The other variables are the percentage of active borrowers to the total population, government expenditure on education as a percentage of GDP and credit to private sector by banks as a percentage of GDP. The panel data regression analysis is used to explain the relationship among the variables. Hausman Test was used to choose between the Random and Fixed Effect Model. The results of the Fixed Effect Model indicate that controlling for government expenditure on education per capita and domestic credit as a share of GDP, GLP per capita has a significant impact on household consumption expenditure per capita.

The study's findings have numerous significant consequences for academics, microfinance organizations, and policy makers. This study added new evidence on microfinance's impact on reducing poverty in the SAARC region by using household consumption as a proxy of poverty instead of headcount ratio or squared headcount ratio as used in previous studies. The ultimate goal of microfinance is to improve the economic condition of unbankable poor. Our study measures this change by direct impact of microfinance on household consumption expenditure which is the first step towards economic wellbeing. This study suggests that microfinance has the ability to contribute significantly to the alleviation of poverty by increasing household consumption expenditure. It has helped the participating households to smoothen their consumption. The access to microfinance significantly helps households to come out of the circle of poverty.

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