
THE INFLUENCE OF DEMOGRAPHIC FACTORS, PRODUCTS AND SERVICE CHARACTERISTICS OF MICROFINANCE INSTITUTIONS ON REPAYMENT PERFORMANCE AMONG FARMERS IN THE EASTERN REGION

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ABSTRACT

The study examined how demographic characteristics of farmers, and Microfinance Institutions' loan and service characteristics contribute towards loan repayment performance of farmers in the Eastern Region of Ghana. Survey research method was used to collect data from two hundred and forty farmers who have received microfinance support from MFIs in three districts in the Eastern Region of Ghana. Chi square statistics was used to assess relationships between variables. The study found that all the socio-economic characteristics studied have significant relationship with loan repayment while loan characteristics also contribute significantly to agricultural loan repayment. It is relevant to consider farmer and loan characteristics whilst granting loans to farmers, if the loans are meant to enhance their performance. Specifically, MFIs should take a second look at the repayment period as the weekly method was found to be too difficult for the farmers who do not earn regular incomes. In order to improve agricultural loan repayment, the loan amount approved and given to farmers by MFIs should be guided by the understanding of farmers' situations and the exact amount required. This will support well defined agricultural activities. The study will inform policy makers on the need to provide financial assistance to farmers if livelihoods are intended to be improved.

Keywords: Microfinance, Loan repayment, Interest rate, Collateral, Gender, Agricultural

INTRODUCTION

Microfinance, defined as providing financial services tailored to the needs of the poor (D'Espallier, Guerin and Mersland, 2011), is seen as an alternative solution to agricultural lending and rural finance (Armendariz and Murdoch, 2005). Microfinance is specifically important for farmers because they often lack the necessary collaterals and preconditions to obtain credit from formal lending institutions (Nader, 2008). In this context, credit from Microfinance Institutions (MFIs) serves as a tool to combat

poverty on one hand and to correct failures in agricultural lending on another hand.

Credit has been observed to facilitate agricultural development through increased productivity by intensifying the use of inputs such as seed and fertilizer (Ali, Deininger and Marguerite, 2014). In Ghana, agricultural credit is seen as the backbone of many businesses. The efficient introduction and provision of cheaper credit is seen as the major means of promoting agricultural development in the country (Haselip, Desgain and Makenzie, 2014).

It is very significant to recognize that the focus of microfinance has shifted from credit mono-product to include a wide array of financial services. The target market has broadened from microenterprises to include low income household business and family needs (Rhyne and Otero, 2006). MFIs provide similar products and services to their customers as formal financial institutions. The scale and methods of delivery differ but the fundamental products and services are the same (Woller, 2002). According to Blavy and Yulek (2004), MFIs provide a range of products including credit, savings, insurance, credit cards and payment services. The characteristics of these products and services are thus critical to the enhancement of repayment performance of agricultural credit from MFIs.

It has been observed that credit can improve the livelihood of farmers, for instance, Woller (2002) stated that in rural communities providing microfinance services to the small scale farmers is perceived as a means of increasing food production and raising incomes. However, inability to obtain credit has been observed to have negative effects on livelihood outcomes of the people such as low productivity, malnutrition and food insecurity (Ali *et al.*, 2014). The possible cause of the above situation could be related to the unwillingness of formal financial institutions to offer credit for farming activities due to high default rates. It is against this background that MFIs adopted agricultural lending as a means of bridging the gap created by lack of access to credit.

Despite the importance of credit to agricultural development, agricultural lending is faced with many challenges. Some of the constraints observed include low repayment, high default rates due in part to high risks (climatic risks, price fluctuations, pest and disease) and the absence of risk mitigation/management tools (Sakyi-Dawson, Tambi and Odularu, 2011; Ernst and Young, 2012; Warui, 2012). Quartey, Uldry, Alhassan and Seshie (2011) noted that supplying of loanable funds does not necessarily expand the production frontier and result in higher earnings, and that unless the risk is managed, loanable

funds will disappear into bad debts.

