

CREDIT DECISION AND RATIONING RULES: A STUDY OF INFORMAL LENDERS IN THE PHILIPPINES

*Normito R. Zapata, Jr**

This paper investigated the rationing rules being used by informal lenders in dealing with micro-entrepreneurs. The two-stage model of borrowing was tested using a sample of 108 entrepreneurs from the public market of Los Baños, Laguna. The results showed that those who are less educated, married, and/or have large household size are more likely to borrow from the informal lenders. On the other hand, the average daily sales of the enterprise seem to be the main factor that the lenders consider in rationing credit. Businesses with smaller asset size and lower daily sales experience greater rationing from informal lenders. As a result, it is more difficult for them to expand their earning capacity. Therefore, government microfinance programs should focus in this underserved sector.

I. INTRODUCTION

Microfinance has been a major tool used by many governments and NGOs to alleviate poverty among developing nations. The formal financial institutions have been mobilized to provide credit to the poor. However, the stringent requirements of these institutions left the poor with very little access to financial services from the formal financial system. Moreover, some rural banks who participated in government subsidized credit programs collapsed. The target beneficiaries did not get credit subsidy and the government was left with huge unpaid loans (Llanto, 2003). This is a serious problem since households who do not have access to financial intermediaries tend to have a higher poverty incidence than those who have access (Lamberte and Manlagnit, 2003).

The failure of the financial system to extend loans to poor households and small enterprises led to the emergence of the informal moneylenders. There is now an alternative to the formal financial intermediaries. However, many governments have perceived the rural moneylenders as usurious (Aleem, 1990). Their operation is characterized by high implicit interest rates. According to Dutta and Mangableh (2004), these lenders usually apply rationing

mechanism based upon the attributes of the borrowers and the business they finance.

Because of the important role played by the informal lenders in making financial services available, it is important to describe how this informal system works. This study aims to present an empirical analysis of the determinants of rationing rules among informal lenders. Most studies on this subject in the Philippines focused on the agricultural and the household sectors. On the other hand, this paper will look at credit rationing among micro-entrepreneurs in the public market. This sector of the economy relies on financial services to expand their earning capacity and in some cases meet emergency needs of the family. This paper will also look at the determinants of the borrowers' decision to obtain loan from the informal rather than the formal lenders.

A review of literature is presented in Section II. Then the model framework of the borrowing process is introduced in Section III. The econometric estimation method and the source of data are discussed in Section IV. The empirical results are discussed in Section V. Finally, the conclusion of the study is presented in Section VI.

* Assistant Professor, College of Economics and Management, University of the Philippines- Los Baños, Laguna.

II. REVIEW OF RELATED LITERATURE

Stiglitz and Weiss (1981) showed that in equilibrium a loan market may be characterized by credit rationing. Interest rates serve as a screening device for distinguishing good and bad risk. It also affects the lender's return from a loan by changing the behavior of the borrower. Increasing interest rates increases the attractiveness of riskier projects for which the return to the lender decreases. Therefore, an increase in interest rate might force the borrower to take actions that are in conflict to the lender's interests. Thus, there is an incentive to ration credit rather than raise interest rate if there is excess demand for funds.

Several studies were conducted to analyze the rationing rules among informal lenders. In 1990, Irfan Aleem looked at the costs of informal lending in the rural credit market of Pakistan. Non-institutional lenders charge interest rates that are higher than that charged by institutional lender on a similar loan. One possible explanation for this observed gap in interest rates is the problem of asymmetric information. The lender has less information on the borrower's ability and willingness to repay a loan. Aleem (1990) identified two key imperfections in the flow of information. On the supply side, there is imperfection in the screening process carried out by the lender. On the demand side, borrowers are not well aware of the terms of the loan contracts offered by individual informal lenders. The lender has no incentive to cut interest rates in order to increase market share even when rates are way above the marginal cost of lending. Using the survey data from fourteen informal lenders, Aleem estimated the costs of obtaining information about loan applicants. Because of high overhead spread over small amount of loans, interest rates are forced up to cover average costs. These costs include the cost of obtaining information and screening, loan administration, opportunity cost of fund, premium for bad or unrecoverable debt, and interest lost on delinquent loans. The estimates of resource costs incurred by informal lenders showed that lender's charges are equal to their average cost of lending but exceed their marginal costs.

