

TECHNICAL CHANGE AND THE STRUCTURE OF INFORMAL CREDIT MARKETS IN PHILIPPINE AGRICULTURE

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1. Introduction

In the past few years, the nature of Philippine informal credit markets has gained priority in the agenda of academics and government agencies. Farm-level studies were undertaken with particular emphasis on the documentation of informal loan arrangements and the determination of interest rates (TBAC-UPBRF 1981; TBAC 1981; Quiñones 1982; Swaminathan 1982; Serrano 1983; TBAC 1984; and Sacay et al. 1985). In the context of modern agriculture which is dependent upon purchased inputs, the study of informal credit takes on added significance. Access to modern inputs is partly determined by the extent to which households can avail themselves of credit to meet their cash flow requirements and by the terms under which it can be obtained. Given the shortcomings and inherent limitations of the formal credit sector in allocating rural credit, the role played by the informal credit market in the promotion of new technology becomes even more significant.

This paper examines the impact of technical change on the structure of informal credit markets in the Philippine rice and corn sectors and draws policy implications. It investigates how technical change has affected both the debt burden and repayment capacity of borrowers and the composition of lenders and their perception of the different groups of borrowers. Relationships between lenders and borrowers are also examined, particularly the various terms under which they participate in credit transactions.

The findings presented in the paper have considerable impact on a wide range of policy issues. Some policymakers and economic

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advisers believe that the culprit behind the present credit dilemma in Philippine agriculture is government intervention vis-à-vis repressive financial policies. This has only led to market distortions especially in the formal credit sector rather than to the development of rural financial markets. The inability of the formal financial institutions to provide an effective credit delivery and savings mobilization system in the rural areas prodded Philippine policymakers to consider informal lenders as conduits for rural credit.

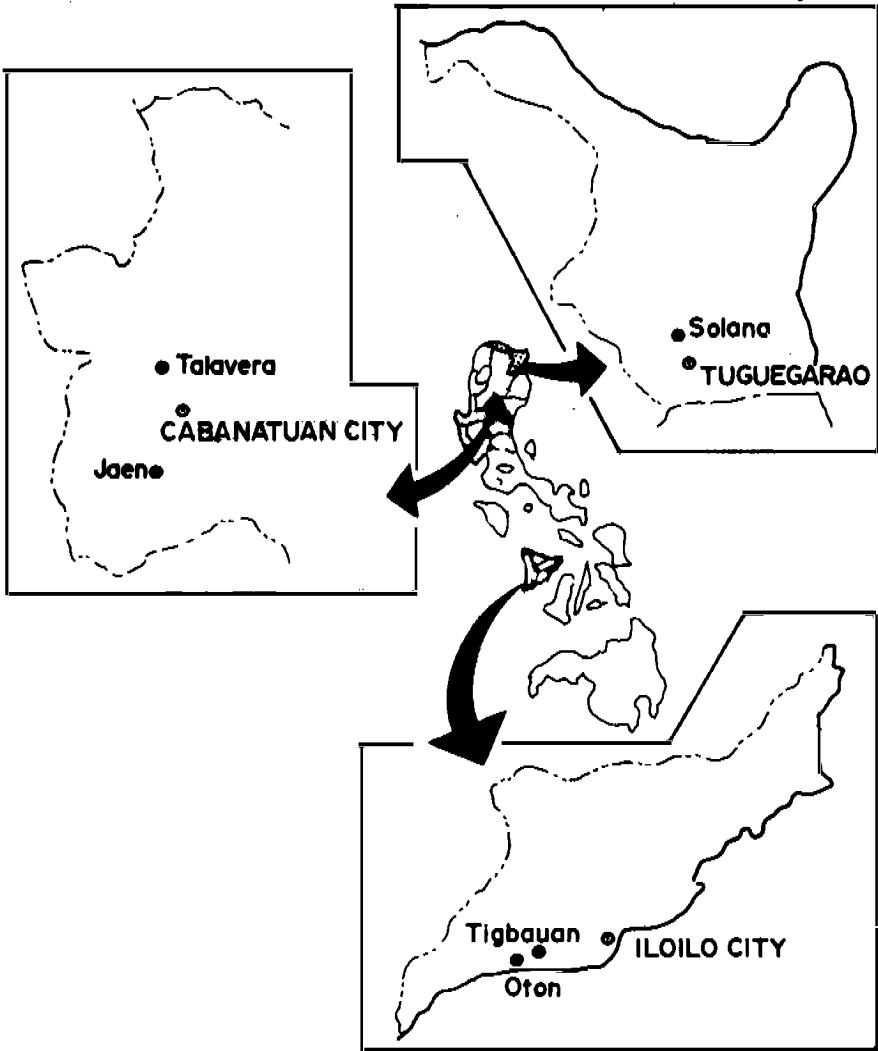
However, the question of whether informal lenders should be utilized as agents in rural credit allocation or whether banks should be encouraged to adopt strategies similar to those of informal lenders requires some understanding of the informal credit market operations and of the nature of informal credit relations. Unfortunately, government officials often proceed to implement certain policies without carefully examining the nature of the market they are addressing. In this regard, the findings of this paper can serve as a cornerstone for developing more effective policies on credit.

