Shared Responsibility System Fails: Group Loans Have Higher Credit Risk in Microfinance Institutions

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Abstract. This study aimed to examine the credit risk in microfinance institutions in Gunungkidul Regency, considering both internal and external factors that may affect the repayment ability of borrowers. The study used the Ordered Logit Model analysis to investigate the relationship between credit risk and loan types, gender, and education level of borrowers. The results indicated that group loans had a higher level of credit risk compared to individual loans, indicating that the shared responsibility system, which should encourage group members to repay loans on time, has become less effective. Moreover, male borrowers were found to be more at risk of default than female borrowers, and higher education levels were associated with lower credit risk. These findings have important implications for microfinance institutions to improve their credit risk management strategies and develop more effective loan products to minimize the credit risk of borrowers.

Keywords: Credit risk · microfinance institutions · group loans · shared responsibility · education

1 Introduction

Microfinance has experienced rapid development worldwide and has become one of the most important intermediaries for the financial sector in developing countries. Small-scale loans through microfinance institutions, able to generate income and reduce poverty [1, 2]. MFIs have become part of the financial sector as institutions that encourage financial inclusion [3] and recorded significant market share in several countries [4].

Microfinance aims to provide financial services to low-income people who are excluded from the banking system. This is part of a financial inclusion strategy that defines opportunities for individuals and businesses [5]. In this context, microfinance offers low-income communities access to affordable and high-quality financial services to finance income-generating productive activities.

During this period of rapid growth, the business models used by many MFIs have changed significantly in the digital era [6]. MFIs are required to make financial innovations in line with the development of information technology in order to survive in the

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market. On the other hand, increasing service coverage can increase the risks faced by MFIs [7]. Taking into account the specificity of their targets, all MFIs should be able to identify good and bad clients. Each MFI should review policies and procedures at each level of the lending process to determine whether the risk of default and credit losses can be reduced to a reasonable level.

2 Literature Review

Microfinance companies have social and financial logics [8]. Financial services for the unbanked is the first logic. MFIs provide unsecured microcredit to relatively poor people who lack collateral for commercial bank loans. MFI social outreach aims are social logic. Second, MFI financial viability. MFIs charge microcredit interest and other fees like commercial banks to achieve this aim.

Microfinance offers savings and loan programs, insurance, business development, self-reliance and skills development, training, marketing, and social service management and intermediation [9]. Microcredit offers short-term microloans as part of microfinance. Weekly and regular payments. These microfinance companies serve poor people without bank accounts [10].

Microfinance institutions (MFIs) offer unusual group and individual loans to the poor, making them special financial institutions. MFI loan applicants lack papers, assets, and bank collateral, so this model accounts for that. MFIs use peer pressure, joint responsibility, extensive screening and tracking, unbankable guarantees, and dynamic incentives to assess borrowers' creditworthiness and ensure repayment [11].

MFIs, like other financial entities, face credit, interest rate, market, currency, liquidity, operational, and country risks. MFIs provide microcredit, so loans risk is their biggest risk [12, 13]. Credit risk affects financial firm viability. Global financial crisis demonstrated this. Because microfinance is a tiny part of banking, credit risk causes bank failure [14]. Microfinance's 12-month repayment term also raises credit risk. Thus, delayed loan returns may put the MFI in danger within weeks. Repayment issues between microfinance clients can rapidly spread [15]. MFIs and the country's microfinance market can suffer [14, 15].

3 Methodology

The data used for the analysis of the research model is data collected from MFIs, descriptive information (profiles) of 200 debtors of an MFI in Gunungkidul Regency as well as their behavior history in relation to various loans in accordance with the debt contracts they have made. The sample was selected by purposive random sampling method based on the classification criteria to ensure the representativeness of the population and also has predictive power to the model.

