

**CREDIT RATIONING
UNDER A DEREGULATED
FINANCIAL SYSTEM**

Ma. Lucila A. Lapar and Douglas H. Graham

WORKING PAPER SERIES NO. 88-19

**This paper is also being circulated as ACPC Working Paper
Series No. 88-11 by the Agricultural Credit Policy Council.**

October 1988

Philippine Institute for Development Studies

ACKNOWLEDGMENT

We wish to acknowledge the financial support provided by the Agricultural Credit Policy Council (ACPC), the Philippine Institute for Development Studies (PIDS), the Ohio State University (OSU) and the United States Agency for International Development (USAID). This study was made possible with the cooperation of financial institutions included in this study. We cannot enumerate their names here for confidentiality.

Thanks are due to Prof. Ruperto P. Alonzo (UP), Dr. Carlos Cuevas (OSU), Dr. Claudio Gonzalez-Vega (OSU), Dr. Mario B. Lamberte (PIDS), Dr. Richard Meyer (OSU), Dr. Manuel Montes (UP), and Dr. Stephen Pollard (OSU) for their valuable comments on the paper, from its conceptualization to the final copy.

The Authors

Table of Contents

I.	Issues in Credit Rationing	1
II.	Theoretical Considerations	4
III.	The Screening and Rationing Behavior of Banks	8
IV.	A Test for the Intensity and Incidence of Quantity Rationing	12
V.	Conclusions and Policy Implications	20
	References	25

List of Tables

1.	Approval Rates for Every 100 Loan Applicants who Approached Banks in 1986, by Type of Bank	9
2.	The Ratio of the Total Number of Loans Granted to Repeat Borrowers to the Total Number of Loan Applications Approved in 1986, by Type of Bank	11
3.	Number of Rationed and Non-Rationed Borrowers, by Type of Bank, 1986	13
4.	Estimates of the Effect of Loan Terms and Observable Characteristics of Borrowers on Intensity of Rationing, by Type of Bank	16
5.	Estimates of the Effect of Loan Terms and Observable Characteristics of Borrowers on the Incidence of Rationing, by Type of Bank	17

CREDIT RATIONING UNDER A DEREGULATED
FINANCIAL SYSTEM*

by

Ma. Lucila A. Lapar and Douglas H. Graham**

I. ISSUES IN CREDIT RATIONING

Much current interest in rural financial markets in the Philippines is focused on whether the deregulated financial system has successfully brought about economic efficiency and growth, two major objectives of the financial reforms of the 1980s. Specifically, the reforms should have brought about more efficient financial intermediation. This would make access to

*Paper presented during the ACPC-PIDS-OSU sponsored seminar-workshop on "Financial Intermediation in the Rural Sector: Research Results and Policy Issues" held on 26-27 September 1988 at the Cuaderno Hall, Central Bank of the Philippines. This is part of a larger study on comparative bank analysis jointly conducted by the Agricultural Credit Policy Council (ACPC), Philippine Institute for Development Studies (PIDS), and Ohio State University (OSU). The project was coordinated by Dr. Mario B. Lamberte (PIDS) and Dr. V. Bruce J. Tolentino (ACPC).

**Respectively, Research Associate, PIDS and Professor, OSU. The views expressed in this study are those of the authors and do not necessarily reflect those of the Institute.

loanable funds easier for all types of borrowers, thereby bringing about increased investments and higher productivity among the economic units in the country.

Recent studies of the credit market have shown that the lifting of interest rate controls still failed to produce the desired results. In a study by Lamberte (1987), it was shown that the credit needs of borrowers, particularly small farmers, have not been met despite the increase in financial resources mobilized in rural areas. The borrowers' major complaint was the lack of credit rather than its price, implying that banks do not lend to just anybody who can afford the price of credit. Moreover, the financial reports of banks show that their loan portfolio did not keep up with the modest growth of loanable funds. Clearly, banks appear to exercise some degree of "credit rationing" by non-price mechanisms.

The expected efficiency and growth in the financial system under a deregulated environment is premised on one important condition of the classical equilibrium theory, that is, the tendency or ability of the market to achieve equilibrium when prices (in this case, interest rates) are allowed to vary according to market forces. But recent literature on financial markets question this contention and instead put forward the notion that interest rates can successfully steer the system toward equilibrium only when there is perfect information in the financial market. In the absence of perfect information, interest rates alone cannot do the job (see Jaffee and Russell [1976], Bester [1985], and Cho [1986]).