II. Data Sources and Methodology

The discussion of informal credit markets draws heavily from my dissertation (1987) on a survey sample of 111 farmer-borrowers (eight of whom were also farmer-lenders) and eight trader-lenders conducted during the first half of 1984. The survey respondents were drawn from fourteen (14) villages (*barrios*) in five Philippine municipalities, namely: Talavera and Jaen in the province of Nueva Ecija, Tigbauan and Oton in the province of Iloilo, and Solana in the province of Cagayan (see Map 1).

The first part of that study made a distinction between unfavorable (marginal) and favorable (developed) areas was made to highlight possible differences in credit exchange which might reflect the effect of modern technology and commercialization. Favorable areas refer to irrigated, high-productivity, and more commercialized villages while unfavorable areas refer to the rainfed, low-productivity, and less commercialized villages. A schematic diagram is presented in Appendix 1 to illustrate how the villages in the different municipalities are classified under the study area category.

Given an agrarian setting, the different economic positions of market agents in the production and distribution processes are taken into account. Credit relations in the Philippine food (rice and corn)



Locations of the three study areas, informal credit survey,
1983-1984

MAP I

agriculture are thus examined, taking into account both the diverse environmental and technical conditions as well as the heterogeneous character of market agents.

The paper also provides a brief overview of rural credit policies in the Philippines and also examines the possible consequences of the different policy strategies currently being considered. Both the Floro study and other credit studies done by academic researchers and government agencies are utilized to draw out the efficiency and equity impact of the policy schemes, especially those using informal lenders as conduits for channelling credit in the agricultural sector.

III. The Impact of Technical Change on the Structure of Informal Credit Markets

In recent decades, credit relations in Philippine agriculture have changed alongside the development of production and marketing systems. The introduction of modern technology, in particular, facilitated the emergence of new types of credit arrangements and brought about changes in the level of household debt burden as well as in the composition of informal lenders. These developments have substantially altered the character of the informal credit market, allowing it to adjust and to meet the credit needs of an increasingly market-oriented rural population.

A. *Changes in the Household Debt Level*

The introduction of modern technology in the mid-sixties to boost agricultural production in the Philippines has led to an increased demand for credit. The need for capital inputs and hired labor, in addition to consumption requirements, compelled farmers to seek out more loans. This helped reinforce the strategic necessity of credit among the rural population. At the same time, the increase in output and, hence, in farmers' earnings as a result of technical change in production methods prompted lenders to provide more loans to farmers since bigger anticipated harvests raised the repayment capacity of the latter.

While the promotion of modern technology resulted in the rapid growth of agricultural production, particularly rice which is the staple food, it did not necessarily reduce the relative debt level of

farm households. This is because the relative increase in farmer's income was insufficient to offset the increase in cash requirements.

Floro's findings support this argument. Using the Philippine rice and corn sectors as a case study, she computed the average debt-burden of farm households in the favorable or developed areas as well as in the unfavorable or marginal areas.¹ Income differentials across households in each study area were also taken into account. The study noted that households adopting new production methods have larger loan volumes than their counterparts in the unfavorable or marginal area (Table 1). This was expected consider-

TABLE 1
DEBT BURDEN INDICES OF 111 SAMPLE HOUSEHOLDS
BY INCOME CLASS AND STUDY AREA CATEGORY,
WET SEASON, 1983-84

Income class	Mean debt size (in pesos)	Debt burden index (B/Y)
I. <u>Unfavorable Area</u>		
Poor	2,581	0.80 (0.81)
Middle	3,657	0.40 (0.11)
Rich	13,890	0.28 (0.46)
II. <u>Favorable Area</u>		
Poor	4,602	1.29 (0.56)
Middle	9,301	1.02 (0.47)
Rich	13,780	0.60 (0.14)

Figures in parentheses are standard errors.

Source: Floro (1987).

1. A schematic diagram is presented in Appendix 1 to illustrate how the villages in the different municipalities are categorized into favorable and unfavorable areas. The households in these villages are then grouped on the basis of the above criteria.

ing the relatively larger purchased input requirements of households which adopt modern production methods. Lenders may also be willing to provide larger loans to the households in the developed areas due to higher productivity and, hence, higher expected farm earnings.