The model in this study is a combination of two notations based on two data sources, one relating to customer descriptive information (profile) and the other based on historical behavior with microfinance institutions. This approach was adopted to increase the model's prediction threshold and to analyze credit for new and existing debtors. Debtor profiling (differentiation between good and bad debtors) is based on a key factor

that measures the client's ability to repay the loan, which is the number of days late in repayment of the loan. In this context, the risk of default can be seen from the collectibility of the loan. The model developed in this study uses the Ordered Logit Model approach, because the dependent variable is stratified data according to the level of credit collectibility. The higher the level indicates a higher credit risk.

$$PAR = \beta_0 + \beta_1 SEX + \beta_2 EDU + \beta_3 IT + \beta_4 ACTIV1 + \beta_5 ACTIV2 + \beta_6 ACTIV3 + \beta_7 RES + \beta_8 CUSTYPE + \beta_9 TYPE + \beta_{10} PURP + \varepsilon \quad (1)$$

PAR is the collectability of the loan (current = 1, in special mention = 2, substandard = 3, doubtful = 4, bad = 5). SEX reflects gender (male = 1, female = 0). EDU indicates education level (primary education = 1, secondary education = 2, higher education = 3). IT is social media and internet activities (active = 1, inactive = 0). ACTIV1 is a borrower's line of business in the agricultural sector, ACTIV2 is a borrower's line of business in the trade sector, and ACTIV3 is a borrower's line of business in other sectors. RES is the domicile of the borrower (local area = 1, outside region = 0). CUSTYPE is the category of borrowers (new borrowers = 1, old borrowers = 0). TYPE is the type of loan (individual = 1, group = 0). PURP is the purpose of the loan (business development = 1, new business = 0).

4 Analysis and Discussion

There are still many challenges and expectations in the management and development of loan funds. The problem that always arises and is experienced by MFIs is loan arrears. Based on the model estimation (Table 1), the factors that significantly influence the tendency of a higher credit risk are gender, education, type of borrower, type of loan, and purpose of the loan. Activities on social media and the internet, domicile, and types of borrower activities do not affect the risk of default. Borrowers, whether active or not in the use of social media and the internet, residing in the MFI's operational office area or outside the area, and the type of activity (agriculture, trading, others) have the same credit/default risk tendency.

Male borrowers tend to have a higher risk of default than women (the regression coefficient for the SEX variable is significant positive). This is because women generally face many obstacles in terms of access to loans or other financial services offered by banks. This is especially true for women entrepreneurs who run small businesses. Banks usually target businesses in the formal sector and when they provide loans to informal small businesses, they prefer to serve male borrowers. Sometimes MFIs are the only option, if they don't want to fall into the trap of moneylenders. Interestingly, many MFIs have proven through years of experience that female borrowers actually have lower credit risk than male borrowers.

Female borrowers in many MFIs have consistently very high repayment rates. Female borrowers often stated that they would feel embarrassed by their friends or neighbors if they were caught not paying. Women feel more pressure to be good borrowers than men because they are afraid of being criticized by their environment. In addition, they also feel afraid of failure in running their business. Many of them depend on their family

Table 1. Estimated Results of Ordered Logit

Dependent Variable : PAR
Method : ML – Ordered Logit (Newton-Raphson / Marquardt steps)
Included observations : 200

Variable	Coefficient	Prob.
SEX	**0.8493***	0.0081
EDU	**-1.1896***	0.0000
IT	0.2419	0.4885
ACTIV1	0.1931	0.7963
ACTIV2	-1.0098	0.1942
ACTIV3	0.9291	0.2259
RES	-0.4586	0.1586
CUSTYPE	**0.9797***	0.0033
TYPE	**-1.6995***	0.0000
PURP	**-0.6354****	0.0793
Pseudo R-squared		0.1406
Schwarz criterion		2.8841
Hannan-Quinn criter.		2.7467
LR statistic		82.297
Prob(LR statistic)		0.0000

Notes: * significance at 5% level, ** at 10% level

income for the business they run. Women are usually more conservative or cautious in their investment strategies, compared to men.

Having contact with MFI staff on the ground also has a major impact on encouraging female borrowers to repay their loans on time. MFIs typically hold a weekly group meeting where borrowers meet with loan officers and carry out transactions such as loan receipts and installment payments. Women participate in these meetings more often than men, because for many women in remote areas, these kinds of gatherings are an opportunity to get out of the house and enjoy a little social time. In group meetings, borrowers usually can also discuss with loan officers about the problems they face and share experiences in developing their business. This good relationship has proven to have a positive impact on loan repayment performance. Female borrowers seem to have a greater sense of responsibility, that whatever happens, the debt must be paid. Several studies have also proven that female borrowers in various countries always outperform male borrowers in repaying their loans (Chikalipah, 2018; Bennouna & Tkiouat, 2019).

