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RESEARCH PAPER

Impact of credit risk mitigation on mission drift in Indian MFIs

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Abstract
Microfinance Institutions (MFIs) manage credit risk in order to control the default rate, with an emphasis on developing a self-sustaining enterprise. The mitigation of credit risk has been regarded as a central aspect of establishing a financially viable enterprise. MFIs employ diverse risk-mitigation practices at different stages, beginning with borrower screening and continuing through group formation, lending, and repayment collection. However, robust risk-mitigation practices should not result in the exclusion of low-income borrowers. We used the Mix Market database to collect information on Indian MFIs in order to investigate whether the MFIs credit risk-mitigation strategies are contributing to the exclusion of low-income borrowers. The credit risk-mitigation measures, including portfolio at risk, group lending, loans lent to women, write-off ratio, risk coverage ratio, provision for loan impairments are used to determine the impact, if any, on the average loan size. Our panel study on Indian MFIs using GMM (generalised method of moments) approach demonstrates that the increase in credit risk measures, such as risk coverage ratio and provision for loan impairment, has a positive impact on the mission drift measure, which indicates that the MFIs financial objective is eroding its social goal.

Keywords Microfinance · Credit risk · Mission drift · Poverty

JEL Classification G21 · I31 · R00

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Introduction

Microfinance Institutions (MFIs) are often regarded as an effective instrument for fighting against poverty. According to Nair (2001), it is a mechanism that offers the economically disadvantaged a chance to lift themselves out of poverty by means of loans and other financial services. This microloan programme has a good impact, particularly on the women who are beneficiaries of the programme. According to Mousa and Ozili (2022), the Grameen bank model has demonstrated that clients living below the poverty line are able to make their loan payments and has helped to develop this market sector into a profitable non-collateral lending model. Microfinance has developed in India through a variety of forms, one of which is self-help group lending, which has become a prominent model in lending to women (Kochar et al 2022). MFIN, (2022) projections show that the loan portfolio of Indian Microfinance will be worth more than 50 billion USD. The early success of microfinance is dependent on the subsidies and grants provided by various governments and organisations that are responsible for providing financial support. Non-governmental organisations have been instrumental in the provision of financial assistance to low-income borrowers (Ly and Mason 2012).

The unpredictability of the economy has influenced the lending practices of non-profit MFIs and NGOs. Since dependency on subsidies and grants is not beneficial to the microfinance company over the long term, financial sustainability of MFIs has become an extremely important issue. According to Arun (2005), the challenges of increased loan rates and transaction costs have influenced the way in which businesses have become financially sustainable. In order to mimic the structure of traditional commercial lending, the field of microfinance has begun to place a greater emphasis on long-term viability. This is the point at which MFIs are required to operate with a "double bottom goal," which requires them to strike a balance between their social and financial missions (Ahmad et al. 2020). Customers of MFIs are typically low-income people who do not offer any collateral in exchange for lending. Even while many MFIs are willing to lend money to customers without requiring collateral, there is no assurance that the rate on the repayments will be the same as the lending rate of the loans. According to Kassim and Rahman (2018), an increase in the number of loans that go into default could have a negative influence on the financial viability of MFIs as well as their capacity to survive in an increasingly competitive environment. Because of this, risk mitigation has developed into an essential component of the microfinance industry.

The credit risk can significantly rise if the number of defaults continues to rise. In any firm, credit risk is regarded as a substantial risk that must be mitigated. Traditional banks and other types of financial organisations place a greater emphasis on taking measures to reduce the credit risk. Even though risks such as portfolio risk and environmental risk are considerable, MFIs have a responsibility to reduce their exposure to credit risk. According to Lassoued (2017), credit risk mitigation helps MFIs to control defaults, which in turn helps them financially survive. Due to the nature of the business, which does not involve the use of collateral, the process of mitigating risk will begin with the selection of borrowers. In order to reduce the risk, the MFIs implement a variety of risk management strategies. To begin mitigating the credit risk, practices such as group lending, collateral substitutes (Srinivasan 2007), and dynamic incentives are initially utilised. In the Indian state of Andhra Pradesh, the Indian subprime mortgage crisis has made it difficult to conduct business in the microfinance sector. Credit seekers were given loans without putting in placeborrower assessment or appropriate risk-mitigation mechanism. As a direct result of the

increase in defaults, the MFIs have begun to implement coercive practices to reduce the number of credit defaults. This resulted in the deaths of a significant number of economically disadvantaged borrowers (Hossain 2013). Because of regulations, coercive practices have been brought under control, and a more formal approach has been introduced.

