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SEMINAR ON INFORMAL FINANCIAL MARKETS
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COLLATERAL SUBSTITUTES IN RURAL INFORMAL FINANCIAL MARKETS: Evidence from an Agricultural Rice Economy

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ABSTRACT

Collateral substitutes are accepted by informal lenders from borrowers who are not able to provide fixed assets normally required by formal lenders. This paper presents an analysis of the use of specific types of collateral substitutes in four rice growing villages in Central Luzon, Philippines. The credit arrangements found in the area appear preponderent where the Green Revolution technology has been widely diffused and agrarian reform implemented. The results of econometric tasks are reported which tested for the specialization hypothesis that farmer-lenders and trader-lenders specialize in the types of borrowers to whom they lend. The use of specific types of collateral substitutes can be traced to the behavior of lenders and borrowers in other factor and product markets so that borrowers are screened according to the type of collateral substitute that borrowers can offer and that lenders desire. Personal or family relations appear to serve as an informational link between farmers-lenders and borrowers, but not between trader-lenders and borrowers. Farmer-lenders tend to lend more to landless laborers than do trader-lenders.

COLLATERAL SUBSTITUTES IN RURAL INFORMAL FINANCIAL MARKETS: Evidence from an Agricultural Rice Economy

by

Emmanuel F. Esguerra and Richard L. Meyer[1]

Introduction

The role of collateral in financial markets has generally been discussed in the context of formal financial markets in developed economies. Collateral, the asset that a borrower agrees to forfeit in the event of loan default, has been analyzed either as a mechanism to enforce loan repayment (Benjamin; Plaut), or as a screening device to sort borrowers of varying riskiness (Bester). However, collateral, as defined above, is rarely used in the informal sector-dominated rural financial markets of less-developed economies. The reason often given is the "inside knowledge" the informal lender is presumed to have about borrowers and their characteristics. But the legal and insurance environment that influences collateral valuation may also pose difficulties that inhibit collateral use in rural financial markets.

Credit market participants employ a variety of collateral substitutes when the market environment renders most assets less acceptable as collateral or where borrowers possess few collateralizable assets (Binswanger and Rosenzweig). Third party guarantees, threat of loss of future borrowing opportunities, and tied contracts are all common forms of collateral substitutes. This paper presents an analysis of the use of specific types of collateral substitutes in four villages in Central Luzon, Philippines based on a field survey conducted in 1988. The credit arrangements described are of fairly recent origin and, while not unique to these geographic areas, appear preponderant in areas where the Green Revolution technology has been widely diffused. Existing credit patterns are explained in light of the material and institutional environment of the study areas. The paper shows that the use of specific collateral substitutes in the financial credit market leads to specialization by lenders in terms of borrower groups.

The next section of the paper provides background information about the data used in the analysis. This is followed by a discussion of factor and product markets in the study areas. The fourth section describes some observed features of informal credit contracts, with emphasis on the collateral substitutes most widely used. Finally, the results of some preliminary crude econometric tests supporting the "specialization hypothesis" are presented and discussed.

The Nueva Ecija Data

Four villages from the municipality of Muñoz in the province of Nueva Ecija were selected for the field survey. They are Villa Nati, Sapang Kawayan, Villa Cuizon and Mangandingay. Commercial activity is centered in the town proper of Muñoz where most grain-buying stations, warehouses, and input dealers are situated. Villa Nati, Sapang

Kawayan, and Villa Cuizon are each about 8 to 9 kilometers from Muñoz. They are well-irrigated, making possible two rice crops a year. Mangandingay is about 15 kilometers from Muñoz and less accessible from the town center than are the other three villages. Because it is not irrigated, rice is produced in Mangandingay only during the rainy season. In the dry season, most of the work force temporarily migrates to other villages for employment.