In the Philippines, Floro and Yotopoulos (1991) looked at the informal credit market of the

agricultural sector. Specifically, they characterized the sorting behavior and rationing rules of farmer-lender and trader-lender. The study used conditional probabilities and analysis of variance (ANOVA) to determine the probability that a farm household borrows from a trader-lender or farmer-lender given that the household belongs to the poor income category. Log-linear regression was used to identify the relationship of income, regional differences, and incidence of default with the interest rate and the size of loan. The research revealed that there is no single market rate of interest observed in the informal market. Trader-lenders are more likely to lend to poor borrowers in the developed area than their counterparts in the marginal area. One possible explanation is the presence of infrastructure such as irrigation which reduces risks. On the other hand, farmer-lenders in the developed area are more flexible with respect to borrower preference than their counterparts in the marginal area, lending to rich borrowers with greater probability than the latter. The regression results showed a significant relationship between trader-lenders loan size and borrower's income level. Regional difference is not significant. Interest rates are inversely related to the level of income and directly related to the probability of default.

Another study on the determinants of credit rationing among formal and informal lenders was conducted by Zeller (1994) in Madagascar. The paper is based on a survey of 189 randomly selected households in three agro-ecological regions of Madagascar. The data gathered include assets, production income, consumption, credit transactions and nutritional status of preschoolers and their mothers. The survey was done in three rounds to capture the seasonal inter-linkage among variables. The framework for analyzing the determinant of loan rationing is composed of two sequential processes. At stage 1, the household decides whether to apply for loan. Then the lender decides whether to grant loan or reduce the credit amount in stage 2. The PROBIT model was used to estimate the determinants of the propensity to apply for a loan and the factors that affect rationing. The regression results showed that the probability of applying for

informal credit increases with age, years of education, and number of sick days of household during the recall period. The head of the household has a high probability of applying for a loan since he is culturally expected to be responsible for important household loans. Gender appears not to affect the propensity to borrow. On the other hand, the probability of being credit constrained by the informal lender increases with age, and years of education. It seems that those with higher level of education demand higher loan. The head of the household is also likely to be rationed since he asks for more important credit than other members of the household. The survey results show that around half of the amount borrowed from the informal lender is being used for food consumption. On the other hand, 57.4% of the amount borrowed from the formal lender is used to purchase farm inputs. As expected, informal lenders rarely use physical collateral while 36% of formal loans require it. It is also interesting to note that poor households have a better record of debt repayment than richer households. The observed differences in interest rates charged by informal lenders between rich and poor borrower can be explained by the risk of default. The study also identified the leverage ratio of household as the most important determinant for loan rationing. Physical collateral plays a minor role in credit rationing. It is usually being used to compel repayment.

Dutta and Mangableh (2004) conducted an investigation on the socio-economic and non-socio-economic determinants of the four-stage borrowing process in the Jordanian microfinance market. According to Dutta and Mangableh, the four sequential stages of borrowing are: (1) the decision to apply for a loan, (2) the decision on the amount of loan to be borrowed, (3) the approval of the lender on the loan demanded, and (4) the determination of the amount of loan to be granted by the lender to the borrower. The PROBIT model was used to identify the determinants of applications for loan and being credit constrained. On the other hand, the Heckit method was employed to determine the variables that affect the demand and supply of micro credit. The equations were estimated using a sample of 474 micro-entrepreneurs. The study showed that repayment ability determines credit rationing in the microfinance market. The borrowing process

of micro-entrepreneurs is affected by religious beliefs, social responsibilities, and availability of local microfinance providers, application costs, and level of knowledge.

Godquin and Sharma (2005) looked at the production and consumption credit constraint in the Philippines. The paper revealed that the presence of credit programs among villages and the proximity of households to rural banks reduce the probability of being credit constraint. Households with little education and no titled land are more likely to experience credit rationing. The study pointed out that the demand for consumption fund increases with the household size while the demand for production fund decreases with household size. The age in quadratic form was also identified as a possible determinant of credit constraint. An increase in age is perceived to affect the productive experience of the household. Other variables that were considered are education, size of cultivated lands, shocks, and accessibility of financial intermediary. The PROBIT model was used to estimate the determinants of credit rationing. The survey included 572 rural households. The study found out that education has a significant negative impact on the production credit constraint. Less educated households have lower demand for external fund but are more subjected to credit rationing by lenders. The distance of banks, both rural and commercial, increases the probability of credit constraint. Probability of credit constraint also increases with negative shocks. Older households have lower credit needs. Lastly, household size does not have any impact on being credit constrained. The paper estimated that 65% of the households are credit constrained.