The higher the education level of the borrower, the lower the risk of default (EDU regression coefficient is significant negative). The higher the quality of a person, the higher the ability to manage funds so that they are able to pay loans on time. Borrowers at MFIs consist of old and new borrowers. The CUSTYPE coefficient has a significant positive value indicating that new borrowers have a higher tendency to default than old borrowers. Old borrowers have been able to build MFI trust so that the problems of asymmetric information, adverse selection and moral hazard can be minimized even though they cannot be completely eliminated. The problem of asymmetric information on new borrowers is still relatively high so that the risk of default increases.

Types of loans at MFIs consist of individual and group loans. According to Bank Indonesia, group/joint responsibility loans are joint and several liabilities, namely the responsibility of the debtors either jointly, individually, or specifically one of them to bear the payment of all debts; The payment of one debtor results in the other debtor being free from the obligation to pay the debt. In Wiktionary, joint responsibility is to share jointly (about the costs to be paid). Therefore, joint responsibility is useful to lighten the burden of one of the borrowers. If one member cannot make a credit payment, the other members are obliged to carry out joint or joint responsibilities. However, the research results show that the joint responsibility system actually has a higher credit risk. The TYPE coefficient is significantly negative, meaning that individual loans have a lower credit risk. If there is a group member who does not pay the installments, it causes a contagious effect for other members who are also not willing to pay, instead of paying the installments of other group members who are unable to pay the installments. So that social capital which is the strength of group lending has lost its role. The attitude of mutual assistance between members is no longer valid, dominated by growing individual interests. Each individual is only willing to be responsible for his personal loans, not for the loans of others. Some of the factors that cause congestion/unsmooth group loans are: not well-established groups, group businesses are not smooth, members' businesses are not smooth, administrators leave the area, character of members/groups, bad installments on group administrators/elite, influence of figures (group administrators, village officials, and group coordinator).

The purpose of loans for business development also has a tendency to reduce the risk of default which is higher than loans to finance new businesses (significant negative PURP coefficient). The risk of failure of a new business is higher than that of an existing business. The borrower's lack of experience in managing the business, both in internal management and the ability to anticipate external dynamics that can affect business continuity, increases the possibility that the business being initiated will fail to survive in the market. As a result, borrowers experience liquidity difficulties in repaying loans and can lead to credit failure.

Efforts to resolve non-performing loans at MFIs can be carried out through a bureaucratic approach by streamlining the role of the bureaucracy, namely from the Head of Village Level Group Trustees in this case the Lurah, Babinkamtibmas, Babinsa and Guidance from Kepanewonan; institutional approach by making the participation of borrower groups and community leaders more effective; group and personal approaches; and loan rescheduling.

5 Conclusion

The characteristics of the borrower must be the basis for consideration for the MFI in determining whether or not a loan application is appropriate. Characteristics of gender, education, type of borrower, type of loan, and purpose of the loan need to be given greater weight in the calculation of credit scores because they provide different levels of risk. Other characteristics such as activity on social media and the internet, domicile, and the type of borrower's activities do not affect the risk of default. This means that the difference in profile in this character does not affect the smooth rate of loan repayment.

The existence of credit scoring is a reference before the MFI decides to provide credit to customers.

Through an integrated credit scoring system, MFIs can compare information from borrowers with more and more measurable customer loan performance. The more information obtained, the better the assessment in the analysis of credit applications. Especially for decision makers in MFIs, this will certainly be very helpful in managing lending and evaluating them. In addition, it can also minimize the risk of bad credit in the future.

In addition to helping with analysis, the existence of an integrated credit scoring system also greatly contributes to the credit survey process. The survey process for granting credit takes a long time because the relevant officers still use makeshift data and conventional work processes. When financial and banking institutions use an integrated credit scoring system, all data will appear completely and quickly.

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