When interest rates are controlled, banks automatically ration credit through non-price means, as shown by Gonzales-Vega (1976) and Tybout (1984). However, even if interest rate controls have been lifted, the existence of imperfect information in credit markets creates risk and therefore makes credit rationing rational, profit-maximizing behavior for banks. This is the issue addressed in this paper. It is argued that prevailing circumstances resulting from the existence of imperfect information make it necessary for banks to apply credit rationing in their lending operations. Credit rationing occurs when loan demand is greater than supply, therefore some borrowers receive no loans or less than the amount applied for.

The main objective of this study is to provide empirical support for the continued existence of credit rationing in a deregulated financial system. This study will establish the existence of credit rationing among banks in the rural financial markets of the Philippines, and determine the rationing mechanisms used by each type of bank, namely: rural banks, private development banks, and branches of commercial banks, in allocating credit. The intensity and incidence of credit rationing among these banks will also be compared.

This paper is organized as follows: Section II discusses relevant theoretical considerations. Section III describes and analyzes the screening and rationing behavior of the three types of banks. The test for the intensity and incidence of credit rationing is discussed in Section IV. Conclusions and pertinent policy implications are set forth in Section V.

II. THEORETICAL CONSIDERATIONS

Bank lending behavior can be divided into three stages, namely: the screening stage, the acceptance/rejection rationing stage, and the quantity rationing stage.

The screening stage occurs at the counter (or in the office) before any loan application is filled out. This screening is generally the responsibility of the bank manager who interviews loan applicants to determine their eligibility for credit. During this interview, the manager probes into the applicant's personal background to establish his creditworthiness, as well as the applicants' loan requirements and the terms desired. The manager decides whether the applicant is sufficiently qualified to apply for a loan. Note that the manager's decision is crucial at this stage. The quality of the applicants he chooses as possible applicants will affect the bank's risk exposure, as well as the degree of rationing that will result after the loan applications have been processed and evaluated. Hence, the quality of screening that occurs at the screening stage is affected by the qualifications of the bank manager, e.g., his educational background, banking experience, familiarity with people in the community, among others.

The subsequent formal rationing process is subdivided into two more rationing stages. The first rationing stage after screening takes place once the loan applications are accepted, processed, and evaluated to determine which among the loan applications will be approved and which will be rejected. With

the additional information about the applicant gathered from the application form and credit investigations undertaken by loan officers, the bank can draw up a profile of the applicant indicating whether it would be profitable for the bank to grant the loan. If the initial screening process was efficiently carried out by the manager, then no applicant will be rationed out at this stage. However, theory suggests that no perfect screening can be done because of imperfect information. Screening can only improve the quality of the pool of applicants and indicate who among the applicants are "good" or "safe" on the basis of the manager's initial subjective judgment. It cannot completely eliminate the bank's uncertainty over the probability of default associated with each loan applicant.

Once the decision is made on creditworthiness, the bank then decides on how much will be granted to each applicant during this final stage of rationing, i.e., the quantity-rationing stage. At this stage, the bank determines the optimal loan size for a borrower at a given interest rate. Generally, the bank restricts the size of the loan according to a combination of several factors such as the lender's evaluation of the probability of repayment, the interest rate charged, the marginal cost of granting the loan, and the value of the collateral offered, among others. It is during this quantity-rationing stage that the bank finetunes the loan contract to reflect the lender's subjective evaluation of the riskiness of the loan and of the borrower and the impact of these risks on expected profit.

Considering the stages of lending behavior described above, the framework for analyzing credit rationing in this study is premised on the argument that interest rate deregulation does not automatically result in an exclusively price-determined equilibrium equating the supply and demand for credit. The existence of asymmetric information in financial markets makes credit rationing a rational behavior among lenders who want to maximize expected profits. This is achieved through lending behavior which takes into consideration the interest rate r , the ratio of collateral to loan value (C/L), the decision to lend and how much to lend. All these elements are combined and captured in α , the rationing parameter (i.e., the ratio of the amount received to the amount requested). These three parameters in turn, are chosen depending on the lender's estimate of p , the borrower's probability of repayment. The parameter p is exogenous to the lender and can only be estimated using proxy variables, e.g., observable characteristics of the borrowers or manipulable risk signals as indicators of p . The higher is p , the higher the chosen α , implying a lesser probability of the borrower being rationed, i.e., receiving a loan less than the amount applied for. The choice of r and (C/L) is also dependent on p . The higher the p , the lower is r or C/L . The relationship can be stated as an optimal function $\alpha^* = f(r, C/L, p)$, where $p = g(X_i, i = 1, \dots, n)$, and the X_i 's are the observable characteristics of the borrower such as asset position, capacity to pay, nature of the investment to which the loan will be applied, and the type of collateral being offered.