Most studies on credit rationing looked at the supply and demand side of borrowing. On the demand side, the factors that affect the household's propensity to apply for a loan were investigated. On the supply side, determinants of the amount of loan and interest rate that the lender is willing to offer on a particular borrower were identified. Most of these studies were conducted in developing countries where microfinance plays a major role in supporting households and micro-enterprises. In the Philippines, studies on credit rationing are focused on the agricultural sector. However, there

are no studies in the country that focused on rationing rules of informal lenders among micro-enterprises (i.e. retailer/wholesaler in the public

market). This paper will focus on credit rationing among public market vendors.

III. ECONOMIC MODEL

The borrowing process is characterized by the micro-entrepreneur's demand for credit and his/her access to credit. To analyze the outcome of this process, it is important to look at the demand and supply factors separately. This can be conceptualized as a sequential decision process. At stage 1, the entrepreneur decides whether to obtain loan from the formal or the informal lenders. Then at stage 2, the informal lenders decide on the amount of funds to be lent and the level of interest rates to be charged (Zeller, 1994).

Stage 1

The factors that may affect the entrepreneurs' propensity to borrow are age, household size, civil status, gender, education and income. These factors will be the explanatory variables that will be used in the econometric model presented in the next section.

Age is expected to have a positive relationship with the demand for loan. The productive capacity of the entrepreneur increases with age. Consequently, the demand for productive fund also increases. Older entrepreneurs will opt for informal lenders since access to fund is faster. The quadratic form of the age will be used in this study to allow for the diminishing impact of age. The diminishing impact of age means a decrease in marginal experience gained with age.

Household size is also expected to affect the decision to borrow from the informal lenders. An increase in the household size will lead to an increase in the demand for consumption funds. Using the loan for consumption makes the funds unproductive. Therefore, the borrower will go to the informal lenders since they could not satisfy the rigorous requirement of formal lenders. Moreover, the borrower knows the high probability of default that's why source of fund that does not require collateral is preferable. On the other hand, demand for production funds

decreases with household size since household labor substitutes for hired labor. The entrepreneurs will try to maximize return by choosing a fund source with "lower" borrowing cost (i.e., informal lenders).

Married entrepreneurs are also more likely to borrow from informal lenders. The need for consumption fund is greater for married individuals. Since consumption fund is unproductive, informal lenders will be the preferred source of funds.

Educated entrepreneurs will prefer formal lenders as the source of their funding needs. It can be assumed that they understand the concept of effective interest rate better than the less-educated entrepreneurs.

The entrepreneur's income (daily sales revenue will be used as a proxy) is expected to have negative relationship with the probability to source funds from informal lenders. Low-income individuals need to improve their earning capacity. They do not have sufficient asset that can serve as collateral. Therefore, they will be more inclined to get their funds from a source that can be easily accessed and does not require collateral.

Stage 2

The variables discussed above are possible determinants of the likelihood to obtain credit from informal moneylenders. The factors that are considered represent the personal characteristics of the borrower. On the supply side, the observable characteristics of the enterprise will be considered. These variables will help explain how informal lenders ration credit within an observationally equivalent group of borrowers, assuming that there is excess demand in the credit market. The factors that will be considered are the enterprises' initial capitalization, current asset size, average daily sales and length of existence.

The enterprise's initial capitalization is expected to have a direct relationship with the

amount of funds lent and the interest rate charged. Enterprises in the start-up stage need more capital to extend its earning capacity but lenders are reluctant to provide more funds because of the high probability of default. The potential for earnings is high but the risk is also high; hence, the informal lender will also charge high interest rates.

On the other hand, current asset size should have a direct relationship with the amount of loan to be lent and an inverse relationship to the level of interest rate. The lender is now more willing to provide funds at a lower effective interest rate.

The length of the enterprises' existence also affects the lender's rationing rules. This factor is expected to be positively related to the size of the loan and negatively related to the interest rate. Since the business is well established, the informal lender will provide funds at a lower cost.

Lastly, the average daily sales of the enterprise should have a direct relationship with the amount of loan and inverse relationship with the effective interest rate. Sales level affects the entrepreneur's ability to service debt. Informal lenders will be willing to provide funds at a lower interest rate.

IV. METHODOLOGY AND DATA

The PROBIT method was used to test the first stage. This method was chosen since the dependent variables are binary variables that take zero-one value. Since the probability that an event will occur is non-linear, the usual least squares estimation method is not appropriate. The Linear Probability Model (LPM) is characterized by heteroskedastic errors - variance of the error term varies among observations. Another problem with the LPM is that it yields unrealistic

values of probability (i.e., less than zero or more than 1), because it assumes linearity between the explanatory variables and the probability. On the other hand, the PROBIT model constrains the probability to the (0,1) interval. It also assumes that the probability that an event will occur is non-linear.