The survey data cover 171 randomly selected farm, landless agricultural and landless non-agricultural (or non-farm) households. Besides the basic demographic information pertaining to each household, the data set includes information on: incomes and transfers received by households from all sources; labor contracts; land tenure and use; quantities, unit prices, and value of farm production; and all labor and non-labor inputs employed in rice production. Information was gathered on all credit transactions entered into by the household during the survey reference period. Respondents were asked about the sources, terms and conditions of every credit contract they had during the wet (May-October) and dry (November-April) cropping seasons for 1987/88. Table 1 shows the breakdown of the randomly sampled households by village and by household type. More than half the sample is composed of farm households (53 percent), while the rest are composed of landless agricultural (30 percent) and landless non-agricultural (17 percent).

Farm households are defined as those whose primary income comes from the operation of a farm regardless of the farm operator's tenurial status. More than half of the farm households have leasehold contracts. The rest are either owner-cultivators or amortizing owners. The predominance of the leasehold contract reflects the extent of agrarian reform in Nueva Ecija. Philippine agrarian reform programs illegalized share tenancy in rice areas, thus converting sharecroppers to leaseholders or amortizing owners.

Landless non-agricultural households are those engaged primarily in non-farm activities. Most of the individuals in these households work as blue collar employees at the nearby Central Luzon State University. Others are self-employed as pedicab operators or retail store owners. Landless agricultural, or simply landless, households are defined as those deriving income primarily from hiring out their labor services to farm operators. Their scope of decision-making regarding farm operations ranges from none to substantial depending on the type of contract in force. Permanent labor contracts under which the landless are employed typically cover a cropping season, but are renewable based on the worker's performance.

More than half (28 out of 51) of the landless workers interviewed were employed as permanent workers, while the remaining were casual laborers. The latter are hired for specifically defined farm tasks and are paid mostly on a piece-rate basis. Permanent workers, on the other hand, are paid fixed wages in paddy. The amount commonly observed in the four villages was 10 percent of output. While the scope of work of permanent workers varies, it is generally not limited to a single activity, and the permanent worker has greater leeway in decision-making than the casual laborer.

Factor and Product Markets

Perhaps one of the most far-reaching effects of adopting the yield-increasing rice technology in the Philippines is the commercialization of the rice economy. The greater reliance on commercially produced inputs and the larger marketable surplus have hastened the development of both input and output markets. Increased labor requirements, especially for crop-care activities and post-harvest operations, along with changes in existing tenurial arrangements, induced in part by legislation, have also contributed to the emergence and growth of a rural market for wage labor. All these changes have had an impact on the rural financial market.

The evolution of permanent labor contracts of the type found in Nueva Ecija has been studied at the International Rice Research Institute (IRRI) (Hayami and Otsuka). The *porsyentuhan* (meaning a percentage or sharing rule), as the wage contract is called, became popular in Nueva Ecija only within the last decade and especially in irrigated areas. The popularity of this type of contract, which resembles share-tenancy, owes much to the yield-increasing rice technology introduced in the late sixties, and the illegalization of share-tenancy in the 1970s. The new rice technology increased the income of leaseholders and amortizing owners as agrarian reform fixed leasehold rents and amortization payments. The income effects arising from these increases have resulted in the withdrawal of some of the beneficiaries and their children from farming, thus inducing a substitution of hired labor for family labor. At the same time, the farm tasks associated with the new technology required the expenditure of quality effort on the part of the laborer, implying greater supervision and higher monitoring cost for the employer. The prohibition against sub-tenancy, however, precluded what would have been an incentive-compatible contract under the circumstances. As Hayami and Otsuka conclude: the permanent labor arrangement of the semi-tenant type "plays a role similar to tenancy contracts, while it can easily be disguised as a labor employment contract" (p. 11). Under this arrangement, the demand for consumption credit by landless workers can be met by their employers who have personal knowledge of them. In the case of casual laborers, advances for consumption during slack months may be obtained from former or potential employers in exchange for labor services during seasons of peak labor demand.