The α^* function can be termed a decision model wherein the bank selects an α^* on the basis of r , C/L , and $g(X_i, i=1, \dots, n)$. Since $g(X_i)$ is exogenous to the bank and assuming that C/L is fixed due to bank policy requirements, then, the bank's decision parameters will only be α and r . Simultaneity is implied in the relationship between α and r due to the effect of $p = g(X_i)$. A borrower with a higher p is likely to get a higher α and a lower r and vice-versa. The combined effects of r , C/L and $g(X_i)$ on α^* will, therefore, indicate the rationing behavior of the bank. The details of this theoretical framework are discussed in Lapar (1988).

The data sources for this study were the 65 bank respondents randomly chosen from eight provinces in the country. Although there were originally 66 bank respondents in the study, only 65 were included in the analysis because of lack of information on credit rationing from one bank. The 65 bank respondents included 22 rural banks, 16 private development banks, and 27 branches of four commercial banks, namely: the Bank of the Philippine Islands, the United Coconut Planters Bank, the Philippine Commercial International Bank, and Metrobank. The 22 rural banks included in this study are composed of good performing, average performing, and poorly performing rural banks. As such, they are representative of the entire universe of rural banks in the country.

III. THE SCREENING AND RATIONING BEHAVIOR OF BANKS

A survey conducted on the 65 bank respondents showed that credit rationing does exist in rural financial markets in the Philippines, and that differences exist in the rationing and lending behavior of the three bank types.

One significant result from the survey is that the screening and acceptance/rejection rationing behavior of branches of commercial banks (KBs) and private development banks (PDBs) are more restrictive than those for rural banks (RBs) as seen in their respective approval rates (see Table 1). For example, on line 2 we see that only 58 and 60 applicants out of 100 are invited to fill out loan applications in commercial banks (KBs) and private development banks (PDBs), respectively. In contrast, as many as 90 (out of 100) are invited to do so in rural banks (RBs). Also, in the formal processing stage (i.e., acceptance and rejection) line 5 shows a slightly higher degree of rationing, namely a lower approval rate for KBs and PDBs than for RBs. These differences in the degree of screening and rationing may be due to operational differences among these banks. Among these differences would be the fact that RB managers generally know their customers well and are knowledgeable about the kinds of activities for which their clients are borrowing. Furthermore RB managers are accustomed to making loans in their areas. Indeed, the servicing of loans is the most important part of their job. KB and PDB local managers, on the other hand, are frequently less accustomed to local loan activity, are less

Table 1. Approval rates for every 100 loan applicants who approached banks in 1986, by type of bank (In percent)

	Type of Bank			
	KBs	PDBs	RBs	All
Screening				
1. No. of loan applicants who approached the bank for a loan	100	100	100	100
2. No. of loan applicants given applications	58	60	90	70
Processing				
3a. No. of loan applications approved by the manager from total loan applicants	35	31	83	55
3b. Approval rate at the manager's level, in % (3.a/2)	60	51	92	79
4a. No. of loan applications recommended by the manager for approval by the Board of Directors (for RBs) or the area or head office (for PDBs and KBs) out of total loan applications received from loan applicants.	18	26	3	11
4b. No. of loan applications approved by the BOD or at the area or head office out of total loan applications recommended by the manager	18	25	3	11
4c. Approval rate by BOD or at the area or head office with respect to the manager's recommendations, in % (4b/4a)	100	96	100	100
5. Approval rate in processing stage (3a + 4b/2)	91	93	96	94
6. Overall approval rate, in % = (3a + 4b)/no. row 1	53	56	86	66

Source of Data: Comparative Bank Study Survey, 1987.
(Based on institutional sample of 65 banks.)

familiar with potential local opportunities and clientele, and, in the case of KB managers, are more attuned to mobilizing local deposits for the head office (rather than making local loans). Thus, the greater incidence of screening and loan rejection for KBs and PDBs very likely grows out of their relative bias for greater prudence and risk aversion, combined with less institutional concern for engaging in local loan activity.