A borrower's capacity to pay, however, is not measured by the absolute size of his debt. Rather, it is determined by the proportion of total debt to his available resources or earnings for that period. One possible indicator of a household's ability to repay loans is the size of its earnings relative to the expected loans payment. In other words, the repayment capacity of the borrower depends on whether his net income for that period is sufficient to cover his outstanding loan obligations. The debt burden index (B/Y) is therefore a useful measurement for this purpose.²

The debt-burden index is defined as the ratio of one period's outstanding loan obligations of a household which are due at the end of the period plus expected interest charges to total income earnings for the same period. Multiperiod or multipayment loans are not included in the calculation of the debt-burden index. Since 89.7 percent and 93.8 percent of the loans borrowed by households in the favorable and unfavorable areas, respectively, were provided

2. Using Nisbet's definition, the (B/Y) index refers to the ratio of a household's total outstanding loan obligation for one period plus expected interest charges, B , to total income earned for the same period, net of all expenses except loan and interest payments, Y . A debt burden index of one implies that the farm household's annual earnings just suffices to meet the period's loan obligations. Obviously, a value of one is an onerous debt burden — and more so for greater than one value. An index greater than one suggests that, even if the household uses up all of its earnings to repay its loans, it would still have outstanding loans at the end of the period.

It is important to emphasize that while B/Y index refers to the ratio of credit flow and income flow for the duration of a specified period, the B/Q and B/N indices are ratios of the stock of outstanding loans at the end of the period to stock of output and land, respectively. The stock-flow distinction in this case does not affect our computations of B significantly. This is because farm households tend to wait till harvest (end of the period) to pay back any outstanding loans. Hence the flow of credit to the household for the duration of the period including renewed and recontracted loans that were unpaid in the previous period is equivalent to the debt stock of the household at the end of the period.

by informal lenders (Chart 1), and since the stipulated loan periods of the majority of informal loans were short (32 weeks or less) as shown in Table 2, then a significant share of the total household loans is expected to be paid at the end of one production period.

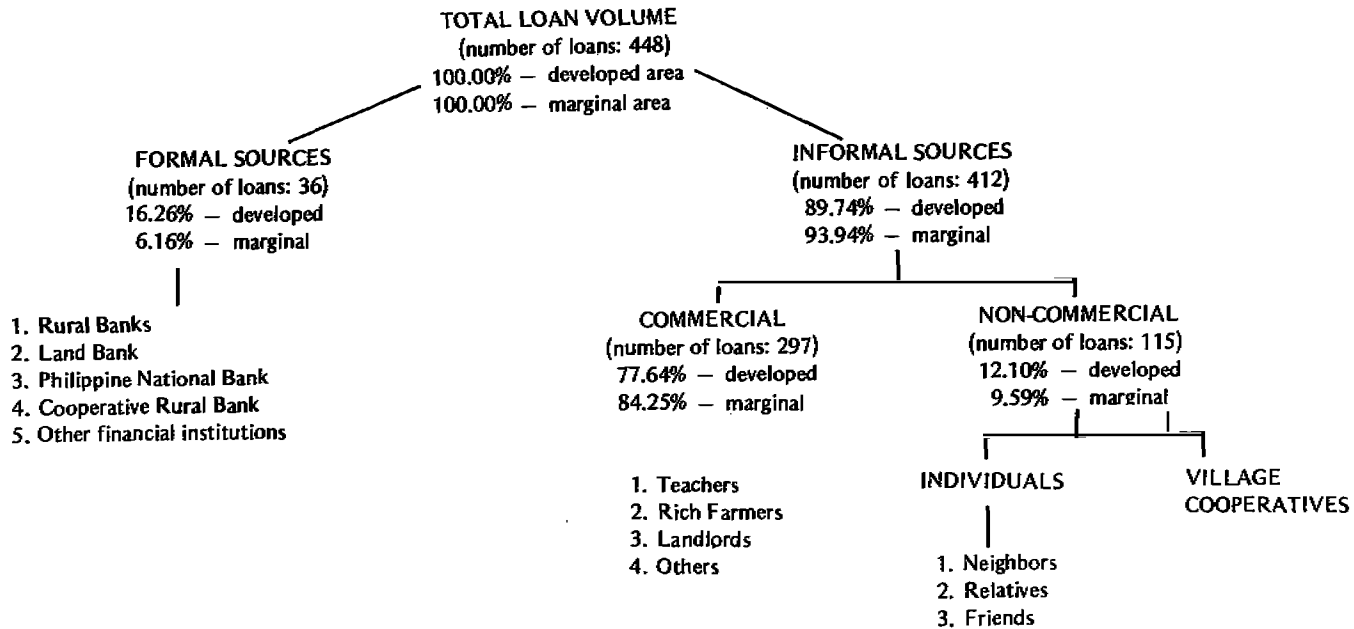
The income-based comparison of the (B/Y) indices in Table 1 indicates that poor borrowers have a higher debt burden than rich borrowers. Poor households are indebted by nearly 1.3 times the amount they earned while rich households are expected to pay 60 percent of their total net earnings for maturing loans. Comparing indices between study areas, the relative debt burden of farm households in the favorable or developed area is found to be higher than for those in the unfavorable or marginal area.

