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An Empirical Analysis of the Loan Default Rate of Microfinance Institutions

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Abstract
Microfinance institutions have been extending loans to different deficit units in Ghana and this study aimed at addressing the following issues: identifying the causes of loan default and the processes involved in granting loan by Microfinance institutions in Ghana. The convenient and purposive sampling techniques were employed to select respondents to provide answers to questionnaires. The population of the survey constituted the management and non-management staff and customers of some selected microfinance institutions in Ghana. Hypotheses of the study will be analyzed using correlation and regression. Results of the study show that there are high positive correlation between the constructs of loan default causes and how loans are granted.
Keywords: Loan Default Rate, Monitoring and Repayment, Microfinance institutions.

1. Introduction

Microfinance has been regarded as one of the most promising means to alleviate poverty around the world. Following the success of the Grameen bank founded by Nobel Peace Prize laureate Muhammad Yunus, there are now at least 3,589 microfinance institution (MFIs) serving more than 190 million clients, 128 million of which are poorest (Reed, 2011). Up until around a decade ago, Micro-finance was associated almost exclusively with small scale loans to individuals and businesses in poor communities. Today it is used to describe a selection of financial products such as payments, savings and insurance that are adapted to meet the needs of low income individuals, businesses and NGOs. The remainder of this paper is structured as follows. Section 2.0 will be present both the theoretical background and hypothesis to this study. Section 3.0 provides the research methodology of the study. In section 4.0, the researchers present the statistical results and discussions of finding. Finally, this study in section 5.0 discusses the conclusion of the study.

2. Theoretical Background and Hypothesis

2.1 Meaning of Loan Default

Pearson and Greeff (2006) defined default as a risk threshold that describes the point in the borrower's repayment history where he or she missed at least 3installments within a 24 month period. This represents a point in time and indicator of behavior, wherein there is a demonstrable increase in the risk that the borrower eventually will truly default, by ceasing all repayments. The definition is consistent with international standards, and was necessary because consistent analysis required a common definition. This definition does not mean that the borrower had entirely stopped paying the loan and therefore been referred to collection or legal processes; or from an accounting perspective that the loan had been classified as bad or doubtful, or actually written-off.

The New Collins Concise English Dictionary defines defaults, ''a failure to act, especially a failure to meet a financial obligation''. Consultative Group to Assist the Poor (CGAP) 2009 also defined loan default as when a borrower cannot or will not repay a loan, and the Microfinance Institution (MFI) no longer expects to be repaid (although it keeps trying to collect).

In finance, default occurs when a debtor has not met his or her legal obligations according to the debt contracts, example is where he or she has not made a scheduled payment, or has violated a loan covenant (condition) of the debt contract. A default is the failure to pay back a loan. Default may occur if the debtor is either unwilling or unable to pay their debt. This can occur with all debt obligations including bonds, mortgages, loans, and promissory notes. (Wikipedia, 2011)

A loan default occurs when the borrower does not make required payments or in some other way does not comply with the terms of a loan. (Murray, 2011) Definitions of default as follows:

1. General: Failure to do something required by an agreement, in the performance of a duty, or under a law.

2. Borrowing: Failure to meet the terms of a loan agreement. Its two types are (1) Fiscal: Failure to make repayment on the due date. Generally, if a payment is 30 days overdue, the loan is in default. (2) Covenantal: Failure to live up to one or more covenants of the loan agreement such as exceeding the prescribed total borrowings.

3. Computing: Attribute, option, or value assumed by a computer when a user has not chosen or supplied any. Computer's choice is based on how the elements of software or the settings of hardware have been arranged

by the manufacturer, or customized by the user.

4. Contractual: Failure to comply with the terms of a contract. Most contracts make provisions for handling defaults by including the conditions or procedures for arbitration, compensation, or litigation.

5. Legal: Failure to do something required under legislation or as ordered by a court, such as not making an appearance to answer charges.

[http/w.w.w.businessdictionary.com/definition/default.](Assessed 23rd April 2013)

2.2 Causes of Loan Defaults

Many factors have been identified as major determinants of loan defaults. Okorie (1986) shows that the nature, time of disbursement, supervision and profitability of enterprises which benefited from small holder loan scheme in Ondo State in Nigeria, contributed to the repayment ability and consequently high default rates. Other critical factors associated with loan delinquencies are: type of the loan; term of the loan; interest rate on the loan; poor credit history; borrowers' income and transaction cost of the loans.