The data from the 65 bank respondents also show that the rationing behavior of the three types of banks is influenced by factors such as the capacity to pay, the bank-client relationship, and collateral. RBs exhibit a strong bias towards a well-developed bank-client relationship in their rationing behavior. This can be seen by the high ratio of repeat borrowers among those who were granted loans by RBs in 1986, as shown in Table 2. This supports our argument above that RB managers are more knowledgeable about rural loan activities and know their customers well.

The results obtained from the 65 bank respondents are corroborated by the data obtained from the sample of 344 bank clients drawn from the PDBs and RBs. This data presents evidence on quantity rationing, the third and final stage of our rationing process. Unfortunately, samples from KBs were not obtained due to limitations on access to client-based bank records. Nevertheless, the behavior of KBs is similar to the behavior of PDBs. This was seen by the similarities in their rationing and lending behavior in the first two stages of rationing discussed

Table 2. The ratio of the total number of loans granted to repeat borrowers to the total number of loan applications approved in 1986, by type of bank

Ratio (%)	Type of Bank							
	KB		PDB		RB		Total	
	Abs.	%	Abs.	%	Abs.	%	Abs.	%
0	2	11.8	0	0	1	7.7	3	7.0
> 0 - 25	1	5.9	3	23.1	1	7.7	5	11.6
> 25 - 50	5	29.4	1	7.7	0	0	6	14.0
> 50 - 75	4	23.5	4	30.8	1	7.7	9	20.9
> 75 but < 100	1	5.9	2	15.4	7	53.8	10	23.3
100	4	23.5	3	23.1	3	23.1	10	23.3
Total	17	100.0	13	100.0	13	100.0	43	100.0

Mean	0.58	0.54	0.81	0.77
S.D.	0.33	0.34	0.31	0.33
Median	0.55	0.61	0.90	0.71

No. answer	10	37.0 ^a	3	18.8 ^b	9	40.9 ^c	22	33.8 ^d
------------	----	-------------------	---	-------------------	---	-------------------	----	-------------------

a - % of total KB respondents (27)

b - % of total PDB respondents (16)

c - % of total RB respondents (22)

d - % of total bank respondents (65)

Source of Data: Comparative Bank Study Survey, 1987.
(Based on institutional sample of 65 banks)

earlier. While not conclusive, the results provide a gauge on how KBs would behave given the same circumstances as RBs and PDBs. The data on quantity rationing for PDBs and RBs strongly suggest that the degree of quantity rationing among these two banks differ because of loan and borrower characteristics considered by each bank.

One interesting result from the data on the 344 bank client sample is that the degree of rationing measured by the ratio of loan granted to loan requested is minimal for all borrowers of PDBs and RBs (see Table 3). This result is consistent with what is observed in the screening and rationing behavior of the 65 bank respondents where the rejection rate is highest at the screening stage and the manager is the major decision-maker. In most cases, the loan amount requested is discussed and agreed to by both the manager and the borrower during this informal screening stage. Thus, the borrower is almost always certain of getting the loan amount he originally applied for in the subsequent rationing stage. Quantity rationing or reducing the amount applied for would take place only when the bank discovers certain additional characteristics of the borrower, e.g., loan delinquencies with other banks, that would warrant such action.

IV. A TEST FOR THE INTENSITY AND INCIDENCE OF QUANTITY RATIONING

Two types of models were estimated to test for factors that explain the quantity-rationing behavior of PDBs and RBs using the 344 client profiles. The quantity-rationing model which tests

**Table 3. Number of rationed and non-rationed borrowers,
by type of bank, 1986**

Status of Borrower	Type of Bank					
	PDBs		RBs		Total	
	Abs.	%	Abs.	%	Abs.	%
Rationed	9	12.0	39	14.5	48	14.0
Non-rationed	66	88.0	230	85.5	296	86.0
Total	75	100.0	269	100.0	344	100.0