The above findings were further supported by the statistical results from a multiple regression analysis. Floro (1987) found a highly significant negative correlation between the household's debt burden level and income. The statistical tests also indicated that

TABLE 2
ESTIMATED PROBABILITIES OF LOANS
WITH STIPULATED LENGTH OF LOAN PERIOD
BY TYPE OF LENDER, BY STUDY AREA CATEGORY,
WET SEASON, 1983-84

Length of loan period (in weeks)	Marginal area		Developed area	
	Farmer-lender loans	Trader-lender loans	Farmer-lender loans	Trader-lender loans
1 - 8	.054	.107	.111	.049
9 - 12	.378	.114	.302	.197
17 - 24	.324	.707	.397	.707
25 - 32	.162	.071	.159	.045
33 - 40	.027	.000	.032	.000
41 - 52	.054	.000	.000	.000

CHART I
A SCHEMATIC DIAGRAM OF ALL LOAN SOURCES, 111 FARM HOUSEHOLDS
WET SEASON 1983-84
(In % of total volume of loans per study area)



- a. Merchants/traders category include agent buyers, miller-buyers, and wholesaler-miller-buyers.
b. Rich farmers are defined as those cultivating at least 5.0 ha. of land.
c. Others include teachers, local government officials, employees, etc.

borrower households in the developed area have a higher debt burden than their counterparts in the marginal area.

These results can be explained by the relative vulnerability of households to the terms-of-trade effect. Borrowers in the favorable area are more affected by market fluctuations because of greater market dependence for their production and consumption needs. The unfavorable terms-of-trade for agriculture has increased the debt burden for those households who rely more heavily on modern inputs and who market a bigger proportion of their output. This has been aggravated by government pricing policies which "have undervalued agricultural production during the last decade through lower product prices and higher input prices" (David 1982, p. 17).³

Due to the heavy debt burden of farmers in the developed areas, they are more vulnerable to default than those in the marginal areas. The same is true for poor households as compared to those in the higher income categories. This is empirically verified by the statistical tests conducted in the Floro study. Computation of mean household propensity to default for each income level in both the developed and marginal areas showed that households in the developed area belonging to the lowest income category have the highest propensity to default (see Table 3). The degree of association between income status and incidence of default was further tested using ordinary least squares regression analysis. While the negative correlation between household income and household default rate was found to be statistically significant at the 99 percent level, the study area variation effect reflecting differences in technical and economic conditions was not. This implies that the default rates of borrowers within the same income category in the two areas were not very different. In other words, the default rate (or alternatively, the repayment capacity) differential across income class seems to be more significant than across geographical or environmental areas. To the extent that borrowers' repayment capacity reflects their "creditworthiness," then income status has an important bearing on the credit terms offered by lenders.

3. The overall magnitude of the bias against agriculture is reflected in David's (1982) computation of net protection rate or (NPR). The policy biases against agriculture are extensively discussed in PIDS (1986).

TABLE 3
 LOAN REPAYMENT PERFORMANCE OF 111 HOUSEHOLDS
 BY INCOME CLASS AND STUDY AREA CATEGORY,
 WET SEASON, 1983-84

Income class	Mean propensity to default	Standard error
I. Unfavorable Area		
Poor	0.29	0.56
Middle	0.04	0.30
Rich	0.03	0.08
II. Favorable Area		
Poor	0.37	0.72
Middle	0.16	0.23
Rich	0.07	0.04

B. *Change in the Composition of Informal Lenders*

As a result of technical change, the composition of informal lenders in the rural areas has also altered. This section presents some empirical evidence from the Floro study regarding the replacement of the "old" group of moneylenders, namely, the landlords, with the "new" group, namely, the traders and rich farmers. In particular, it examines the diversity in the economic behavior of the two dominant lender groups and the subsequent effect on their perception of risk. Throughout the discussion, the type of agrarian setting in which these informal lenders operate is also taken into account. This is especially useful in highlighting any effect of technical change on the nature of informal lenders and the credit terms that they offer.

Conceptually, farm households can approach two distinct markets for loans: (a) the institutional or "formal" credit sector consisting of private and government financial institutions such as commercial

banks, rural banks, Philippine National Bank, etc; and/or (b) the informal, credit sector comprised of private commercial and non-commercial lenders (see Chart I).

Recent studies have shown, however, that only a small segment of the rural population in the Philippines — mainly large farmers — has access to institutional or formal credit (Esguerra 1982; Subido 1981; Sacay et al. 1985). In recent years, there has been a drastic reduction in the supply of agricultural credit provided by the formal financial institutions due partly to the decrease in the supply of government-sourced, cheap rediscount funds and the drying up of agricultural credit subsidy programs (Lamberte and Lim 1987). It is also partly the result of high loan arrearages among rural banks, forcing some to impose more stringent conditions as part of their credit rationing measures and others to close.⁴ In fact the number of operating banks has declined from 1,214 in 1981 to 1,055 in 1985. This has made formal credit even less accessible to farmers. According to the Floro study, the contributions of formal lending institutions to the total volume of loans in favorable and unfavorable areas are 6.16 percent and 10.26 percent, respectively (p. 207).