The prospects of higher residual gains accruing to successful farmer-cultivators increased the demand for cultivable land. At the same time, increased operating expenses associated with the new rice technology implied greater borrowing by farmers with few own-resources. With the demise of subsidized credit programs in the late 1970s and a lack of acceptable collateral, farmer-borrowers had to turn to the informal credit market. Farmer cultivation rights became an attractive collateral substitute for lenders eager to benefit from farming. Land market transactions, therefore, became closely linked with informal credit market transactions. In fact, credit contracts involving the pawning or mortgaging of cultivation rights became widely used in Nueva Ecija only in the 1980s when access to formal credit sources became increasingly difficult and farm incomes were falling (Otsuka and Marciano).[2]

The land pawning contract has several variants, and the incidence of such transactions in some Nueva Ecija villages is reported in Rivera and Mangalindan. Otsuka and Marciano report that, based on their survey of two villages in Muñoz, the parties to a pawning contract are usually small farmers as pawnors, and farmer-moneylenders or trader-lenders as pawnees. Moreover, the latter often come from another village. In a pawning contract the cultivator temporarily gives up cultivation rights on a parcel of farm land in exchange for a specific sum of money obtained from a lender. The amount of the loan varies depending upon the quality of the land. The highest amount reported in this study was $1,000 for roughly a hectare. All income earned from the farm accrues to the creditor who also assumes all operating expenses for the duration of the loan. Upon repayment, the borrower recovers the cultivation rights to the land.

Under the pawning contract, it is possible for a farmer to lose his land completely and for a parcel of land to pass from one individual to another. In most cases, the temporary surrender of cultivation rights takes place only after a farmer-borrower has accumulated a certain level of debts from an informal lender. That is, farmers failing to repay previous debts may obtain additional loans only by turning over their cultivation rights to the lender. Pawning is also resorted to in certain cases involving substantial one-time expenditures (e.g. schooling of children, hospitalization, or financing migration to the Middle East). An inability to repay over an extended period results in the de facto transfer or permanent surrender of one's tenancy rights. In a regime characterized by land retention limits, restrictions on land sales and imperfect credit markets, the pawning contract has in effect become the primary mechanism for transferring land among cultivators and owners.

The increased yields resulting from the modern rice varieties have necessarily created opportunities for gains in output marketing. The rice marketing functions include storing the paddy, milling, and transporting the rice for distribution to end-users. A recent study of the rice marketing system in the Philippines (Umali; Umali and Duff), also using survey data from Muñoz, shows that these functions are carried out by different agents. Traders and commission agents buy paddy (*palay*) directly from producers for resale to rice millers who store and mill it into rice. Milled rice is then sold to wholesalers and retailers. Since 1981, the government has also been involved in rice marketing functions, including importation, in the pursuit of its rice price stabilization policy.

Focussing on the *palay* trader in Muñoz, Umali reports that trader profits, as a percentage of marketing costs, exceed 50 percent and their return on investments range from 100 to 257 percent. However, given the generally small volume of grain handled by traders and the seasonal nature of their activity, the profitability of buying and selling is confined to the harvest season which is only two to three months long. Most owners of grain-buying stations in Muñoz report that their profits greatly depend on the volume they handle and the rate of turnover. Because of this and the competition caused by many *palay* buyers, individual paddy traders find it in their interest to maintain regular and secure sources of *palay* during the harvest. Lending to farmers during the cropping season on the condition that they get first claim on the borrowers' harvest helps assure the traders of a stable paddy supply.

Features of Informal Credit Contracts

The survey revealed that 139 of the 171 respondents were borrowers during one or both of the two crop seasons in 1987/88. Of the 139 borrowers, only eight borrowed from banks. Of these eight, six also borrowed from informal sources. Sixty percent of all borrowers were classified as farm households, while landless and non-farm households comprised the majority of non-borrowers. Table 2 presents some summary statistics on borrowers and non-borrowers for the total sample and by household type.

Most loans reported were made in cash. Cash loans accounted for 66 percent of the total reported loan transactions which numbered 594. The average amount per borrowing household of cash loans, in-kind loans, and land mortgages or pawning transactions are shown in Table 2. In-kind loans are usually in the form of milled rice for consumption, or in the form of fertilizer. Each comprised about 15 percent of the total number of loans. Rice loans were taken mainly by landless workers, confirming the highly consumptive nature of their borrowings.