Source of Data: Comparative Bank Study Survey, 1987.
(Based on sample of 344 bank clients from PDBs and RBs)

for the intensity of rationing is expressed as

$$\text{Log } L/A = f(\text{log INT, log COLL, AREA, log INC, log MAT, log CL, DEP, DEL, CCROP, BANK})$$

where L/A = ratio of loan amount granted to loan amount applied
for

- INT = effective interest rate
- COLL = market value of the collateral
- AREA = area of land owned
- INC = value of total income for the year
- MAT = maturity of the loan in number of months
- CL = ratio of collateral value to loan amount granted
- DEP = number of dependents
- DEL = dummy variable for delinquency record,
1 for borrower with delinquency record
0 otherwise
- CCROP = dummy variable for cash crops
1 for cash crops
0 otherwise
- BANK = dummy variable for bank type
1 for PDBs
0 for RBs

A two-stage least squares method was used to estimate the parameters of the quantity-rationing model to account for the simultaneity between the interest rate, INT, and the rationing parameter $\alpha = L/A$, as noted in the theoretical framework discussed in section II.

The qualitative-response model on the other hand, predicts the probability of a borrower being quantity-rationed. This takes the following form:

$$\theta_i = \theta(\alpha_i = 1) = f(r, C/L, p), \quad p = g(X_i, i=1, \dots, n)$$

where $\alpha_i = 1$ if $\alpha < 1$ or $L < A$

\emptyset if $\alpha = 1$ or $L = A$

This model uses the same explanatory variables as the quantity-rationing model. To estimate the parameters of the qualitative-response model, the logit method was used.

The best-fit estimates for the two models are presented in Tables 4 and 5. Separate equations were estimated per bank type because the bank type dummy variable test yielded a significant result, implying that PDBs behave differently from RBs as regards quantity rationing (see Lapar [1988] for details on tests).

In terms of quantity rationing in our first model on the intensity of rationing, we see that the interest rate, area of land, term structure, number of dependents and cash crops are significantly related to the behavior of the dependent variable (L/A) for RBs. A positive sign implies less rationing while a negative sign implies more restrictive rationing. As interest rates rise, or the land area increases in size or the number of dependents rises, there is significantly less rationing in RBs (i.e., the ratio L/A rises). This is what one would expect, in that the rise in interest rates and greater land area (i.e., capacity to produce and repay) reduce risk and thus reduce the

Table 4. Estimates of the effect of loan terms and observable characteristics of borrowers on intensity of rationing, by type of bank

Variable	PDBs	RBs
CONSTANT	0.907 (1.636)	-0.245 (-0.477)
Log INT	-0.111 (-1.144)	0.244 (2.669)**
AREA	-	0.004 (2.191)**
Log INC	-0.030 (-1.092)	-0.014 (-0.448)
Log MAT	-0.118 (-3.428)*	-0.214 (-2.662)**
Log CL	0.148 (2.953)**	-0.039 (-1.258)
DEP	-0.034 (-1.862)***	0.028 (2.570)**
CCROP	-	-0.386 (-5.288)*
2		
R	0.347	0.254
F-Stat	5.564*	6.794*
N	44	120

Note: Dependent variable = Log (L/A).

*Significant at 1 percent.

**Significant at 5 percent.

***Significant at 10 percent.

Table 5. Estimates of the effect of loan terms and observable characteristics of borrowers on the incidence of rationing, by type of bank

Variable	PDBs	RBs
CONSTANT	-55.001 (-2.100)**	3.836 (0.497)
Log INT	-8.809 (-1.317)	-5.661 (-3.282)*
Log COLL	-	-0.344 (-0.758)
AREA	-	-0.287 (-2.453)**
Log INC	2.689 (1.821)***	0.696 (1.020)
Log MAT	12.617 (2.017)**	4.226 (2.313)**
Log CL	-	0.712 (1.216)
DEP	0.196 (0.592)	-0.311 (-1.783)***
DEL	-	1.544 (1.180)
Log likelihood	-7.238	-29.995
Likelihood ratio	14.475*	152.682*
N	54	120

Note: Dependent variable = 1 if $L < A$
 0 if $L = A$

*Significant at 1 percent.
 **Significant at 5 percent.
 ***Significant at 10 percent.

need for quantity rationing. Also, for RBs, a larger family size adds to the production potential of a farm borrower and reduces his costs and risks, since he does not have to hire outside labor. Thus, for a bank with a farm borrower clientele, less rationing occurs. On the other hand, as the loan maturity lengthens and/or cash crops are financed (coffee, cassava, coconuts and sugar), the more severe the quantity rationing (i.e., the ratio L/A declines) in RBs, again as we would expect. The longer the loan maturity, the greater the risk of loan recovery due to the riskier nature of longer term investments.