MFIs evaluate the credit risk by using a variety of indicators from the balance sheet, such as the portfolio at risk, the risk coverage ratio, and the write-off ratio. Other practices include lending to women, group lending, provision for impaired loans. Loan managers in the field additionally make use of practices such as credit scoring and threats of non-refinancing (Tedeschi 2006) to reduce the degree of credit risk. The primary objective of microfinance is to improve the economic and social standing of low-income individuals. This study seeks to enquire whether credit risk-mitigation practices of MFI result in the exclusion of poor borrowers and consequently mission drift. To explain this in the terms of MFIs outreach, the outreach of a microfinance is defined using two phrases, namely breadth of outreach and depth of outreach. Breadth of outreach refers to the extent to which a single microfinance company is able to reach a large number of clients. Depth, on the other hand, refers to how impoverished the clients picked by the MFIs are (Ranjani et al. 2022). According to Armendáriz and Szafarz (2011), MFIs that prioritise impoverished clients without considering progressive lending or cross-subsidisation are deviating from their social mission. The maintenance of lower average balances by these MFIs leads to the problem of mission drift. The focus of our study is to analyse the risk-mitigation methods employed by MFIs leading to mission drift which has not been addressed in the existing microfinance literature. Our study examined the balance sheet items that MFIs use to evaluate credit risk and determined the impact of credit risk mitigation on mission drift. The sections that follow will go over the literature, methodology, data analysis, findings, and conclusion.

Literature review

According to Altman (2002), credit risk management has emerged as a crucial component for any business, since it assists in determining the probability of a default rate. MFIs assess and manage credit risk using a variety of risk-mitigation techniques and key metrics or indicators. The balance sheet elements that show the state of credit risk are understood as the key metrics. For example, write-off ratios and loan loss provisions are used to determine credit risk characteristics in order for decision making. MFIs initially begin risk-mitigation procedures while choosing the borrower itself. MFIs faces a significant challenge w.r.t asymmetric information and adverse selection of borrowers. By distributing the liability among the group's members, group lending has made it easier to address the issue of adverse selection Armendariz de Aghion and Morduch 2005; Crabb and Keller 2006). By lending to women, who often make better repayments than men, MFIs are able to manage the credit risk (D'espallier et al. 2013),(Blanco-Oliver et al. 2021; Crabb and Keller 2006; D'Espallier et al. 2011; Lassoued 2017). Additionally, women are known to be more dependable and committed when it comes to repaying loans (Okesina 2021). In Indian MFIs, women make up most of the loan portfolio (RBI 2021).

Due to the absence of any kind of collateral in their operations, MFIs rely on collateral substitutes to protect loan repayments. According to Bond and Rai (2002), MFIs utilise social sanctions and credit denial as collateral substitutes to mitigate defaults. Other risk management techniques include non-refinancing threats, regular repayment schedules

(Armendáriz de Aghion and Morduch 2000), clear borrower screening, close monitoring (Deutsche Gesellschaft für Technische Zusammenarbeit GTZ, 2000), legal systems, creditor rights, and high-quality law enforcement, contract enforcement days (Djankov et al. 2003; Galema and Lensink 2011), credit scoring (Van Gool et al. 2012). A microfinance company named ASA from the Bangladesh practices techniques such as clear transparency, standardised procedures, strong credit culture and on-time repayments to mitigate the credit risk (Deutsche Gesellschaft für Technische Zusammenarbeit Deutsche Gesellschaft für Technische Zusammenarbeit GTZ, 2000).