At the same time, there are limitations to the extent of involvement of noncommercial lenders including friends and relatives, especially in terms of loan size and loan purpose. The restricted character of noncommercial loans and the limited accessibility of rural banks and government-sponsored credit cooperatives make informal, commercial lenders an important source of rural credit (Floro 1987).

Informal, commercial lenders have a heterogeneous composition. They can be distinguished by the *dominant* economic activity in which they are involved.⁵ They include landlord-lenders, trader-

4. For instance, stipulations in the loan contract such as those asked by the rural banks include the following requirements: (a) a NIA water release certificate (this is an announcement that irrigation water will be supplied at such dates); (b) an affidavit from the Bureau of Lands, Ministry of Agrarian Reform or the Landlord stating the size of land under cultivation; and (c) a clean record of nondefault in past Masagana-99 or any agricultural credit loans.

5. There are cases in which lenders are engaged in two economic activities at the same time, such as farming and trading. In this situation, the question of where they devote more time and what they perceive to be their main source of earnings determine their classification.

lenders, farmer-lenders, and others composed of teachers, local government officials, businessmen, and others. These sources extend both cash credit and credit-in-kind. They operate outside of the banking system, are not regulated, and are not really monitored like those in the formal credit sector. Except for the professional money-lenders for whom lending is the principal source of income, most of them provide credit as an integral part of their economic activity.

The Floro study found that the importance of traders particularly in the developed or favorable areas and of rich farmers in the marginal areas as loan sources is quite striking. Landlords, on the other hand, now play a minor role even in the unfavorable areas where share tenancy is still prevalent (see Table 4). This is consistent with

TABLE 4
 DISTRIBUTION OF INFORMAL LOANS, 111 SAMPLE HOUSEHOLDS
 BY STUDY AREA CATEGORY, WET SEASON 1983-84
 (Loan volume in pesos)

Informal lender type	Unfavorable area		Favorable area	
	Loan volume of all households	Percent of total	Loan volume of all households	Percent of total
1. Non-Commercial	20,983	10.22	73,185	14.49
a) Credit Cooperatives	4,147	2.02	22,775	4.53
b) Relatives/Friends	16,836	8.20	50,410	9.96
2. Commercial	184,314	89.77	432,786	85.51
a) Merchants/Traders	66,187	35.91	255,390	50.46
b) Rich Farmers	72,804	39.50	122,431	24.19
c) Landlords	15,114	8.20	4,504	0.89
d) Others ^a	11,353	6.16	45,399	8.97
TOTAL	205,318	100.00	506,124	100.00

a These include local government officials, businessmen, employees, schoolteachers, etc.

Source: Floro (1987).

TBAC's (1981) and Sacay et al.'s (1985) findings which traced the intertemporal changes in the class composition of informal lenders during the last three decades.

1. *Withdrawal of Landlords in Moneylending*

Landlords have traditionally played a dominant role in the credit market. This was true throughout the Spanish and American colonial periods, as well as during periods when labor supply was problematic (Hester 1924; Dalisay 1937; Constantino 1975; and McLennan 1980). Moreover, as Pelzer (1945, p. 94) explained:

It is to the advantage of the landlord to have the tenant indebted to him not only because of the high interest rates but also because then the tenant may be forced to do all kinds of extra work and may not leave his landholding. The debt binds the tenant to the land and makes him almost a slave of the landlords, who thereupon determines every step to be taken — the crop to be grown and the time of planting and harvesting.

That landlords seemed to figure prominently in the informal credit market is not surprising since share tenancy, especially in the rice and corn sectors, had been widespread until the early 1970s. With the implementation of land reform in 1973, however, landlords had diminished in importance. A 1978 survey conducted by the Technical Board for Agricultural Credit (TBAC) in three Philippine provinces showed that landlords provided only 16 percent of the total loan value in the rural areas (TBAC 1981). The study also noted that:

The reported changes in the structure of rural credit markets apparently transpired with the replacement of the older crop of moneylenders, who had been in moneylending since the Spanish colonial period (the landlords), by a group of moneylenders who started their moneylending operations in 1968 or later (the traders). (p. 11)

Survey findings in Floro (1987) also showed that landlords played only a small role in the lending circuit in 1983-84 (see Table 3). What seems to be surprising is that, even in the marginal area where the majority of the rural households are either share-tenants or part share-tenants, loan provisions by their landlords comprised only 8 percent of their total credit requirements.

The withdrawal of landlords from moneylending can be attribu-

ted to several factors. In the favorable area, the shift from sharecropping to leasehold and, to some extent, amortization arrangements lessened the need for personalized contact to monitor tenants' actions. Under these tenure systems, the role of credit as an incentive and monitoring device diminished in importance. The formal declaration of land reform further weakened the political sanctions underlying the share tenancy contract. This made the existing landlord-tenant relations tenuous, so that the landlord may no longer be interested in advancing loans to the farmer.