For PDBs, as loan maturity lengthens, the customer is also rationed (similar to RBs) with a statistically significant negative coefficient. However, in contrast to the results for RBs, borrowers with more dependents are quantity rationed. This is probably due to PDBs being more risk averse to lower income traditional farm family borrowers than RBs. Also, borrowers with higher collateral/loan ratios (CL) are less likely to be rationed. In conclusion both RBs and PDBs are sensitive to loan maturity and are inclined to ration borrowers with longer term loans. RBs, in addition, ration cash crop borrowers more than non-cash crop borrowers, while PDBs ration borrowers with larger size families and lower collateral/loan ratios.

In the results from the qualitative response model shown in Table 5, we should interpret statistically significant coefficients with a positive sign as indicating a high incidence (or probability) of being rationed while a significant negative

sign implies a strong incidence (or probability) of not being rationed. For RBs we again find that borrowers of longer term loans are more likely to be rationed than those of shorter term loans. In contrast, interest rates, size of land area and family size are not associated with rationing behavior, but rather just the opposite. For PDBs a borrower with a high income level and a longer term loan has a higher probability of being rationed. This is consistent with the known practice of PDBs requiring reasonably well off borrowers to participate in longer term loan financing through larger equity contributions. Thus, in the end, the PDBs expect borrowers who have a greater capacity to pay to share part of the risk of their investment financing.

Before concluding this section, it is important to remember that PDBs engaged in far more significant and meaningful initial rationing behavior than RBs (i.e., the informal screening stage at the counter, and the first formal rationing stage approving or rejecting the formal application) since they are more risk averse institutions that engage in much less local rural lending than RBs. In the third stage (i.e., the quantity rationing stage for already approved loans) RB rationing behavior emerges strongly as seen in Tables 4 and 5. Thus, during the first two stages of this three-stage sequence, RB bank managers, relatively speaking, are much less likely to engage in screening or rationing behavior that implies outright rejection. However, once the loan application has been approved in principle, RB managers engage in more intense quantity rationing.

V. CONCLUSIONS AND POLICY IMPLICATIONS

Results of the two field surveys have established empirical support for the existence of credit rationing in the rural financial markets of the Philippines. These results confirm the theoretical argument that credit rationing is still possible in a deregulated financial system characterized by imperfect information. In the Philippines, this imperfect market for information was reinforced by the growing risks of financial activity in the recessionary environment of the 1980s.

As part of their rationing behavior, banks were observed to engage in an informal form of rationing or initial screening at the counter usually carried out by the bank manager. This screening activity was highly practiced by KBs and PDBs, as shown by the high rejection rates at this stage of loan applications as compared to RBs. In fact, the rejection rates during screening were much higher than those in subsequent rationing stages. The high incidence of this over-the-counter type of rationing in KBs and PDBs, as compared to RBs, implies a more restrictive criteria for accepting loan applicants by KBs and PDBs vis-a-vis that used by RBs. KBs and PDBs are more risk averse than RBs in choosing loan applicants and to some extent, are much less committed to local level lending activity than RBs.

In the subsequent stages, two types of credit rationing were observed among KBs, PDBs, and RBs, namely: strong credit rationing entailing outright rejection (i.e., the first rationing stage following the initial screening activity) and weak credit

rationing (i.e., the second rationing stage) wherein the borrower was not rejected but given a loan less than the amount applied for. The incidence of strong first stage credit rationing was higher in PDBs and KBs than in RBs, as indicated by the lower index of loan approval rates in KBs and PDBs compared to RBs. On the other hand, RBs engaged in significant quantity rationing during the third and last stage of rationing.

Restrictions in data availability prevented the use of econometric tests on the determinants of the stronger version of credit rationing (i.e., approval or rejection), since banks generally do not keep a profile of rejected applicants. This presents a potentially promising research area for interested researchers who could gain bank cooperation to empirically test in detail the determinants of the stronger type of credit rationing in selected banks in the Philippines.