Invariably the loans were of short duration - usually for a cropping season which lasts anywhere from four to six months. Loan maturity varied depending on the length of time between the granting of the loan and the time of harvest when repayment is expected. Informal lenders are generally thought to be indifferent to their borrowers' alternative uses for the loan, in contrast to the targeted government supervised credit programs. In the area studied, however, the informal lenders typically disbursed loans only for specific purposes (e.g. land preparation, fertilizer and pesticide application, harvesting and post-harvesting), and at specific times during the cropping season to safeguard against excessive borrowing by their clients.

Loan distribution by interest rate was bi-modal with zero and 30 percent per season accounting for 34 and 35 percent shares, respectively, of the total number of loans. Half the number of zero-interest loans were in-kind. Practically all in-kind loans required repayment in paddy. The average implicit rates of interest on rice loans and fertilizer loans amounted to 34 and 112 percent per season, respectively, after considering relative commodity prices. The greater cost of fertilizer loans may be indicative of some imperfections in the fertilizer market.

The relative importance of the various informal loan sources in the four villages is shown in Table 3. Rice millers lent the largest amount on average, followed by retail store owners. These two sources, however, were less important than farmer-lenders and traders based on their numbers and frequency of transactions. Considering volume of loans, frequency of transactions and lender class size, traders and farmers constituted the major sources of informal loans in the villages. This might be expected in light of the conditions prevailing in the factor and product markets under the existing technology regime.

The nominal rates of interest charged per season by each lender type are also shown in Table 3. The average rates were computed over all loans granted by each lender type including zero-interest loans. Trader credits were generally more expensive

than other sources. Perhaps the risk premium attached to these loans is higher considering that traders have less inside knowledge about borrowers. In contrast, interest rates for farmer-lender and "other" lenders were much lower. It might be hypothesized that the more personal the relation between borrower and lender, the lower the interest rate charged. As commercialization proceeds, however, personal relations become less important in economic exchanges.

Very few loans involved the pledging of collateral. In the few cases reported, the assets pledged included farm machinery and animals. Under these arrangements, the borrower turns over ownership title for the asset to his creditor who retains it until the loan is fully paid. Little evidence was found of land titles being used as collateral, in part because most borrowers do not own the land and, in part, because agrarian reform laws disallow legal ownership transfers except to heirs.

In the absence of collateral, a variety of collateral substitutes are used to enforce repayment in the informal credit market. The pawning of cultivation rights is one such collateral substitute. Pawning is practiced between farmer-borrowers on the one hand, and lenders interested in cultivating land on the other hand. The pawning contract is usually initiated when a borrower has accumulated debts to an informal creditor. When borrowers are unable to repay past loans, they offer to pawn their tenancy rights to the creditor in exchange for a given sum, which together with their outstanding debts constitutes the pawning fee. Alternatively, the creditor makes the first move by offering to take over the borrower's cultivation rights while extending the period for loan repayment. In this sense, the land is still an important consideration for informal lenders even though it is seldom used as collateral in the conventional sense. That cultivation rights may be pawned when borrowers are unable to meet their obligations gives the informal lenders a measure of protection against loan losses. Most lenders who enter into pawning contracts are farmers who either cultivate the pawned land directly or hire permanent workers to do it. In certain cases, the permanent workers hired are the original cultivators who pawned their rights.

Another collateral substitute widely used in Muñoz is the required sale of output to trader-lenders. The survey data showed 106 out of 172 trader-lender loans carried this condition. Under this arrangement, borrowers agree to sell their paddy to traders at the prevailing market price during harvest time. The trader-lender subtracts the principal and interest due on the loan from the total value of paddy purchased from the farmer-borrower. For traders, providing loans to farmers helps assure them of secure rice supplies during harvest. On the other hand, farmers without post-harvest facilities find these tied paddy loans to be beneficial. Most borrowers believe that access to loans in the next cropping season depends upon establishing their reputation as reliable *palay* suppliers to their trader-lenders.