Demographic characteristics are critical to understanding determinants of repayment performance of microfinance clients. Hundie, Belay and Demeke (2004) reported that the nature of financial services demanded by farmers is strongly influenced by their socio-economic circumstances such as age, sex, education level and household size. Many MFIs target primarily, or exclusively women. This practice is based on the common belief that women invest loans in productive activities or improving family welfare more often than men, who are assumed to rather consume than invest loan funds. It was also observed that male borrowers were less responsible and disciplined in repaying their microcredit loans than female borrowers (Mokhtar, Nartea and Gan, 2012).

Indications are that age categories vary in repayment performance. For example, Hundie *et al.* (2004) indicated that on the average younger farmers are more likely to default in repayment than older farmers while Mokhtar, Nartea and Gan (2012) also observed that middle age borrowers had a high probability of having repayment problems. On the effect of household size on loan repayment, Bichanga and Aseyo (2013) found that majority of MFIs clients have larger household sizes but was not clear whether the propensity to default was high. Similarly, Navajas, Schreiner, Meyer, Gonzalez-Vega and Rodriguez-Meza (2000) observed that large households allow for diversity of income sources among family members and result in complex demand for financial services.

The major products and services offered by MFIs are agricultural credit, savings and in some cases non-financial services such as production training, marketing services and health services. It has been observed that variation in products and service characteristics such as loan size, repayment schedules and lending methodology by different MFIs could serve as contributing factors to farmers' failure to repay agricultural loans. Adequate knowledge on the part of MFIs on what clients perceived as quality products

and services has been observed to eliminate barriers to repayment by avoiding products and services characteristics that do not meet client expectations (Dunford, 2000; Bhat and Tang, 2001; Armendariz and Morduch, 2005). It is therefore obvious that to ensure sustainable credit delivery to smallholder farmers through enhanced repayment performance, MFIs and public sector lending institutions need to employ other dynamic strategies in designing flexible and tailor-made financial products and ingenious use of varying incentive mechanisms.

The study aims at examining how demographic factors, and MFI products and service characteristics contribute to the repayment performance of agricultural credit delivered to smallholder farmers. Specifically the research seeks to address the following objectives:

- To determine the contribution of selected demographic characteristics of farmers to the repayment performance of agricultural credit in the Eastern Region of Ghana, and
- To determine the relationship between MFI product, service characteristics and repayment performance of agricultural credit in the Eastern Region of Ghana.

Methodology

The study was carried out in the Eastern Region where three districts were randomly selected out of twenty seven. Since the whole region could not be studied, the region was zoned into northern, central and southern. Names of the districts were then listed according to the zones and numbered. For each zone, the numbers were put into a box and the first one picked represented the zone. Thus one district was selected from these zones as Kwahu North (Northern), Lower Manya Krobo (Central) and West Akim (Southern). Two farming communities each were selected purposely (per district) because of their proximity to Rural Banks. The farming communities selected were Odumase and Akuse in the Lower Manya District, Donkorkrom and Adeemra in the Kwahu North District, and Asamankese and Adeiso in the West Akyem District. Farmers obtained microfinance support from the Lower

Manya Krobo Rural Bank in the Lower Manya Krobo district, South Akim Rural Bank in the West Akim District and Afram Rural Bank in the Kwahu North district. In all 80 farmers were selected from each district to get a total of 240 farmers. A list of all farmers in the districts was obtained from the District Agricultural Extension Offices, the names of farmers who have obtained credit from the rural banks were isolated. For each selected district, the names were listed and numbered and a list of random numbers was used to select the eighty respondents to constitute the sample size.

This research made use of both descriptive (percentages and averages) and inferential analysis (Chi square). The descriptive statistics aimed at identifying the peculiar socio-economic characteristics of farmers, products, and service characteristics of MFIs and clients, while the inferential statistics was applied to establish relationships between the independent variables and the dependent variable, i.e. the relationships that exist between socio-economic characteristics of farmers, products, service, and repayment performance.