But even landlords in the unfavorable or marginal areas do not find it in their interest to lend to their tenants. One possible explanation is that they may no longer need credit as a strategic variable in monitoring or supervising the tenants; instead they may employ an overseer or *katiwala*. Also, during prolonged periods of poor harvest, landlords may find it more profitable to lend to nontenant farmers with adjacent landholdings than to their own tenants. Farmers are most vulnerable during such times so that the opportunity for distress sales of land arises.

2. *Emergence of Trader-lenders*

The advent of new technology in the late 1960s was, to a large extent, responsible for the emergence of trader-lenders including input-dealers as a dominant loan source. An improvement in productivity and output levels, accompanied by the development of infrastructures such as irrigation and roads, opened up new avenues for profitable undertakings in trade and commerce. Marketed surplus increased both absolutely and as a proportion of production.⁶ Division of labor and specialization also emerged as the network of distribution and marketing channels became more complex. These made conditions more favorable for the expansion of trading activity in the agricultural sector.

As farmers became more and more integrated into the market economy, traders began to assume an increasingly important role

6. This is supported by the findings of several empirical studies in the Philippines. Mears (1974, p. 81), for example, noted that "the percentage of production that has been market-directed has increased from around 20% in 1920 to over 60% in 1969-70."

in the distribution system. The traders' involvement in directly servicing the input and output marketing needs of farmers facilitated the development of trader-farmer relationship.

As the scale of trading operations increases, the competition among traders for grains procurement intensifies. This is in order to maintain high utilization rates of their marketing-related facilities including trucks, warehouses, and ricemills (Mears 1974). The bigger the distribution network of a trader, the greater is the pressure to procure a large share of the output market.

Empirical evidence from the Floro study indicates that money-lending has become an important complementary activity to trading. Table 5 shows that, for the wet season 1983-84, more than half of the sample households in each income category sold their output to

TABLE 5
TYPE OF OUTPUT BUYERS, BY STUDY AREA CATEGORY,
WET SEASON 1983-84
(In percent of households with marketed output)

Type of output buyer	Proportion of total households	
	Unfavorable area	Favorable area
1. Lender ^a	61	67
2. Non-Lender ^b	34	26
3. NGA ^c	5	4
4. Others ^d		2
ALL TYPES	100	100

- a. Lender-buyers may be trader-lenders (of rice, tobacco, vegetables) or farmer-lenders.
 b. Non-lender buyers may be traders or middlemen who did not provide any loan to the farmer-seller.
 c. NGA is the government-owned marketing agency, National Grains Authority.
 d. Others include relatives, friends, etc.

Source: Floro (1987).

trader-lenders. On the other hand, the government marketing agency, the National Grains Authority (NGA), purchased output directly from a few households, the majority of whom are middle and rich farmers.⁷

Another study suggests that, in fact, there may be tacit agreements between NGA and private traders operating in a locality. Bouis (1982) indicated in his study that traders make profits by obtaining palay from farmers during harvest time when the price of output is at its lowest level and then reselling the palay directly to the National Grains Authority at guaranteed floor prices when the market price increases.

Output procurement by traders is guaranteed by attaching a tie-in condition to the loan called *tampa*. This condition requires farmer-borrowers to sell all of their marketable surplus to trader-lenders at the price stipulated by the trader-lender. In many cases, this gives the trader-lender an opportunity to underprice the farmer's output. The prevalence of *tampa* in the study areas is confirmed by the survey findings of Floro (1987). Table 6 shows that more than half of the total volume of trader-lender loans linked to another market transaction require borrowers to sell their output.

The drive to expand their market share and the growing complexity of the distribution network also induce traders to seek out farmers to act as middlemen. The growth of trade is constrained by the limited number of farmers whose economic behavior and repayment capacity are intimately known to a big trader. This limitation in information access may be overcome by acquiring the services of marketing agents in local areas for borrower screening, loan disbursement, and output payment collection. The importance of middlemen or marketing agents in trade expansion and competition explains why traders also stipulate a tie-in condition requiring the borrower to act as a marketing agent. Hence, a substantial portion of the loans made by traders is granted to middlemen-farmers who relend this to other farmers (see Table 6).

7. The insignificant role played by the NGA in grains marketing is not surprising. A study of the agricultural marketing policies in the Philippines has shown that there is an apparent lack of government will to implement these schemes (Deomampo ang Sardido 1979). For instance, transport facilities (to spare the farmers of transportation and transactions costs) are hardly developed.