The informational links that exist between different informal lenders and their borrowers are shown in Table 4. These relations are important because they partly shape the terms of credit contracts. Loans from friends and relatives dominated the informal credit transactions (114 and 134 loans, respectively). Farmer-lenders made 107 loans to friends and relatives. This is not surprising given the highly personalized nature

of credit transactions in particular, and village social relations in general. Loans to tenants were negligible, but loans to hired laborers or permanent workers were quite numerous. These loans came mostly from farmer-lenders, or traders who were simultaneously engaged in farming. The actual numbers could be higher for loans to hired laborers. The problem is that production relations may be hidden under social or familial relations, and therefore are included in the friends and relatives category. In villages, it is not unusual for farmers to hire their own relatives and friends if it partly reduces problems associated with labor shirking.

Loans based on a more impersonal basis were made by private moneylenders, traders and other sources. In general, these loans were either supported by third party guarantees, as indicated in the relations specified in Table 4, or were backed by some acceptable form of collateral substitute.

Informal Lender Specialization

The use of various forms of collateral substitutes in the informal credit market derives from the fact that the different types of informal lenders lend for diverse reasons. For the farmer-lender who extends consumption loans to landless laborers, the objective may be to elicit the optimal amount of effort from the permanent worker, or to secure the services of casual laborers during periods of peak labor demand. For the trader, capturing the farmer-borrower's marketable surplus at harvest time is clearly the main motivation for lending. For lenders employing the pawning contract, the objective is to reap the gains from farming that modern technology and tenurial reform have made possible. In all cases, not only do the collateral substitutes help enforce loan repayment, they also serve as screening devices through which "deserving" borrowers are chosen. The implication of this screening process is that lenders tend to specialize in lending to certain borrower classes according to the collateral substitute used.[3]

Another way of explaining informal lender specialization is to view farmers and traders as lenders with different "financial technologies" available to them. The use of collateral or its substitutes entails a cost to lenders. In designing loan contracts, lenders will accept only those collateral substitutes in which they have a comparative cost advantage. Farmer-lenders do not tie credit to paddy sales because they are not involved in trading, but they are engaged in cultivation and they employ farm labor. Hence cultivation rights and labor services are acceptable collateral substitutes to them. Given a borrower with known characteristics, therefore, the likelihood of receiving a loan from an informal lender of a specific type can be predicted. More specifically, it is hypothesized that trader-lenders will specialize in lending to farmer-borrowers, while farmer-lenders will be the principal credit source for landless workers. Furthermore, it is expected that the probability of obtaining a loan from either source is positively related to farm size because the borrower may choose to pawn his cultivation rights in the event of loan default.

In order to test these hypotheses, a single-equation logit model was estimated for trader-lenders and farmer-lenders using the maximum-likelihood method. The dependent variable is dichotomous, taking on a value of 1 if the borrower received a loan from

lender Y, and 0 otherwise. Explanatory variables are household type (TYPE), size of operating unit (AREA), household size (HHSZ), number of dependents (NODEP), and borrower's relation to lender (REL). TYPE and REL are binary-valued. TYPE is equal to 1 if the borrower is a farm household, and 0 if landless. REL is 1 if the relation between borrower and lender is personal (i.e. friends or relatives) and 0 otherwise. Two separate equations were estimated. The first estimates the probability that a borrower receives a loan from a trader-lender; the second from a farmer-lender. Each of the two equations was estimated twice. The first estimation did not include REL as an explanatory variable, and the second one did.

The results of the logit estimation are reported in Table 5. In the first set of regressions where REL is excluded (equations 1 and 3), the hypothesis regarding specialization of lenders towards borrower classes is only partially supported. Although both equations yielded the expected signs for the TYPE variable, the estimate was significant only for the farmer-lender equation. The variable AREA had the expected sign but was significant only for farmer-lenders. This is an interesting result! It reinforces the conjecture that only those who have a comparative advantage in farming will consider cultivation rights an attractive collateral substitute. In the second set of regressions, which includes REL (equations 2 and 4), the "specialization hypothesis" is generally supported as indicated by the signs and the relevant test statistics for the TYPE variable in both equations. The improvement in the reliability of the coefficient estimates for the TYPE variable when REL is included in both equations underscores the importance of information about borrowers that lenders consider prior to granting a loan. AREA still has the expected positive sign, but the inclusion of REL turns the farm size variable insignificant for the farmer-lender equation (equation 4). This result suggests that when the lender possesses additional information about the borrower, the borrower's ability to repay as reflected in the area of land potentially available to be pledged no longer significantly influences the probability of obtaining a loan. Furthermore, the opposite signs for REL in the two sets of equations confirm the importance of personal and familial relations for farmer-lenders, while the relations of traders with their clientele are more commerical in nature with an element of third-party guarantee.