RESULTS AND DISCUSSIONS

Demographic characteristics and loan repayment

Gender and repayment

The findings showed that the default rate was higher among male respondents (78%) than their female counterparts (51%). The Chi square analysis showed a significant difference ($\chi^2 = 18.3$, $df = 3$ $p = 0.0000$) between repayment performance with respect to gender (Table 1), meaning that loan repayment is dependent of gender. The finding is in line with D'Espallier, Guerin and Mersland (2011) who observed that a higher percentage of female clients in MFIs is associated with lower portfolio risks. This may arise from the fact that women have limited credit sources hence may fear the punishment of default. Also that women succumb easily to pressures from credit officers than men as reported by Godquin (2004). On the other hand, Mokhtar, Nartea and Gan (2012) indicated that male bor-

rowers were less responsible and less disciplined in repaying their microcredit loans than female borrowers.

Age distribution of respondents and repayment performance

The ages of respondents were categorized into 18-40, 41-60 and 61+, representing the youth, middle age and aged respectively (Getis, Getis and Fellmann, 2006). Table 1 shows that generally, a greater proportion of the population (50%) served by MFIs in the area is in the lower age cohort, which is characteristic of a rapidly growing population. However, this same population has the greatest default rate of 67.5%. The Chi square analysis showed that there was a significant difference ($\chi^2 = 28.241, df = 6, p = 0.047$) in the repayment performances of the

different age categories. This implies that different age categories of clients have different repayment performance and this is consistent with other authors who found that on the average, defaulters of agricultural input loans were younger than non-defaulters (Hundie *et al.*, 2004; Bhat and Tang, 2002). This could be indicative that with time, older farmers gather experience on better management of credit than younger ones hence they have a better repayment record. Alternatively, it could also imply that older farmers might have accumulated wealth which they are able to convert into cash to repay loans more than younger ones.

Educational level of respondents and repayment performance

Results from the analysis revealed that clients who never had any education formed 39% while

Table 1: Demographic characteristics and loan repayment performance

	Repayment Performance				Total		
	Paid		Default		N	%	
	N	%	N	%	N	%	
Gender							
Male	30	22.0	105	78.0	135	56.25	$\chi^2=18.3$ (df = 1), p=0.000
Female	51	48.6	54	51.4	105	43.75	
Total	81	33.8	159	66.2	240	100	
Age							
18-40	39	32.5	81	67.5	120	50.0	$\chi^2=1.51$ (df = 2), p=0.0470
41-60	36	33.3	72	66.7	108	45.0	
61+	6	50.0	6	50.0	12	5.0	
Total	81	33.8	159	66.2	240	100	
Education							
Nil	21	22.6	72	77.4	93	39.0	$\chi^2=8.47$ (df = 1), p=0.004
Formal	60	40.8	87	59.2	147	61.0	
Total	81	33.8	159	66.2	240	100	
Livelihood strategies							
Farming	56	28.0	144	72.0	200	83.0	$\chi^2=50.1$ (df = 1), p=0.000
Petty trading	35	87.5	5	12.5	40	17.0	
Total	91	37.9	149	62.1	240	100	

Source: Field Data, 2014

those who reportedly had formal education formed 61% of the total respondents (Table 1). The default rate was higher for those with no formal education than clients with formal education. The Chi square analysis showed that there was a significant difference between repayment performance of clients and their levels of education ($\chi^2 = 2.824$, $df = 1$, $p = 0.004$), indicating that clients' level of education contributes to repayment performance. However, Hundie *et al.* (2004) observed no significant difference between educational levels of farmers and loan repayment but Eze and Ibekwe (2007) observed

that borrowers with higher levels of education are less likely to default in loan repayment. They explained that higher levels of formal education enables farmers to comprehend more complex information, keep records, conduct basic cash flow analysis and generally make the right investment decisions.