TABLE 6
DISTRIBUTION OF TRADER-LENDER LINKED LOANS
BY TYPE OF TIE-IN ARRANGEMENT
BY STUDY AREA CATEGORY, WET SEASON, 1983-84

Type of tie-in arrangement	Unfavorable area		Favorable area	
	Loan volume of all households (in pesos)	Percent of total	Loan volume of all households (in pesos)	Percent of total
A. Linked to Circulation Activities	63,206	100.00	253,390	98.9
1. Required to buy input/rent machinery	—	—	—	—
2. Required to sell output	36,091	57.1	142,325	55.5
3. Both (1) and (2)	1,162	1.9	9,194	3.6
4. Required to act as marketing agent	25,914	41.0	101,576	39.8
B. Linked to Production Activities	—	—	2,000	1.1
1. Borrower is tenant	—	—	—	—
2. Required to transfer land rights	—	—	2,000	1.1
3. Required to render labor service	—	—	—	—
TOTAL LINKED LOANS	63,206	100.0	255,390	100.0

Source: Floro (1987).

3. *The Rise of Farmer-lenders*

Farmer-lenders are another dominant source of loans particularly in the unfavorable or marginal area as shown in Table 4. To a large extent, they also fill the void left by the landlords and financial institutions. As a group, they provide nearly 40 percent of the total loan volume in the unfavorable area. The relatively low productivity in the rainfed parts of the Philippines makes it less attractive for traders to expand their trading operations in the area. With the exception of cash crop traders such as tobacco dealers, the majority of the traders would only deal with farm households with irrigation pumps and/or with relatively large landholdings. Rich farmers, on the other hand, are quite active in the lending circuit even in the marginal area. Not only do interest returns increase their farm earnings; moneylending also provides them with an opportunity to acquire more land.

Previous empirical studies have acknowledged that rich farmers and landowners engaged in moneylending not only to earn interest but also to acquire land usufruct rights (McLennan 1980; Serrano 1983). The persistence of tenancy in rice and corn agriculture implies that the farmers are mainly producers who have acquired cultivation rights in exchange for rent but who do not have the right to dispose of the land. Since there is no legal market for cultivation rights (i.e., the sale of land amortization or leasehold rights is prohibited), then the primary means by which land usufruct rights can be transferred is through land acquisition in the event of loan default.

Moneylending becomes an important complementary activity to farming whenever it gives the lender leeway in influencing not only another person's decision to sell land but also the acquisition price of that land. This is confirmed by the findings of the Floro study presented in Table 7. It is shown that slightly more than one-third of the total amount of loans supplied by farmer-lenders in both developed and marginal areas actually led to land transfer.

Credit, therefore, may serve as a means of acquiring land as in colonial times. The survival of the practice of land transfer vis-à-vis the debt mechanism can be attributed to several factors. One is the failure of land reform to abolish tenancy especially in the unfavorable areas. Another reason is the inadequately developed land market juxtaposed with the developed output market. As a result, the more

TABLE 7
DISTRIBUTION OF FARMER-LENDER LINKED LOANS
BY TYPE OF TIE-IN ARRANGEMENT
BY STUDY AREA CATEGORY
WET SEASON 1983-84
(Loan volume in pesos)

Type of tie-in arrangement	Unfavorable area		Favorable area	
	Loan volume of all households	Percent of total	Loan volume of all households	Percent of total
A. Linked to Circulation Activities	30,078	62.7	45,584	59.3
1. Required to buy input/rent machinery	1,180	2.4	2,280	3.0
2. Required to sell output	7,605	15.8	32,873	42.8
3. Both (1) and (2)	21,293	44.1	10,431	13.6
4. Required to act as marketing agent	—	—	—	—
B. Linked to Production Activities	18,145	37.6	31,250	40.7
1. Borrower is tenant	—	—	—	—
2. Required to transfer land rights	18,000	37.3	28,250	36.8
3. Required to render labor service	145	0.3	3,000	3.9
TOTAL LINKED LOANS	48,224	100.0	76,834	100.0

Source: Floro (1987).

common method of acquiring land is not through market transaction but through credit. A third explanation for the presence of land tie-in credit is the economic vulnerability of the majority of Philippine farmers. Their general inability to make ends meet especially during prolonged periods of drought, persistent crop failures, or unexpected emergency cases requiring large cash outlays means that farmers are sometimes compelled to give up a portion of their landholdings to pay accumulated debts or to acquire an unusually large amount of loan.

It can also be noted in Table 7 that some farmer-lenders require borrowers to buy inputs and/or sell output in both favorable and unfavorable areas. This may be explained by the existence of a subgroup of farmer-lenders who have limited capital of their own for lending and, hence, borrow loans for relending purposes from trader-lenders. This access to substantially large volumes of loan (over and above the farmer's consumption and production needs) requires middlemen-farmers to ensure that borrowers sell their output to trader-lenders.