Conclusions

We have shown in this paper that the use of specific types of collateral substitutes in rural informal financial markets can be traced to the behavior of lenders and borrowers in other factor and product markets. Such behavior, it is argued, leads to borrowers being screened according to the type of collateral substitute desired by the lender and the type that borrowers can offer. The econometric results also reveal the importance of personal or family relations (REL variable) as an informational link between farmer-lenders and their borrowers. Moreover, if the rise in importance of trader-lenders is interpreted as an indicator of increasing commercialization, then the negative sign for the REL coefficient is consistent with the view that commercialization entails an expansion of exchange relations beyond the circle of family and friends.

The preliminary nature of the estimates reported must be emphasized. The empirical model was specified with the objective of testing the effects of household type,

farm size, and borrower's relation to creditor on the probability of obtaining a loan from the two major informal credit sources. The inclusion of other variables in the estimated equations was partly ad hoc even though they can be justified by casual economic reasoning. Other variables such as default probability, loan size and explicit collateral may influence the probability of getting a loan to the extent that they signal borrower riskiness. These variables were specifically excluded because their inclusion introduces simultaneity issues which cannot be dealt with satisfactorily in this brief presentation. Suffice it to say that a more complete empirical model would likely include other explanatory variables that are jointly endogenous with the probability of receiving a loan from a particular source. Two-stage estimation procedures would be more appropriate in this case.

If the "specialization hypothesis" is sustained after a more complete empirical model has been specified and estimated, the major implication will be that collateral substitutes lead to segmentation in rural informal financial markets. Segmentation occurs because the "screening technology" available to different lenders effectively determines which borrower classes or types are more likely to be granted loans and, therefore, borrowers through a process of self-selection approach only certain lenders to apply for loans. Borrowers without the requisite collateral substitute demanded by an informal lender are completely rationed out of loans from that particular source.

Specialization according to collateral substitutes implies that certain types of lenders have an advantage over others in lending to particular types or classes of borrowers. This paper has shown that such advantage derives from the close association between the collateral substitute used and the relationship between informal lender and borrower in related factor and product markets. A farmer-lender who deals with landless households in the rural labor market certainly has an informational advantage over a trader-lender in lending to landless borrowers. Similarly, farmer-lenders not involved in trading cannot use tied output sales as a feature in their credit contracts to attract farmer-borrowers and enforce loan repayment. On this basis, competition among informal lenders is likely to be limited to segments of the informal market where each lender has access to the same "screening technology". The nature of the collateral substitutes analyzed here implies investment of a specific type in a long-term relation with the borrowing clientele. Such investment is a potential barrier to entry for new lenders who might contribute to a greater volume of lending and lower interest rates.

Research on loan contracts in rural informal financial markets frequently is limited to a simple description of contract terms, frequently with an emphasis on interest rates. The research reported in this paper goes beyond simple description by attempting to analyze the behavior of borrowers and lenders in multiple markets and to test how their behavior influences loan contracts. This type of research is necessary to improve our understanding of informal finance, and to draw implications from it for use in designing financial policies.

Table 1

Distribution of Sample Households
by Household Type and by Village
Muñoz, Nueva Ecija

Household Type	Village				TOTAL (Percent)
	Villa Nati	Sapang Kawayan	Villa Cuizon	Mangandingay	
Farm	28	31	8	24	91 (53)
Landless	22	20	5	4	51 (30)
Non-Farm	3	11	11	4	29 (17)
TOTAL	53	62	24	32	171
(Percent)	(31)	(36)	(14)	(19)	(100)

Source: Rural Informal Credit Market (RICM) Survey (1988), Agricultural Credit Policy Council (ACPC), Philippines.