The following equation is used to estimate the probability that the entrepreneurs will obtain its loan from the informal moneylenders.

Stage 1: Entrepreneurs decide whether to borrow from informal lenders.

$$\text{Prob(Apply)} = F(\text{AGESQ}, \text{CS}, \text{EDUC}, \text{HH}, \text{SEX}, \text{INCOME})$$

where:

Apply	dummy (1 if individual obtained loans from informal lenders, 0 otherwise)
AGESQ	quadratic form of the entrepreneur's age
CS	dummy (1 if married, 0 otherwise)
EDUC	Number of years in formal education
HH	household size
SEX	dummy (1 if female, 0 otherwise)
INCOME	Entrepreneur's income (daily revenue of the enterprise was used as a proxy)

On the other hand, the dependent variables in stage 2 are quantitative variables. Hence, the ordinary least square (OLS) method was used to identify the informal lender's rationing rules. The purpose of estimating the equation is to show the

relationship between dependent and independent variables. The following equations were used to estimate the coefficient of each explanatory variable.

Stage 2: Lender decides the amount to be lent and effective interest rate to be charged.

$$\text{AMOUNT} = \beta_1 + \beta_2 \text{CURRENTCAP} + \beta_3 \text{INITIALCAP} + \beta_4 \text{SALES} + \beta_5 \text{YEARS} + e$$

$$\text{INTEREST} = \beta_1 + \beta_2 \text{CURRENTCAP} + \beta_3 \text{INITIALCAP} + \beta_4 \text{SALES} + \beta_5 \text{YEARS} + e$$

where:

AMOUNT	amount lent
INTEREST	annual effective interest rate charged
CURRENTCAP	current capitalization
INITIALCAP	initial capitalization
SALES	average daily sales
YEARS	length of existence
e	random disturbance assumed to be independent of the regressors

The survey data gathered by Ms. Mary Joyce B. Valiente for her study entitled "Role and Impact of Credit on Public Market Retailer in Los Baños, Laguna" was used in this study. Data were gathered in 2001. The survey was done in the two public markets of Los Baños, Laguna namely Batong Malake and Poblacion. There are a total of 570 retailers and ambulant peddlers in the said markets. The sampling was done by dividing the population into strata: meat, vegetable, seafood,

fruit, dry goods, sari-sari and rice vendors. A total of 114 respondents were interviewed. However, only 108 samples were used in this study since some survey data were lost. Out of these entrepreneurs, fifty five obtained their funds from the informal lenders. This sub-sample was used in estimating the stage two equations.

Selected descriptive statistics of the whole sample and the sub-sample are presented in Tables 1 and 2, respectively.

Table 1
Descriptive Statistics of the Whole Sample

Variables	Description	Mean	Std. Dev.	Min	Max
AGE	Age of entrepreneur	41.15	9.22	24	76
HH	Household size of the entrepreneur	5.40	2.03	2	14
EDUC	Number of years the entrepreneur spent in formal education	9.94	3.02	0	16
YEARS	Length of the enterprise's existence	12.39	8.84	0.25	40
INITIALCAP	Initial capitalization of the enterprise	14,052.50	25,159.65	20	170,000
CURRENTCAP	Current capitalization of the enterprise	44,785.65	110,004.30	200	800,000
SALES	Average daily sales of the enterprise	4,966.67	5,326.53	100	30,000
AMOUNT	Amount of loan borrowed by the entrepreneur from various sources	20,949.07	40,346.84	0	300,000
INTEREST	Effective annual interest rate charged by the lender	1.51	1.11	0	4.80

Table 2
Descriptive statistics of the sub-sample

Variables	Description	Mean	Std. Dev.	Min	Max
AGE	Age of entrepreneur	42.71	10.35	28	76
HH	Household size of the entrepreneur	5.87	2.02	3	14
EDUC	Number of years the entrepreneur spent in formal education	8.64	3.03	0	14
YEARS	Length of the enterprise's existence	14.41	9.17	0.50	40
INITIALCAP	Initial capitalization of the enterprise	9,499.46	26,098.43	20	170,000
CURRENTCAP	Current capitalization of the enterprise	44,265.45	121,981.80	200	800,000
SALES	Average daily sales of the enterprise	4,416.36	5,345.18	150	29,000
AMOUNT	Amount of loan borrowed by the entrepreneur from various sources	16,354.55	25,447.96	1000	150,000
INTEREST	Effective annual interest rate charged by the lender	2.04	0.876	0.22	4.80