The crisis in the Indian state of Andhra Pradesh has alerted the entire microfinance ecosystem, resulting in the closure of numerous MFIs (Shylendra 2006). According to Polgreen and Bajaj (2010), the ability to extend loans to customers through for-profit MFIs has allowed interest rates to rise, which has completely upended the microfinance industry. The over indebtedness of the borrowers has made them to depend on debt for the survival (Mader 2013). Due to the increase in rural farmer debt, several institutional lenders have adopted severe default prevention strategies, which have resulted in a number of farmers committing suicide (Taylor 2011). In fact, this made the ecosystem of microfinance more in need of control. It also raised concerns about the necessity of loan managers using fair collection practices and safeguarding borrowers. Fair collection techniques must be adopted, although progress in this area of microfinance is still slow (Tadele and Rao 2014). According to Chakrabarti and Ravi (2011), the use of coercive practices is prohibited in microfinance due to the unrest that occurred among the clients who had lower incomes. The regulator has implemented the risk-mitigation framework in order to exercise control over the industry. According to Sinha et al. (2012), NABARD has begun the process of providing access to credit for small loans through the SHG bank linkage programme. When it comes to providing loans to low-income borrowers, the strategy has proved extremely successful. According to Manohar (2015), the SHG bank connection programme has benefited rural women in every region of India. Beneficiaries of the Bank Linkage Programme are assisted in organising themselves into groups, and the funds for their loans are sent directly into their personal bank accounts. According to Jain and Tripathy (2011), this enabled rural women to improve their financial literacy and become active participants in inclusive financial systems. According to Suda and Bantilan (2014), Bank linkage has made it easier for individuals seeking small amounts of loans to access financial institutions when necessary. Even though not all the groups are doing well, this programme has led to the women building their economic prosperity.

The MFIs credit risk-mitigation approach is essential to the development of a moral microfinance industry. Many borrowers are still trapped in debt as a result of the unfair microfinance practices (Henepola, 2022). The success of MFIs must be evaluated in light of their social mission, which may include expanding their reach and improving their customer service and service quality. Considering this, we observe the impact of risk management on mission drift, if any, which aids in determining whether the MFIs are drifting away from the social mission in the light of growing a solid and repayable loan portfolio.

According to Hishigsuren (2007), mission drift in MFIs arises as a result of institutional scaling, and managers should exercise extraordinary caution when dealing with dynamic social outcomes. Arena (2007) emphasised the significance of converting MFIs traditional corporate governance structures into social corporate governance frameworks as a means of effectively managing and limiting the relentless pursuit of financial sustainability, which, in the end, helps to reduce mission drift. Macdonald (2010) says that mission drift in MFIs can be understood on a basic level by paying close attention to each organisation's stated goals and actions, which show who the target clients are and whether the organisation's

intended reach is the same as the depth of its reach. Mia and Lee (2017) did an empirical study to investigate the relationship between the various sources of financing and mission drift. The findings reveal that when a MFIs focuses more on commercial concerns, it shifts their attention away from aiding impoverished people. Ranjani and Kumar (2018) measured mission drift using equity, operational efficiency, and the commonly used loan balance. Specifically for Indian MFIs, this empirical analysis shows that increases in profitability and lending rates coincide with increases in loan balances. Ranjani et al., (2022) discovered that there is a correlation between the size of an organisation and its tendency to stray from its original objective. According to the findings of the study, the operational efficiency of MFIs is linked not just to scale but also to the cost of outreach.

Research hypothesis

PAR—Portfolio at risk 30_days

Delinquencies are a critical factor in evaluating the financial health of MFIs when they lend to borrowers. The term "Portfolio at Risk," or "PAR," is used by organisations to indicate the percentage of the total loan portfolio that has been impacted by delinquencies. Whether the organisation chooses to extend the due date by 30 or 90 days relies on its option. Typically, a loan that has been past due for more than 30 days is referred to as being "past due" (PAR > 30), meaning that there is a significant probability that it will become delinquent. Gonzalez (2007) conducted an econometric analysis of the PAR30 vs growth, highlighting that the growth trajectory is stable and improves with portfolio risk. Using PAR 30, Mersland and Strøm (2010) examined the mission drift in microfinance with respect to risk and highlighted the uncertainty between both. The importance of PAR in assessing the financial viability of MFIs was covered by Ayayi and Sene (2010). According to the study, MFIs with higher PARs than 30 will have less money available to lend for following transactions, placing them at a larger risk due to the high cost of debt. Finding borrowers who are not in default or who have a strong payback history is doable for MFIs, but it is crucial to consider those who will have a harder time completing their payments. Therefore, we hypothesise as.