Balogun and Alimi (1988) also identified the major causes of loan default as loan shortages, delay in time of loan delivery, small farm size, high interest rate, age of farmers, poor supervision, non-profitability of farm enterprises and undue government intervention with the operations of government sponsored credit programs.

Moreover, Akinwumi and Ajayi (1990) found out that farm size, family size, scale of operation, family living expenses and exposure to sound management techniques were some of the factors that can influence the repayment capacity of farmers.

Berger and DeYoung, (1995) indicated that, one major problem which the banks in India are facing is the problem of recovery and overdue of loans. The reasons behind this may vary for different financial institutions as it depends upon the respective nature of loans. Here an attempt is made to find out some of the causes of default of loans due to which financial institutions are facing the problems of overdue of loans. These reasons may be useful for the Banks for the better recovery of loans in future. After surveying different banks, the following were identified to be the main causes of default of loans from industrial sector: improper selection of an entrepreneur, deficient analysis of project viability, inadequacy of collateral security/equitable mortgage against loans, unrealistic terms and schedule of repayment, lack of follow up measures and default due to natural calamities. Ahmad, (1997), mentioned some important factors that cause loan defaults which include; lack of willingness to pay loans coupled with diversion of funds by borrowers, willful negligence and improper appraisal by Credit Officers.

According to Gorter and Bloem (2002) unsettled loans are mainly caused by an inevitable number of wrong economic decisions by individuals and plain bad luck (inclement weather, unexpected price changes for certain products, etc.). Under such circumstances, the holders of loans can make an allowance for a normal share of non-performance in the form of bad loan provisions, or they may spread the risk by taking out insurance.

Moreover, in a recent study of Mortgage loan defaults, the most frequently cited causes of defaults were curtailment of income (36%), excessive obligations (19%), and unemployment (8%), illness of principal mortgagor or family member (6%) and marital difficulties (3%) (Merritt, 2009).

Okpugie (2009) also indicated that, high interest charged by the microfinance banks has been discovered to be the reason behind the alarming default. A microfinance loan is a facility granted by a microfinance bank to an individual or a group of borrowers, whose principal source of income is derived from business activities involving the production or sale of goods and services.

2.3 Loan Processing in Microfinance Institutions

There is an element of risk in any loan granted because the expected repayment may not occur. Lending involves a lender providing a loan in return for a promise of interest and principal repayment in future (Kay Associate Ltd), 2005). Because of this risk of default in loan repayment, lenders needs to project into the future and make sound judgment that will ensure that repayment is effected at the agreed date. Available literature places so much importance on the lenders role in ensuring good decisions relating to the granting of loans in order to minimize credit risk.

The lender must always aim at assessing the extent of the risk associated with the lending and try to reduce factors that can undermine repayment. The lender should therefore assemble all the relevant information that will assist him/her in arriving at a sound credit decision. In view of the possibility of non-payment which leads to unsettled loans, microfinances has adopted a standard loan request procedures and requirements usually contained in credit policy manual to guide loan officers and customers. Some of the factors that the MFIs consider before granting loans include the following which are often referred to as the canons of good lending: The character of the prospective borrower, Amount being requested by the customer, Margin (Interest margin, commissions and relevant fees.), The purpose of the loan, Ability of the borrower to manage business successfully, Repayment (source of repayment must be credible), Insurance (security provided by the customer) and Technical and financial viability of the business

(i) Preliminary Screening

In this stage, loan applicants make contact with the institution and are carefully screened and asked to answer

specific questions regarding the status of their business and household accounts, in order to establish whether they qualify under SATs eligibility guidelines. This is one of the most critical stages in the loan processing procedures since it is the stage where the information about the business and creditworthiness of the customer is analyzed.

(ii) Loan Proposal and Credit Committee

Loan applicants are assigned to specific loan officers. Applicants undergo a further review to verify the information taken at the initial stage, and a visit to the applicants businesses and household is arranged. The information thus developed is organized into a formal loan proposal and presented to the credit committee for approval. The loan amount and tenure are determined based on the adequacy of the cash flows generated by the borrowers business, sufficient personal collateral and or guarantors agreeing to co-sign the loan agreement.