V. EMPIRICAL RESULTS

The result of the PROBIT estimate is shown in Table 3. It shows that education has a negative relationship with the probability of applying for a loan from an informal lender. In other words, entrepreneurs who have obtained more years of formal education are less likely to borrow funds from informal lenders. Educated individuals

understand the concept of effective interest rate better than the less educated individual. Accordingly, they will opt for the formal financial institutions (e.g. banks, lending institutions) that offer lower effective interest rate.

Table 3
Determinants of Propensity to Borrow from Informal Lenders

Explanatory Variable	Parameter	Std. Error	Prob.
AGESQ	-3.48E-05	0.0001901	0.8549233
CS	0.99432523	0.5285130***	0.0599224
EDUC	-0.1898442	0.0452594*	0.0000273
HH	0.16301499	0.0696715**	0.0192959
SEX	0.14387408	0.2907693	0.6207378
INCOME	1.33E-05	0.0000248	0.5928738
N=108	Log likelihood = -61.285924		

* significant at the 1% level

** significant at the 5% level

*** significant at the 10% level

On the other hand, the PROBIT estimate shows that civil status and household size have a positive and significant effect on the entrepreneur's propensity to obtain loan from informal lenders. Married individuals with large household size will have a greater probability of going to informal lenders for funds. It is apparent that funds are being used mainly for consumption purposes instead of increasing their earning capacity. Repayment is expected to be lower since money was not put into productive use. Therefore, these individuals would prefer a source of financing which have less rigorous requirement and no collateral. Moral hazard is high because the borrowers know that they have little to lose in case of non-repayment.

Age, gender and income do not affect the credit decision of the entrepreneurs. The use of the funds borrowed is more relevant in stage one. Funds for consumption purposes are usually sourced from informal lenders because of the reasons discussed earlier. Those who are in-charge of the micro-enterprise, regardless of their age and gender, are responsible for providing the needs of the family. Since household size and civil status affect consumption, it influences the credit decision of the entrepreneur.

Tables 4 and 5 show the OLS estimate for the stage 2 variables. The amount of loan to be lent

by the lender is negatively affected by initial capitalization and positively affected by daily sales and current capitalization. The empirical analysis did not support the prior expectation that initial capitalization have a direct relationship with the amount of loan. It implies that informal lenders are not too concerned with the moral hazard problem due to low bankruptcy cost inherent among enterprises with low start-up capital. They are more concerned with the entrepreneur's ability to service his/her debts. This is the reason why daily sales revenue is significant at the 1% level. Loan is usually amortized on a daily-installment basis. According to Morduch (1999), this system screens out undisciplined borrowers and gives early warning about emerging problems. A steady stream of cashflow is necessary since repayment begins before investment bears fruit. Therefore, the daily sales revenue of the enterprise serves as a gauge of the borrower's ability to satisfy daily obligations. Current capitalization also has a significant and positive relationship with quantity rationing. The size of the enterprise represents its earning capacity. Lenders will be more willing to provide larger amount to individuals who have higher debt servicing capability.

Table 4
Determinants of Amount Lent by Informal Lenders (OLS Estimate)

Explanatory Variable	Parameter	t-statistics	Prob.
INTERCEPT	8434.05676	1.1035538	0.27506973
CURRENTCAP	0.049662042	1.672618953***	0.100649165
INITIALCAP	-0.382131891	-2.18186215**	0.03384677
SALES	2.251901653	2.787354523*	0.007493142
YEARS	-41.15431215	-0.10695066	0.915256106
N=55	R ² = 0.1846		

* significant at the 1% level

** significant at the 5% level

*** significant at the 10% level

Table 5
Determinants of Interest Rates Charged by Informal Lenders (OLS Estimate)

Explanatory Variable	Parameter	t-statistics	Prob.
INTERCEPT	274.732263	10.3452149	5.07E-14
CURRENTCAP	-8.30E-06	-0.08042971	0.936216569
INITIALCAP	0.000156243	0.256736333	0.798435832
SALES	-0.006812664	-2.42679244**	0.018879542
YEARS	-2.920010567	-2.1838631**	0.033690838
N=55	R ² = 0.1698		

* significant at the 1% level

** significant at the 5% level

*** significant at the 10% level

On the other hand, the length of the enterprise's existence is not a significant explanatory variable of quantity rationing. The lenders are more concerned with the debt servicing capability of the borrower regardless of its number of years in the business. Longer-existence does not necessarily imply higher earning capacity.