H1: Average loan per borrower increases with portfolio at risk.

Group lending

Morduch, (1999) introduced the notion of group lending, and there have been numerous theoretical and empirical studies published on group lending. Microloan borrowers are able to share their burdens by participating in group lending. It is a mechanism that aids institutions in situations of information asymmetry. Peer pressure, mutual insurance, and knowledge sharing are all aided by group lending, according to Conlin (1999). When compared to group lending, Kodongo and Kendi, (2013) discover that personal lending is less effective at reducing loan delinquency. However, not all poor women are eligible to join the group, and important considerations such as trust, culture, and demographics must be taken into account when choosing group members. As a result, we hypothesise group lending as a risk-mitigation approach.

H2: Average loan per borrower increases with group lending.

Loans lent to women:

According to studies, women are more socially sensitive; thus, there is less of a delay in repaying. Additionally, research shows that financing to women is risk-free in terms of default rates (Armendáriz de Aghion and Morduch 2000). Greater lending to women is thought to continuously increase portfolio risk, but female group lending has been found to reduce this risk, according to Crabb and Keller, (2006).

H3: Average loan per borrower decreases with number of female borrowers.

Provision for loan impairment & written off loans

Loans that are restructured to allow the borrower to receive at least a portion of the payment that must be paid are considered to be impaired loans. It serves as a safeguard to maintain the stability of MFIs capital structures (Lassoued 2017). This variable was taken into account by Moyi and Nikolaidou, (2018) for determining the credit risk of African MFIs. Written-off loans are categorically rated as poor loans and are not recoverable in the future. In order to evaluate the geographic diversification and credit risk in microfinance, Zamore et al., (2019) employed the write-off ratio as a credit risk metric.

H4: Average loan per borrower increases with provision for loan impairment.

H5: Average loan per borrower increases with write-off ratio.

Risk coverage ratio

According to Noomen and Abbes, (2018), credit risk and risk coverage ratio have a positive and significant association. Aside from that, Otieno et al., (2016) analysed the association between credit risk management and financial success in Kenyan MFIs using the risk coverage ratio.

H6: Average loan per borrower increases with risk coverage.

Methodology

We used Mix Market data from the World Bank Catalogue to evaluate the effect of risk mitigating techniques on mission drift. We used the time period from 1999 to 2019 and downloaded the proxies for the chosen variables. The Mix Market, a database supported by the World Bank and accessible to the public, is widely recognised and utilised within the development research community. It provides various microfinance lending parameters from MFIs operating in eight distinct regions across the globe. The Indian data are compiled within the South Asian region. We employ the panel data model GMM (generalised method of moments) in order to mitigate the issues of missing values and heteroskedasticity and endogeneity between individuals 'N' that are inherent in the panel data set, in contrast to alternative models like fixed and random models. Table 1 has a list of the variables and proxies.

Table 1 Definition of variables

Variable	Code	Description
Average loan per Borrower	ALB	Gross loan portfolio/No of active borrowers
Portfolio at risk	PARTHIRTY	Outstanding balance, portfolio overdue > 30 days
Group lending	GRPLEN	Gross loan portfolio, Methodology, solidarity group
Provision for loan impairment	PLI	Provision for loan impairment / assets (%)
Active borrowers–Women	ABFEM	Segmentation based on gender (female)
Write-off ratio	WOR	Value of loans written off / Average gross loan portfolio
Risk coverage	RISKCOVE	Impairment loss allowance/par > 30 days
Delinquency	GLPDLNQ1MNTH	Gross loan portfolio, delinquency, one month
Active borrowers rural	ACTBORRURAL	Segmentation based on geographical location- located in rural areas
Active borrowers urban	ACTBORURBAN	Segmentation based on geographical location-located in urban areas
Operational self-sufficiency	OPRSELFSUFF	Financial revenue/(Financial expense + Operating expense + Net impairment loss +)