Table 2
Means and Standard Deviations of Selected Variables for Borrower and Non-Borrower Households in Muñoz, Nueva Ecija Classified by Household Type

Variable	Borrower Households				Non-Borrower Households			
	Total Sample	Farm Households	Landless Households	Non-farm Households	Total Sample	Farm Households	Landless Households	Non-farm Households
Observations	139	82	41	16	32	8	10	13
Age of Head	42.1 (12.55)[a]	44.6 (13.51)	40.8 (9.96)	32.9 (8.46)	45.2 (17.17)	52.3 (15.94)	40.8 (19.83)	43.8 (15.52)
Years of Stay in Village	26.3 (15.11)	28.2 (15.16)	23.1 (15.77)	24.8 (12.15)	34.3 (16.12)	42.9 (18.04)	32.4 (13.17)	29.9 (15.67)
Household Size	5.4 (2.02)	5.3 (2.07)	6.0 (2.09)	4.6 (1.15)	4.7 (1.92)	4.7 (2.12)	4.3 (1.70)	5.1 (2.02)
Number of Dependents	4.1 (1.94)	4.0 (2.00)	4.7 (2.02)	3.8 (0.96)	3.3 (1.88)	3.4 (2.18)	3.2 (1.61)	3.1 (1.86)
No. of off-farm/Non-Farm Income Sources[b]	2.2 (0.87)	2.2 (0.85)	2.1 (0.88)	2.4 (0.95)	2.5 (0.89)	2.5 (0.76)	2.4 (0.84)	2.5 (1.05)
Total off-farm/ Non-farm Income (P)[b]	17,434.23 (20,136.67)	16,789.09 (15,981.11)	13,123.54 (9,398.11)	31,706.04 (42,726.86)	21,392.41 (25,432.88)	27,808.06 (28,695.97)	10,227.67 (7,437.40)	27,678.15 (30,608.63)
Farm Size (ha.)[b]		1.65 (1.14)				3.6 (6.22)		
Household Income (P)[b]	25,800.63 (30,206.66)	32,244.19 (32,936.74)	13,123.54 (9,398.11)	31,706.04 (42,726.86)	31,862.15 (58,579.05)	61,944.00 (100,985.03)	10,227.67 (7,437.40)	27,678.15 (30,608.63)
Cash Loans (P)[b]	5,742.89 (7,569.30)	8,030.05 (8,614.38)	2,022.08 (1,749.52)	3,054.38 (6,143.00)				
In-Kind Loans (P)[b]	2,871.69 (5,729.16)	1,659.03 (7,489.63)	1,365.93 (896.30)	882.50 (24.75)				
Pawned Land (P)[b]	16,562.50 (18,938.69)	17,500.00 (20,254.63)	10,000.00 ----	---- ----				
Total Borrowings (P)	7,675.55 (10,469.09)	10,909.43 (12,316.06)	2,968.22 (2,156.82)	3,164.89 (6,114.51)				
Average Loan Size (P)	1,954.94 (2,397.02)	2,648.69 (2,819.02)	1,012.74 (808.11)	813.88 (1,326.43)				
No. of Loans	4.3 (3.34)	4.8 (3.32)	3.4 (1.79)	3.7 (3.43)				
No. of Lenders	1.7 (1.05)	1.9 (1.22)	1.3 (0.61)	1.4 (0.63)				

[a] Standard deviations are in parentheses. [b] Number reporting may be less than the number of observations.
Source: RICM Survey (1988), ACPC

Table 3

Informal Lenders in Muñoz, Nueva Ecija, by Type Wet and Dry Seasons, 1987/88

Lender Type	Number	Number of Transactions	Loan Size (P)	Interest Rate Per Season		Maturity (in months)
				Simple Average (%)	Maturity Weighted Ave. (%)	
Farmer	48	175	1,292.92	14.3	15.2	3.2
Private Moneylender	6	83	1,303.34	21.7	20.1	3.1
Trader/Middlemen	14	172	1,610.61	21.4	22.3	3.1
Rice Miller	2	7	6,900.00	17.1	16.0	2.8
Retail Store Owner	7	52	1,957.69	14.4	18.3	2.3
Input Dealer	4	14	917.68	22.1	10.5	3.3
Others [a/]	34	50	1,285.02	14.3	17.5	3.1

[a/] Includes guarantors, government employees (particularly public school teachers) and other very specific occupations.