Previous studies have shown that government market intervention designed to enhance access to credit for small borrowers is counter productive. The results of this survey, however, suggest that market-oriented credit policies (with appropriately realistic interest rates) are likely to be similarly limited in expanding access to small or marginal borrowers due to the constraints imposed on the system through imperfect information.

Since asymmetric information is inherent in less developed financial markets, alternative solutions have to be devised to circumvent the constraint posed by this market imperfection. But there is no simple solution. At best, measures which can help

reduce risks and minimize the costs of acquiring information may have to be initiated. These include the use of NGOs or PVOs to sort out and prepare a roster of "good" small farmer clientele for banks. The existing guarantee programs which can help reduce the risks of banks may also have to be streamlined and efficiently implemented to better serve their target beneficiaries. To some extent, promoting rural credit unions creates the potential for an institutional actor that could serve a large number of this marginal clientele.

A final issue merits comment in this conclusion, namely, the troublesome link between the findings on credit rationing in this study and the prospective Executive Order on land reform. All banks (including RBs) engage in various forms of credit rationing as a normal and necessary business practice. Collateral is an important determinant of rationing behavior and the consequent supply of credit through the banking system. Land mortgages have been the most important form of collateral used by banks influencing their rationing behavior. Through its impact on the value of land-based collateral, the impending legislation on land reform could possibly affect the future viability of institutions supplying rural financial services and seriously restrict the future supply of credit to agricultural producers.

The viability of rural financial institutions will be affected through the declining value of the collateral assets (i.e., mortgaged property) they currently have included in their on-going loan contracts and the foreclosed land assets they

currently hold in their portfolio. In the former case, farmers owning more than the retention limit^{1/} may stop repaying the bank on their loans that were secured by these land titles on the assumption that they will lose their land through land expropriation measures.

Similarly, banks owning foreclosed rural properties are also subject to expropriation measures. Furthermore, the valuation of these assets for the purposes of future government repayment will likely be below the value of the original principal and interest payments. In any event, the ten-year repayment schedule for expropriated land will stretch out the cash flow to banks to such an extent that their earnings are bound to be affected by such actions on their foreclosed land.

Finally, in the area of new loans to agricultural producers in the post-reform era, the question arises whether the agrarian reform beneficiaries will have full title to their properties or whether they can pledge these properties as forecloseable collateral for bank loans. If not, banks will back off from making loans to the land reform beneficiaries unless effective collateral substitutes can be found for land titles.

The above discussion underscores the potential for significant negative externalities through the financial sector in the current legislative scenario for land reform. These

^{1/} Under the comprehensive agrarian reform law, the retention limit is five hectares plus three hectares for children who will till the land.

negative externalities should be taken into consideration in designing measures to promote reform. Otherwise, authorities may have to face the unpleasant consequences of little to no agricultural credit being supplied to the reform beneficiaries and a weakened financial sector unable and unwilling to expand financial services in rural areas.

References

- Amemiya, T. "Qualitative Response Models: A Survey," Journal of Economic Literature, Vol. 19, 1981, pp. 1483 - 1536.
- Bester, Helmut. "Screening vs. Rationing in Credit Markets With Imperfect Information," The American Economic Review, vol. 75, September 1985, pp. 850 - 855.
- Cho, Yoon Je. "Inefficiencies from Financial Liberalization in the Absence of Well-Functioning Equity Markets," Journal of Money, Credit, and Banking, Vol. 18, No. 2, May 1986, pp. 191 - 199.
- Gonzales-Vega, Claudio, "Agricultural Credit Policies in Costa Rica and in Other Less Developed Countries: On the Iron Law of Interest Rate Restriction," Ph.D. Dissertation, Stanford University, 1985.
- Jaffee, Dwight M. and Thomas Russell. "Imperfect Information, Uncertainty, and Credit Rationing," Quarterly Journal of Economics, vol. 90, November 1976, pp. 651-666.
- Lamberte, Mario B. "Issues in the Financial Sector," A paper prepared for a Workshop on Industrial Development sponsored by the Department of Trade and Industry (June 1987).
- Lapar, Ma. Lucila A., "Credit Rationing in the Rural Financial Markets of the Philippines," M. A. Thesis, University of the Philippines (Forthcoming).
- Stiglitz, Joseph E. and Andrew Weiss. "Credit Rationing in Markets with Imperfect Information," The American Economic Review, vol. 71, June 1981, pp. 393-410.
- Tybout, James R. "Interest Controls and Credit Allocation in Developing Countries," Journal of Money, Credit, and Banking, vol. 16, no. 4, November 1984.
- Virmani, Arvind. "The Nature of Credit Markets in Developing Countries: A Framework for Policy Analysis," World Bank Staff Working Papers, No. 524, June 1982.