This table represents the definitions of all the variables considered

Econometric model

The GMM panel estimation model:

$$Y_{i,\mathrm{t}} = Y_{i,\mathrm{t}-1} + \beta X_{i,\mathrm{t}} + CV + \varepsilon_{i,\mathrm{t}}$$

where $Y_{i,\mathrm{t}}$ represents ALB, i represents MFIs, and t represents time, $Y_{i,\mathrm{t}-1}$ represents one period ALB, $X_{i,\mathrm{t}}$ represents explanatory variables and CV represents control variables, and $\varepsilon_{i,\mathrm{t}}$ represents errors with individual at time

$$\begin{aligned} Y(\mathrm{ALB}) = & \alpha + \delta ALB_{i,\mathrm{t}-1} + \beta_1 PAR30_{i,\mathrm{t}} + \beta_2 GRPLEND_{i,\mathrm{t}} + \beta_3 PLI_{i,\mathrm{t}} \\ & + \beta_4 ABFEM_{i,\mathrm{t}} + \beta_5 WOR_{i,\mathrm{t}} + \beta_6 RISKCOVER_{i,\mathrm{t}} + Controls_{i,\mathrm{t}} + \varepsilon_{i,\mathrm{t}} \end{aligned}$$

Results and discussion

About 250 MFIs in India are represented in our data from Mix Market. Table 2 displays descriptive statistics, while Table 3 displays a pairwise correlation matrix of all the factors taken into consideration. Table 1 displays the definitions of the variables.

We regressed the dependent variable ALB with the credit risk-mitigation factors to evaluate the effect of risk mitigation on mission drift. To exhibit a clear shift in influence, the control variables operational self-sufficiency, delinquency, active rural borrowers, and active urban borrowers are each regressed individually as shown in Table 4.

From Table 4 (model-5), it is estimated that the coefficient of portfolio at risk (PAR-THIRTY) is negative and significant at 1 per cent level and implies that average loan per borrower decreases with this risk mitigating practice by MFIs. There is insufficient evidence to conclude that MFIs increase lending per borrower with increase in PAR which rejects (H1). Our finding on PAR validates the study done by Bassem, (2012).

Group lending (GRPLEN) coefficient is also negative and significant which implies that though MFIs use this lending methodology to mitigate the risk, clients who take credit using group lending are associated with lower credit as opposed to individual lending

Table 2 Descriptive statistics

Variable	Obs	Mean	Std. Dev	Min	Max
ALB	1480	253.329	3054.566	0	117,488
PAR30	1199	5.862	27.462	0	711.43
GRPLEN	729	40,296,620	1.176e + 08	0	1.660e + 09
PLI	1258	1.028	3.834	− 5.66	62.32
ABFEM	1288	217,505.11	603,573.03	0	6,242,266
WOR	1031	1.017	6.4	0	131.16
RISKCOVE	997	5534.642	130,280.01	0	4,103,900
DLNQ1MON	1087	3,508,891.8	26,767,447	0	6.038e + 08
ACTBORRURAL	806	171,631.54	435,689.66	0	4,518,320
ACTBORURBAN	785	109,502.08	382,609.85	0	5,863,518
OPRSELFSUFF	1451	111.581	45.121	− 68.36	1069.84

The table shows the summary statistics of the variables used

Table 3 Correlation matrix

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) ALB	1.000										
(2) PAR30	0.034	1.000									
(3) GRPLEN	0.066	0.059	1.000								
(4) PLI	−0.009	0.171	0.123	1.000							
(5) ABFEM	−0.007	0.048	0.759	0.120	1.000						
(6) WOR	−0.029	0.188	0.021	0.355	0.027	1.000					
(7) RISKCOVE	0.015	−0.010	−0.031	−0.010	−0.012	−0.007	1.000				
(8) DLNQ1MON	−0.002	0.255	0.254	0.289	0.509	0.041	−0.006	1.000			
(9) ACTBORRURAL	0.055	0.047	0.575	0.138	0.823	0.021	−0.011	0.279	1.000		
(10) ACTBORURBAN	0.049	0.033	0.615	0.064	0.778	0.004	0.033	0.559	0.279	1.000	
(11) OPRSELFSUFF	−0.042	−0.121	0.038	−0.195	0.064	−0.147	0.034	−0.083	0.025	0.038	1.000

