FARMERS' BEHAVIOR ON AGRICULTURAL CREDIT RE-PAYMENT: EVIDENCE FROM DAMBULLA AREA IN SRI LANKA

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Introduction

Non repayment of Agricultural credit has become a serious problem to banks. The present study was undertaken to understand the profile and repayment behavior of farmers in Dambulla area by using 60 randomly selected farmers in 5 garama niladari divisions under Dambulla divisional secretariat where is the agriculture base activities are prominent and largest agro based economic center has been established.The Objective of this study is to identify the factors affecting for poor recovery of agriculture credits in Dambulla area.

Methodology

Pre tested questionnaire survey was conducted to identify the factors related to poor recovery of agricultural credit and stratified random sampling technique was used. In order toarrive at the aforesaid aims, the study was methodically developed to hypothesis, as many others before (Manthilake, 2007), that the poor credit repayment behavior of farmers is associated with economic, demographic and attitudinal characters of the consumers. Thus, to see the impact of these factors on the defaults, a binary logistic regression analysis was developed. However, there was an issue of measuring the attitudinal factors as this is associated with number of difficulties, including "Unobservable" and "Subjectivity" of behavior among individuals. The questionnaire was developed with Likert scale to overcome this problem. Each statement (Table 1) was weighted 1 to 7 where, 7 is represented Strong disagreement and 1 refers to strong agreement. To avoid the difficulty of handling large number of statements in the regression, a factor analysis was conducted to reduce the number of statements to a small number of factors via principal component analysis with Varimax rotation (Thattil and Samitha, 2010).

Table 1. Statements used for factor analysis

Statement	Abbreviation
Low income from the harvest leads to non repayment	LIH
Inability to sell the production leads to non repayment	ISP
The greater the loan amount, higher the rate of defaultness	GLA
Inadequacy of loan leads to non repayment	INL
High cost of cultivation crops leads to non repayment	HCC
Outstanding/unsettled loans leads to defaultation	OUL
Environmental Impacts leads to non repayment	ENI
Use of other purpose is usual	UOP
High yield leads to repayment	HYR
Efficient utilization of loans leads to repayment	EUR
Need extra Income from subsidiary occupation to repay	EIS
Should need to procure future loan	SFL
Should need to be honest and prompt	SHP
Should need to maintain cordial relationship with bank officials	SRB
Should need to avoid social stigma	SAS
Should need to avoid excess payment of interest	SAI

In order to identify demographic and economic factors which were related with non repayment, following factors were included to regression (Table2).

Table 2. Variables defined for the empirical model

Symbol Used	Corresponding variable	Remarks
AGE	Age of the Respondent	Continuous Variable
EDU	Education Level	If never attend to School=0, If Pre University 1(O/L)=1, If Pre University 2(A/L)=2, If Degree=3
LOW	Low Land cultivation	If Available=1, Otherwise=0
HIG	High Land cultivation	If Available=1, Otherwise=0
SAV	Saving Accounts	If Available=1, Otherwise=0
INS	Life Insurance	If Available=1, Otherwise=0
Di	Investment Response	If yes=1, Otherwise=0
εi	Error term	

Explanatory variables to represent statements derived from factor analysis

F1	Micro Finance Related Behavioral Factor	Factor Score
F2	Banks Regulations and Uncontrollable Impacts	Factor Score
F3	Credit Misuse Factors	Factor Score
F4	Income Related Factors	Factor Score

Consequently, in the context of the relationship between repayment behavior and farmers' attitudinal an economical factor, the following empirical model was specified.

$$D_i = \beta_0 + \beta_1 \times AGE + \beta_2 \times EDU + \beta_3 \times LOW + \beta_4 \times HIG + \beta_5 \times (LOW \times HIG) + \beta_6 \times SAV + \beta_7 \times INS + \sigma_1 \times F_1 + \sigma_2 \times F_2 + \sigma_3 \times F_3 + \varepsilon_i$$

Discussion and Conclusion

*Demographic and economic composition of the sample:*When consider the demographic and economic composition of the sample, 83% of respondents have fulfilled primary education, 15% was having secondary education and 2% have gained tertiary education. When consider the livelihood pattern of the selected sample, 93% of the respondants were engaged in agriculture related activities as their main occupation and the rest of the sample was engaged in activities such as poultry keeping, fishing and services

Credit frequency and repayment: According to the statistical information, 51% of the respondents have obtained agricultural credit in 2011 *Yala* season and it was mainly for onion and cabbage cultivation, as these crops are capital intensive. Nevertheless, in 2010 *Maha* season have obtained only 7% of credit since low land cultivation was prominent in this period.Further, 29% of respondents have obtained agricultural credit without considering seasonal requirements

On perusal of data on credit repayment of the respondents, it was observed that 68% of respondents had repaid agricultural credit in lump-sum while 22% had paid in installments. In addition, most of the farmers have settled the outstanding balances of previous credit by taking another loan.

When consider the repayment method, 56% of respondents repaid credit by using crop yield. And some farmers had hired their agriculture tractors and paid the credit Besides, 23% of sample was repaying the credit by using other methods such as working as labor, salary and pawning method.

Table 4: Factor loadings, factor structure

Statement	Factor	Loadings
SRB	Behavioral factor (F1)	0.927
SHP	Behavioral factor (F1)	0.914
SAS	Behavioral factor (F1)	0.798
EUR	Behavioral factor (F1)	0.420
SFL	Behavioral factor (F1)	0.737
INL	Bank regulation (F2)	0.885
ENI	Bank regulation (F2)	0.805
SAI	Bank regulation (F2)	0.773
EIS	Credit misuse (F3)	-0.843
UOP	Credit misuse (F3)	-0.662
GLA	Credit misuse (F3)	-0.640
OUL	Credit misuse (F3)	-0.578
HYR	Credit misuse (F3)	-0.484
ISP	Income (F4)	-0.871
HCC	Income (F4)	-0.787
LIH	Income (F4)	-0.647

Factor analysis reduced 16 individual statements to four major factors. Table 4 shows the factor structure and loadings.

The results of 4 major factors: labeled as micro finance related behavioral factor, banks regulations and uncontrollable impacts, credit misuse factor and income related factor.

Table 4. Results of the binary logistic regression

Variable	Coefficient	Standard error	(P>|Z|)
Age	-0.1954 **	0.0869	0.0250
EDU	1.5839	1.9904	0.4260
LOW	6.0494 *	3.3246	0.0690
HIG	0.0690	2.0899	0.1090
LOW*HIG	-4.5060	3.0113	0.1350
SAV	1.2116	1.9844	0.5410
INS	-3.3107 *	1.9349	0.0870
X1	1.7075 **	0.7721	0.0270
X2	0.2797	0.5993	0.6410
X3	1.3639 **	0.5581	0.0150
X4	-0.4738	0.7411	0.5230

** = Significance at 5% Level, * = Significance at 10% level

Binary logistic regression revealed that there was a significant relationship between repayments of credit with age, low land cultivation and life insurance premiums as well as micro finance related behavioral factors and credit misuse factors.

Credit repayment behavior of farmers was affected by factors such as attitudes, demographic and economical factors. Generally, farmers of this area have adapted to imported seeds which

are given high yield. Because of high yield and poor post harvest technology of the farming community, they try to release bulk of production to the market. This scenario may leads to receive very low price for their production. Besides Farmers reluctant to take agriculture loans due to poor efficiency of the insurance. In order to prove these assumptions further studies should be carried out in appropriate manner.

References

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