For the level of interest rate charged, the significant explanatory variables are daily sales and the length of existence. Both are negatively related to the interest rate charged. Again, higher daily sales imply higher debt servicing capability. Since risk is lower, the interest rate premium will be lower.

Though the length of existence does not influence quantity rationing, it is important in determining the interest rate to be charged. This is where the personal relationship between the lender and the borrower comes in. Entrepreneurs who have established long-term relationship with the informal lenders enjoy lower financing costs.

On the other hand, initial and current capitalizations are not significant variables in explaining the level of interest rates that lenders charge. These factors are already considered by the lender in deciding on the amount of funds to be lent.

VI. CONCLUSION

The results discussed above have some policy implications. First, it is apparent that less-educated entrepreneurs are easy prey for the informal lenders. Even if government microfinance programs provide funds with favorable terms, borrowers are still inclined to get their funds from informal lenders. They are enticed by the low nominal rate quoted by the informal lenders. The less-educated entrepreneurs are not aware of the high effective cost implied by the nominal rate. Informal lenders also have less stringent requirements. Hence, government microfinance programs should not only make funds available but also help the entrepreneurs in making financing decision. The OLS estimate also showed that young enterprises with low sales and small asset size usually experience credit

rationing. This is the reason why it will be more difficult for them to expand their earning capacity. There is also moral hazard problem since they may engage in risky activities due to high interest rates and low bankruptcy costs. Therefore, government microfinance programs should focus in empowering this underserved sector. Entrepreneurial skills enhancement is also important.

This paper showed how entrepreneurs experience credit rationing from informal lenders. However, it failed to look at the informal lender's "true" cost of lending. This may help explain the reason for charging high implicit interest rates. Future research on microfinance in the Philippines may address this issue.

REFERENCES

- Aleem, I. (1990). Imperfect information, screening, and the costs of informal lending: A study of a rural credit market in Pakistan. *The World Bank Economic Review*, 4(3), pp. 329-349.
- Basu, K., *Rural credit markets: The structure of interest rates, exploitation, and efficiency.*
- Danao, R.A. (2002). *Introduction to statistics and econometrics.* Quezon City: University of the Philippines Press.
- Dutta, D. & Mangableh, I. (2004). A socio-economic study of the borrowing process: The case of microentrepreneurs in Jordan. *School of Economics and Political Science Working Papers ECON 2004-7*, The University of Sydney.
- Floro, S.L. & Yotopoulos, P.A. (1991). *Informal credit markets and the new institutional economics: The case of Philippine agriculture.* San Francisco: Westview Press.
- Godquin, M. & M. Sharma (2005). If only I could borrow more! *Production and Consumption Credit Constraint in the Philippines.*
- Gujarati, D. (2003). *Basic Econometrics*, 4th ed. New York: McGraw-Hill.
- Lamberte, M.B. & Manlagnit, M.C.V. (2003). Household poverty: Addressing the core of microfinance. *PIDS Policy Notes No. 2003-15.*
- Llanto, G.M. (2003). A microfinance promise: To provide the poor access to finance services. *PIDS Policy Notes No. 2003-06.*
- Llanto, G.M. (2001). Sustainable rural finance: Policy and design issues. *PIDS Policy Notes No. 2001-04.*
- Morduch, J. (1999). The microfinance promise. *Journal of Economic Literature*, 37, pp. 1569-1614.
- Patalinghug, E.E. (2006). The microfinance promise: The Philippine experience. *UPCBA Professorial Chair Paper.*
- Stiglitz, K. E. & Weiss, A. (1981). Credit rationing in markets with imperfect information. *The American Economic Review*, 71(3), pp. 393-410.
- Valiente, M.J.B. (2001). Role and impact of credit on the public market retailers in Los Banos, Laguna. *Unpublished Special Problem in Agribusiness Management.* UP Los Baños.
- Zeller, M. (1994). Determinants of credit rationing: A study of informal lenders and formal credit groups in Madagascar. *Food Consumption and Nutrition Division Discussion Paper No. 2.* Washington.

NOTES

**The author is grateful to Mary Joyce B. Valiente for the use her survey data, to Laida Abarquez for her assistance in finding useful references and to Dr. Epictetus Patalinghug for his comments and many assisting suggestions.