Table 4 Model results of credit risk mitigation on average loan per borrower

Model	(1) alb	(2) alb	(3) alb	(4) alb	(5) alb
L.alb	0.487***	0.688***	0.685***	0.699***	0.706***
	(1300.97)	(329.68)	(2884.68)	(378.75)	(358.08)
par30	-0.134***	-0.0846***	-0.0497***	-0.0655***	-0.0664***
	(-32.56)	(-17.75)	(-8.58)	(-30.46)	(-27.46)
grplen	5.46e-08***	1.31e-08***	-3.68e-09*	-4.47e-09***	-4.48e-09**
	(119.33)	(47.87)	(-1.96)	(-3.51)	(-3.09)
pli	-0.0602*	0.150***	0.404***	0.400***	0.394***
	(-2.47)	(8.50)	(13.39)	(20.68)	(29.51)
abfem	0.00000353***	-0.00000140***	0.0000535***	0.000493***	0.000496***
	(37.73)	(-3.51)	(77.20)	(40.33)	(33.72)
wor	-0.654***	-1.089***	-1.410***	-1.140***	-1.159***
	(-23.82)	(-37.37)	(-19.49)	(-28.80)	(-36.06)
riskcove	0.000284***	0.000402***	0.000292***	0.000410***	0.000411***
	(26.68)	(17.29)	(16.58)	(12.13)	(12.65)
dlnq1mon		-0.000000166***	-0.000000316***	-0.000000134***	-0.000000133***
		(-57.16)	(-129.76)	(-24.03)	(-24.39)
actborrural			-0.0000752***	-0.000466***	-0.000468***
			(-39.23)	(-36.54)	(-31.01)
actborurban				-0.000472***	-0.000474***
				(-37.87)	(-33.69)
oprselfsuff					-0.00985
					(-1.12)
_cons	102.2***	71.53***	70.59***	67.85***	67.66***
	(105.26)	(43.14)	(34.94)	(35.85)	(31.63)
N		328	260	230	216

t statistics in parentheses

* $p<0.05$, ** $p<0.01$, *** $p<0.001$

represents all the five models where from model-1 without control variables, model-2 only with the control variable, gross loan portfolio delinquency 1 month, model-3 with gross loan portfolio delinquency 1 month and active rural borrowers, model-4 with gross loan portfolio delinquency 1 month, active rural borrower and active urban borrowers, model-5 with all the control models till model-4 with operational self-sufficiency.

which rejects (H2) (Hermes et al. 2011). However, studies such as Morduch, (2000) find that loan balances which are low are benefitted through economies of scale.

Lending to women is considered as best risk mitigating tool in microfinance industry where repayments rates are good enough when compared with men (Brenner 2012; Lassoued 2017; Swope 2010). The coefficient of female borrowers (ABFEM) is positive and significant which indicates that though MFIs are lending to women, they are choosing better payable clients among the women which rejects (H3). Our findings contrast with Hermes et al., (2011) which found that lending to poor borrowers is strongly associated with lending to women. The provision for loan impairment (PLI) is in line with (H4), which indicates that MFIs prefer wealthier clientele because of the provision set up for uncollected loans, which ultimately raises the average loan amount.

The coefficient of write-off ratio (WOR) is negative and substantial, indicating that MFIs do not pick better clients in terms of repayment with this risk-mitigation strategy they employ to write-off loans that are not returned. This negates and rejects (H5). The fact that the coefficient risk coverage ratio (RISKCOVE) is significant and positive demonstrates that the balance sheet item risk coverage ratio of MFIs influences client selection. This finding aligns with (H6). Control variables, delinquency for 1 month, active borrowers in rural and urban geographies have negative coefficient and are significant at one per cent level. Though it appears that MFIs select better geographic areas for loan distribution, the motivation may be to increase scale without increasing earnings by selecting wealthier clientele. Operational self-sufficiency exhibits a negative relationship with average loan per borrower, suggesting that self-sufficient MFIs are not serving wealthier clientele which contrasts with the study by Xu et al., (2016).