(iii) Monitoring and Repayment

After disbursement, the account officer frequently visits the borrowers business to ensure that the credit facility (loan) is being used for the specific purpose(s) for which the loan was granted, and to remind borrowers of their next repayment date. According to Rouse (1989) this is one area many lenders pay little attention but if it is properly followed, the incidence of unsettled loans can be reduced considerably. He identified internal records, visits and interviews, audited and management accounts as some of the things that help in the monitoring and control process. Monitoring can help minimize the incidence of unsettled loans in the following ways:

- Ensuring the utilization of the loan for the intended purpose
- Identifying early warning signals of any problem relating to the operations of the business that are likely to affect the performance of the loan
- Ensuring compliance with the covenants of the loan facility.
- Affording the lender the opportunity to discuss the problems and prospects of the borrowers business.

Borrowers who miss repayments are pressured at this stage; if the arrears continue to pile up, legal action is initiated against the borrower and guarantor(s) to recover any amounts owed, but usually after the designated collateral has been seized and offset against the indebtedness.

Hypothesis:

H1: Firms are more likely to default if they are less profitable and less liquid

H2: The more reliable debtor's are, the less likely the firm is to default

3. Research Methodology

3.1 Research Method

This section provides an overview of the method used for our research and how data for this study were collected and analyzed in order to examine our hypotheses and arrive at the findings. The main objective of this research is to identify the causes of loan default and the processes involved in granting loan by Microfinance institutions. In order to understand and establish a reliable result we adopt both the use of the qualitative approach and quantitative methods. Quantitative method or approach is adopted because of the empirical investigation we conduct into this phenomenon. Data for this section is mainly acquired through the administering of questionnaires to be answered by the firm and its customers. Data obtained from the survey was used to test the hypothesis by SPSS software. In addition, in-depth interviews were used for some questions that investigate how it happened (Yin, 2009). This qualitative method can throw up important contributions that enrich the real context. In this paper, three firms are chosen as case study. The relevant information is acquire through the field survey such as questionnaires of customers and semi-structured interviews of top managers, and secondary archives from customer complaint forms, the company's finance department as well as other departments.

3.2 Case Selection

The process of selecting a suitable case is an essential step to build theories from case studies. This became important because when unsuitable cases are selected, the result obtained will be misleading and will not help us achieve our research objectives. Appropriate selection of case helps define the limit for generalizing the finding of the study and control waste (Eisenhardt, 1989). Considering the number of cases that can be studied at a particular time choosing a relevant case becomes an essential obligation (Pettigrew, 1998).

3.3 Data Collection

The population of the survey constituted the management and non-management staff and customers of Procredit Savings and Loans limited, Trust Financial Services limited, and 72 Hours Mircofinance Services in Ghana. The researchers used the purposive sampling technique and accidental technique. The study used a sample size of six hundred and (600) respondents, of which the researchers divided it equally among customers and management staff and non-management staff of the three banks. Due to adequate time the researchers devoted for the data collection, the researchers were able to get five hundred and Sixty-one (561) questionnaires that were administer

3.4 Measurement of Variables

3.4.1 Loan Default Rate

For purpose of this research, questions on loan default rate were asked and placed on a 5- point scale ranging

from strongly agree (5), Agree (4), Undecided (3), Disagree (2), and strongly disagree (1) in form of statement. This scale is adopted from Deshpande et al. (1993); Jaworski and Kohli (1993); and Samiee and Roth (1992).The respondents were asked to indicate their level of agreement with each statement in relation to the loan default rate of their microfinance institutions. Item scores were summed and divided by the total number of items so that the composite measure of loan default rate of the microfinance institutions could be established.

3.5 Validity and Reliability of Data

The reliability of data used for empirical analysis and hypothesis testing was assessed. The reliability of the data was assured by the use of Cronbach's alpha (numerical value of 0.5 is considered appropriate to show consistency). For this research data, the alpha value for loan default rate is 0.76. The hypothesis formulated for the study was tested by cross-sectional data with the use of statistical software SPSS 20.0. Descriptive statistics and Pearson correlation were generated between variables.

4. Data Analysis

4.1 Statistical Population and Statistical Samples

The statistical package program SPSS 20.0 is used. According to the descriptive statistics, the sample consists of 561 personnel from three companies which perform same businesses in the banking industry of Ghana. The sample consists of 226 women (40.3%) and 335 men (59.7%). 35.2% of the sample (197 participants) is between the ages of 20-30, 51.1% of the sample (287 participants) is between the ages of 31-50 and 13.7% of the sample (77 participants) is at the age of 51 or older than 51. 376 participants (67.0%) are married, 185 participants (33.0%) are single. Most of the sample is married. 9 participants (1.6%) are primary school graduates, 56 participants (9.9%) are high school graduates, 314 participants (56.0%) are university graduates, 157 participants (28%) have a Master's Degree, 25 participants (4.4%) have a Doctorate Degree.