Lending Methods and repayment performance

Lending methods in microfinance usually follow two main approaches: individual and group lending. From Table 2, 74% of the farmers indicated that they took their loans as group members

Table 2: Loan characteristics and repayment performance

	Repayment Performance				Total		
	Paid		Default		N	%	
	N	%	N	%	N	%	
Repayment schedules							
Weekly	54	90	6	10	60	25.0	$\chi^2=20.2$ ($df = 2$), $p=0.000$
Monthly	75	41.7	105	58.3	180	75.0	
Total	81	33.8	159	66.2	240	100	
Loan size							
Small	72	37.5	120	62.5	192	80.0	$\chi^2=25.4$ ($df = 2$), $p=0.000$
Medium	26	86.7	4	13.3	30	13.0	
Large	8	44.4	10	55.6	18	6.0	
Total	106	44.2	134	55.8	240	100	
Lending methods							
Group	111	62.7	66	37.3	177	74	$\chi^2= 28.2$ $df = 1$ $p = 0.000$
Individual	15	23.8	48	76.2	63	26.0	
Total	126	52.2	114	47.5	240	100	
Production training and repayment performance							
Received training							
Yes	96	64.0	54	36.0	150	63.0	$\chi^2= 26.0$, $df = 1$ $p = 0.000$
No	27	30.0	63	70.0	90	37.0	
Total	123	51.3	117	48.7	240	100	
Marketing services and repayment performance							
Received Marketing services							
Yes	68	71.6	27	28.4	95	40.0	$\chi^2= 27.1$, $df = 1$ $p = 0.000$
No	54	37.2	91	62.8	145	60.0	
Total	122	50.8	118	49.2	240	100	

Source: Field data, 2014

while the rest took the loans as individuals. The default rate was higher among individuals who took loans than farmers operating as groups. The Chi square test showed that there was a significant difference between ($\chi^2 = 28.2$, $df = 1$, $p = 0.000$) different lending methods and loan repayment performance. The results agreed with findings by Odongo and Kendi (2013) that group lending is more effective in mitigating the risk of default among MFI clients. This may be due to the tight socio-cultural linkages among respondents in the study area which allows group members to exert pressure on one another to repay loans.

Production training and repayment performance

Results indicated that default rate is higher among those who did not receive any training than those who received training (Table 2). The Chi square analysis showed a significant difference between repayment performances of the clients with respect to production training received ($\chi^2 = 26.0$, $df = 1$, $p = 0.000$). This finding illustrates what has been reported by Roslan and Karim (2009); Awunyo-Vitor (2012) that training has an influence on loan repayment by reducing loan repayment default.

Marketing services and repayment performance

Results from the investigation of the relationship between marketing services offered by MFIs and repayment performance of agricultural credit showed that farmers who received marketing services from the banks have lower default rate (23%) than farmers who did not receive any marketing services (Table 2). The Chi square analysis shows significant difference between repayment performance with and acquisition of marketing services ($\chi^2 = 27.1$, $df = 1$, $p = 0.000$). The finding is consistent with the findings of Edgcomb (2002) and Dumas (2002), and concluded that business development training improves micro-entrepreneur repayment performance and empowerment.

CONCLUSIONS

It was observed that there was a significant difference between all the demographic characteristics studied and repayment performance of the farmers. This shows that demographic characteristics studied contribute meaningfully towards loan repayment. Thus in providing MFI support to farmers, service providers should be guided by information concerning age, educational level, sex and the types of livelihood strategies farmers are engaged in order to decide on the amount of loans and repayment schedules.

All the MFI product and service characteristics were found to have significant relationship with loan repayment. Thus loan repayment schedules which were weekly or monthly contribute significantly to default rates of farmers. It was found that default rate was higher among small loan size category and in this case farmers who got small loans could not pay the loan promptly as those with medium or bigger size loans. It was observed that it is very relevant if the farmers take the loan as groups than as individuals because group pressure improves repayment rates. Similarly, it was found that training and marketing services also improved loan repayment. Therefore, demographic characteristics and MFI product and service characteristics are key factors that determine loan repayment performance of farmers.

RECOMMENDATIONS

It is recommended that MFIs should take a second look at the repayment period as the weekly method was found to be too difficult for the farmers who do not earn regular incomes. Secondly, in order to improve agricultural loan repayment, the loan amount approved and given to farmers by MFIs should be guided by the understanding of farmers' situations and the exact amount required to support well-defined agricultural activities but not on the amount that the MFI wants to give to farmers.

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