PIDS WORKING PAPERS

- | | |
|---|--|
| <p>W.P. No. 88-01 A General Assessment of Foreign Trade Barriers to Philippine Exports. <i>Erlinda M. Medalla</i> (P23.00)</p> | <p>W.P. No. 88-09 The Effect of an Exchange Rate Devaluation on a Small Open Economy with an External Debt Overhang. <i>Josef T. Yap</i> (P8.00)</p> |
| <p>W.P. No. 88-02 Economics of Upland Resource Depletion: Shifting Cultivation in the Philippines. <i>Marian S. delos Angeles</i> (P23.00)</p> | <p>W.P. No. 88-10 Financing the Budget Deficit in a Small Open Economy: The Case of the Philippines, 1981-86. <i>Ma. Socorro S. Gochoco</i> (P23.00)</p> |
| <p>W.P. No. 88-03 The Size, Financing and Impact of the Public Sector Deficit, 1975-1984. <i>Rosario G. Manasan</i> (P17.00)</p> | <p>W.P. No. 88-11 The On-site and Downstream Costs of Soil Erosion. <i>Wilfrido D. Cruz/ Herminia A. Francisco/ Zenaida Tapawan-Cortway</i> (P58.00)</p> |
| <p>W.P. No. 88-04 An Analysis of the Role of Pawnshops in the Financial System. <i>Mario B. Lamberte</i> (P14.00)</p> | <p>W.P. No. 88-12 A Review of Policies Impinging on the Informal Credit Markets. <i>Meliza H. Agabin</i> (P27.00)</p> |
| <p>W.P. No. 88-05 The Financial Markets in Low-Income Urban Communities: The Case of Sapang Palay. <i>Mario B. Lamberte</i> (P23.00)</p> | <p>W.P. No. 88-13 Flexible Functional Form Estimates of Philippine Demand Elasticities for Nutrition Policy Simulation. <i>Agnes Qutsumbing</i></p> |
| <p>W.P. No. 88-06 Informal Savings and Credit Institutions in the Urban Areas: The Case of Cooperative Credit Unions. <i>Mario B. Lamberte and Joven Z. Balbosa</i> (P37.00)</p> | <p>W.P. No. 88-14 Political Economy of Credit Availability and Financial Liberalization: Notes on the Philippine Experience. <i>V. Bruce J. Tolentino</i> (P11.00)</p> |
| <p>W.P. No. 88-07 The Manufacturing Sector and the Informal Credit Markets: The Case of Trade Credits in the Footwear Industry. <i>Mario B. Lamberte and Anita Abad Jose</i> (P31.00)</p> | <p>W.P. No. 88-15 Rural Deposit Mobilization in the Philippines, 1977-1986. <i>Rhenee Blanco and Richard Meyer</i> (P13.00)</p> |
| <p>W.P. No. 88-08 Japan's Aid to ASEAN: Present Realities and Future Challenges. <i>Filologo Pante, Jr.</i> (P12.00)</p> | <p>W.P. No. 88-26 The 1989 Program of Government Expenditures in Perspective. <i>Rosario G. Manasan</i> (P14.00)</p> |
| | <p>W.P. No. 88-27 A Review of Investment Incentives in ASEAN Countries. <i>Rosario G. Manasan</i> (P14.00)</p> |
| | <p>W.P. No. 88-28 Science and Technology and Economic Development. <i>Mario B. Lamberte</i> (P10.00)</p> |

Copies may be obtained at the:

**RESEARCH INFORMATION STAFF (RIS)
PHILIPPINE INSTITUTE FOR DEVELOPMENT STUDIES
ROOM 307, NEDA SA MAKATI BUILDING
106 AMORSOLO STREET, LEGASPI VILLAGE
MAKATI 1200, METRO MANILA, PHILIPPINES
TELS: 86-57-05 / 88-40-59**



This work is licensed under a
Creative Commons
Attribution – NonCommercial - NoDerivs 3.0 License.

To view a copy of the license please see:
<http://creativecommons.org/licenses/by-nc-nd/3.0/>