4.2 Loan Default Rate.

This section reports the statistical analysis of our data on loan default rate. The table below shows a summary of descriptive statistics and Pearson correlation between all variable used. The dependent variable used is delay in time of loan delivery (DLD). The independent variables include default due to natural calamities (DNC), high interest rate (HIR), scale of operation (SO), unrealistic terms and schedule of repayment (USR), lack of follow up measures (LFM).

4.2.1 Descriptive Statistics

Table 1 Descriptive Statistics and Pearson Correlation of Loan Default Rate Variables

Variables	N	Mean	SD	2	3	4	5	6
1.DLD	561	3.55	1.031	.586**	.877**	.520**	. 894**	.561**
2.DNC	561	3.77	0.769		.625**	.846**	.747**	.776**
3.HIR	561	3.98	0.879			.451**	.863**	.646**
4.SO	561	3.40	1.039				.799**	.858**
5.USR	561	3.82	0.777					.733**
6.LFM	561	3.89	0.718					

** Correlation is significant at 0.01 level (2-tailed).

Table 1 show that unrealistic terms and schedule of repayment (USR) had the highest correlation coefficient with the dependent variable at 0.894 at $p< 0.01$ (2- tailed) and default due to natural calamities (DNC) at 0.586 at $p< 0.001$(2-tailed). Also variables such as high interest rate (HIR), scale of operation (SO) and lack of follow up measures (LFM) had a correlation coefficient of 0.877 at $p < 0.01$(2-tailed), 0.520 at $p < 0.01$(2-tailed) and 0.561 at $p < 0.01$(2-tailed) respectively.

In the study the researchers found out that the respondents agrees to the fact that loan default rate are caused by a number of factors which the researchers used as variables. Since the focus was on the analysis of loan default rate in microfinance companies, the findings showed that when interest rates are higher, and companies lack follow up measures. When scale of operation is small, unrealistic terms and schedule of repayment and delay in time of loan delivery are associated with their works; the likely of clients defaulting becomes higher. This finding satisfies the hypothesis (H1 and H2) that states that the firms are more likely to default if they are less profitable and less liquid and the more reliable debtors are, the less likely the firm is to default

4.2.2 Regression Analysis

Table 2 Regression Analysis of Loan Default Rate Variables

Models	R-square	Unstandardized coefficients.		Standardized coefficient	t-value	Sig.
		Beta	Standard Error	Beta		
1. DNC	.618	.298	.032	.223	9.263	.000
2.DNC, HIR	.782	.397	.036	.338	11.122	.000
3.DNC , HIR ,SO	.889	-.388	.030	-.391	-12.791	.000
4.DNC,HIR, SO, USR	.922	.359	.033	.271	10.964	000
5.DNC,HIR,SO,USR, LFM	.934	-.363	.036	-.253	-9.992	.000

The regression model was established using the equation: $Y= \alpha + \beta 1X_1 + \beta 2X_2 + \beta 3X_3 + \ldots. + \beta nXn$ where: Y is the dependent variable, "α" is a regression constant; $\beta 1$, $\beta 2$,$\beta 3$ and βn are the beta coefficients; and X_1, X_2, X_3, and Xn are the independent (predicator) variables. Standardized beta coefficients were put in the regression equation. Table 2 revealed that loan default rate can be predicated as: $Y= \alpha + 0.22\ X_1 + .34\ X_2 + (-.39)\ X_3 + \ldots.. + \beta nXn$ where: *Y* is (DLD) ; X_1, is (DNC) ; X_2, is (HIR); X_3 is (SO), and Xn is the nth predicator.

5. Conclusion

The study was conducted to identify the causes of loan default and the processes involved in granting loan by Microfinance institutions. The study adopted both qualitative (case study) and quantitative methods respectively. Microfinance institutions were selected to gather data, which was acquired from answers obtained from our administered questionnaire and also through interviews

The statistical findings showed significantly that loan default rates are caused by a number of factors and there was a significant relationship between the dependent variable and the independent variables. The hypothesis established for this study was supported by the researchers' findings.

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