The findings show that three variables, namely the percentage of active female borrowers, the provision for loan impairment, and the risk coverage ratio, have a favourable impact on mission drift out of all the credit risk mitigating strategies and measures that we studied. This brings the attention to the problem of poor microloan borrowers. MFIs typically assess credit risk after loan disbursals using the risk coverage ratio and the provision for loan impairment. The risk coverage ratio and provision for loan impairment rates, which demonstrate a rise in defaults, are the two major risk metrics that the management bases its decision on. As a result, even when the loan amounts are substantial, the loan managers may choose clients who are more likely to pay back their loans. This lowers the risk for the MFIs at the expense of excluding the less fortunate borrowers.

Another aspect that has contributed to the growth in average loan size is the number of active female borrowers. In fact, most of the microloans are lent to women, preferably in the form of groups (Aggarwal et al. 2015). The group lending has shown no evidence of increase in average loan size, but the increase in women borrowers does. This implies the concern of personal mission drift among the women in choosing the group members. Beisland et al., (2019) identified studies on loan manager's personal drift in picking customers, but studies on personal mission drift among women in choosing group borrowers have yet to be investigated. There is no indication that the average loan size has increased by portfolio at risk, group lending, or write-off ratio, as shown in the results (see Table 4).

Robustness check

We evaluated the effect of risk-mitigation factors on the average loan per borrower without considering control variables in order to ensure the validity of the findings (Review Table 4 (model-1)). With the exception of group lending and provision for loan impairment, all the variables have been shown to have a common coefficient when compared with model-5. It suggests that the majority of the risk-mitigation variables are unaffected by the control variables.

Summary and implications

According to the results of the hypothesis, some risk-mitigation techniques positively affect the average loan balance in Indian MFIs. Provision for loan impairment, lending to women, and risk coverage ratio have had a favourable impact on mission drift out of the six mitigating proxies we used to assess the impact. According to prior microfinance literature,

lending to women is a key element in the success of the microfinance industry. However, the findings imply that MFIs favour women who can pay their debts on time, which may restrict impoverished women from participating in the loan system. Results on loan impairment provisions and risk coverage ratios imply that these risk indicators are influencing MFIs decisions to identify borrowers who can repay large loans. Whether this is the same for for-profit MFIs and pro-poor MFIs as well has still to be explored. Our policy recommendations call for MFIs to implement a fair risk framework in which all risk-mitigation techniques should help identify the actual clients who require credit support. Our future research directions include the need to find and implement new approaches and risk indicators in assessing credit risk and borrower repayment ability (Serrano-Cinca et al. 2016).

Conclusion

Microfinance businesses must help to eradicate poverty and reduce income inequality among the poor. However, it must also become financially sustainable in order to do so. Risk is unpredictable, and every organisation must manage it to ensure its survival. However, given the emphasis on social benefits, risk management should not interfere with the core necessity of the microfinance business. Our data set includes information on Indian MFIs from 1999 to 2019. India's microfinance industry has expanded over time as a result of government efforts. With time many Indian women have experienced empowerment (Swain and Wallentin 2009).

Use of credit risk measures such as provision for loan impairment and risk coverage ratio has raised concerns about the influence of risk mitigation on mission drift. These variables on MFIs balance sheets could influence their managerial choices to prioritise selecting the wealthier clients. On the other hand, MFIs credit risk reduction includes a variety of techniques, whether in borrower selection, pre-loan lending, or post-loan disbursal. Such risk reduction measures include collateral substitutes, dynamic incentives, and non-refinancing threats that cannot be quantified. This restricts the scope of our investigation.

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Data availability The data are available in the Mix Market database of the World Bank, which is accessible to the general public.

Declarations

Conflicts of interest The authors have no relevant financial or non-financial interests to disclose.

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