Source: RICM Survey (1988), ACPC

Table 4

Number of Loan Transactions in Muñoz, Nueva Ecija
Classified by Lender Type and Borrower's Relation to Lender

Lender Type	Borrower's Relation to Lender[a/]											TOTAL
	1	2	3	4	5	6	7	8	9	10	11	
Farmer/Landowner	36	4	71	0	0	1	14	2	37	10	0	175
Private Moneylender	25	0	0	0	8	8	2	0	6	34	0	83
Trader/ Middleman	22	2	29	34	20	25	11	1	15	13	0	172
Bank	0	0	0	0	0	0	1	0	0	18	2	21
Cooperative	0	0	0	0	0	0	0	0	0	4	5	9
Miller	1	0	0	6	0	0	0	0	0	0	0	7
Retail Store Owner	6	0	18	9	0	0	2	5	0	12	0	52
Input Dealer	8	0	0	1	0	0	0	0	2	3	0	14
Others	16	0	16	0	1	2	0	0	2	13	0	50
TOTAL	114	6	134	50	29	36	30	8	62	107	7	583

[a/] Codes:

1 - Friend
2 - Tenant
3 - Relative
4 - Regular Customer in a related business
5 - Friend of a relative
6 - Relative of a friend
7 - Friend/relative of a regular borrower
8 - Friend/relative of a regular customer
9 - Hired laborer/ Permanent worker
10 - Others
11 - Cooperative member

Table 5

Probability of Receiving a Loan from Trader-Lenders and Farmer-Lenders

Single-Equation Maximum Likelihood Logit Estimates

Variable	Trader-Lenders (1)	Trader-Lenders (2)	Farmer-Lenders (3)	Farmer-Lenders (4)
Constant	0.9426 (0.3192)*/	1.0136 (0.3263)	0.4112 (0.3356)	0.3967 (0.3511)
TYPE	0.2379 (0.1407)	0.4063 (0.1491)	-0.5253 (0.1462)	-0.8745 (0.1661)
AREA	0.0306 (0.0960)	0.1680 (0.1029)	0.2863 (0.1272)	0.0580 (0.1316)
HHSZ	-0.2531 (0.1397)	-0.2461 (0.1427)	-0.0614 (0.1477)	-0.0555 (0.1590)
NODEP	0.3120 (0.1498)	0.2942 (0.1539)	0.0417 (0.1558)	0.0520 (0.1674)
REL	-	-0.4848 (0.1072)	-	0.7056 (0.1150)
Chi-square	286.28	358.18	241.77	277.03

*/ Standard errors in parentheses.

Notes:

1. Ph.D. Candidate and Professor, respectively, Department of Agricultural Economics and Rural Sociology, The Ohio State University. This paper is based on the senior author's dissertation research in progress. Financial assistance for the field survey and data processing was provided by the Agricultural Credit Policy Council (ACPC) through its Rural Informal Credit Markets (RICM) Research Project. This project is part of the work conducted in the Philippines through the USAID Rural Financial Services Project. We appreciate the suggestions made by Dale Adams, Douglas Graham and Mario Lamberte on an earlier draft. The usual disclaimers apply.

2. Land pawning has also been observed in areas not covered by agrarian reform for the purposes such as obtaining the funds necessary for obtaining employment in the Middle East. No comprehensive study has yet been conducted in the Philipppines to determine the magnitude of pawning under various production conditions.

3. Floro reached a similar conclusion in her study of credit relations and market interlinkages. She found that lenders sorted borrowers through the type of market interlinkage employed. Her sample, however, included only farm households.

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