C. *Changes in Credit Terms*

The promotion of new technology and the uneven pace at which this is taking place in the rice and corn sectors have facilitated the emergence of a *heterogeneous* group of lenders with diverse economic considerations. The coexistence of different types of lenders implies different lenders' perception of risk and borrower-creditworthiness. Floro (1987) argued that the specificities of trading activity and of the process of land acquisition have led not only to the adoption of a selective lending strategy but also to a *lender-borrower sorting phenomenon*. This implies that the price of credit charged by different lenders would depend on the characteristics of borrowers and would take different forms including output underpricing, input overpricing, and land acquisition.

Trader-lenders and farmer-lenders provide farmers access to credit based on different perceptions of risk and under different selection criteria. Taking into consideration the fact that farmer-lenders' gains to moneylending include land acquisition and that this may take place only in the event of loan default, then farmer-lenders would tend to prefer a borrower who has low repayment capacity. Trader-lenders, on the other hand, prefer to lend to farmers with

high repayment capacity. Moreover, they require the farmer's anticipated harvest to be put up as collateral since they are involved in the buying and selling of farmers' output. The more marketable a farmer's output is, the more "creditworthy" he is. In contrast, farmer-lenders' direct involvement in the production process makes land a desirable form of collateral. Since poor farmers, particularly in the marginal or unfavorable areas, are the most vulnerable to fortuitous circumstances such as sickness and bad harvests, then they are likely to offer land as collateral.

The Floro study provided empirical evidence that trader-lenders and farmer-lenders sort prospective borrowers according to different risk and collateral criteria. The results of statistical tests using conditional probabilities and analyses of variance suggest that, in general, farmer-lenders allocate a greater volume of their loans to poor farmers while trader-lenders concentrate on rich farmers.

This borrower pattern is also reflected in the credit terms which lenders offer to certain types of borrowers. The strong positive correlation found by Floro between loan size and income level of the borrower, for instance, implies that traders tend to offer bigger loans to farmers with higher income. The strong negative correlation between the effective interest rate charged by traders and borrower's income suggests that trader-lenders differentiate their interest rate charges on the basis of the borrower's income status. Rich borrowers are charged lower interest rates than poor borrowers since the former have lower default propensity. The study area variation effect, however, was found to be not statistically significant. In other words, there is no significant difference in the interest rates between favorable and unfavorable areas. Technical change, while bringing about a change in the composition of credit suppliers, may not have any significant impact on the cost of credit.

Farmer-lenders, in contrast to trader-lenders, tend to offer flexible credit terms to poor farmers. The results from the multiple regression analysis in the Floro study indicate that farmer-lender behavior does not subscribe to the standard theories of interest rate determination. Farmer-lenders offered bigger loans at lower interest rates to poor borrowers than to rich borrowers. Such behavior makes sense if the farmer-lenders want to induce the poor borrowers to default and if the loan size has a positive effect on default. A large loan relative to income allows the possibility of substantial loan default and subsequently of land transfer. Floro

(1987) pointed out that if a borrower wants to avoid land transfer by spreading his loan demand over several lenders, then a farmer-lender is able to work around this response by offering lower interest rates, allowing rollover of defaulted loans, or simply giving lenient terms of credit. The willingness of farmer-lenders to offer lower interest rates and relatively bigger loans to poor borrowers suggest that the farmer-lenders will choose those credit terms that weaken the borrower's resistance to land mortgage (p. 266).

The relative insignificance of the study area variation effect on interest rates in the regression analysis indicates that, contrary to popular belief, there is no difference in the effective monthly interest rates charged by the farmer-lenders in the favorable or unfavorable areas. This can be expected since it was argued earlier that interest returns are not the primary reason why rich farmers engage in moneylending. These results also support the hypothesis that interest rate differential across geographical or environmental areas is not as important as that across income classes.

The opposite is true, however, for relative loan sizes. The regression results in the study suggest that, for a given income class, borrowers in the developed or favorable area received significantly bigger loans than their counterparts in the marginal or unfavorable area. This is consistent with the findings that rural households which adopt modern technology have a higher debt burden than those using traditional cultivation methods. At the same time, if the presence of irrigation systems and the application of modern inputs in favorable areas increase the expected land value, then farmer-lenders may be willing to lend bigger loans to poor borrowers in favorable areas than to their counterparts in the marginal areas.

The regression results just presented are further supported by the data in Table 8. Computing for the conditional probabilities, the table shows that there is a high probability that the mortgagee (the lender who stipulates land as collateral) is a farmer-lender. This is true not only in the unfavorable area but also in the favorable area. These aggregated conditional probabilities, however, mask an important difference among income classes. Table 9 shows that most of the mortgaged lands belong to poor farmers.

It might be noted that the probability of a poor household mortgaging his land in the unfavorable area is higher than that of a poor household in the favorable area. The opposite is true for higher income classes. The probability that middle and rich households

TABLE 8
ESTIMATED PROBABILITIES OF MORTGAGEE
BEING A LENDER TYPE, 25 MORTGAGE LOANS,
BY STUDY AREA CATEGORY,
WET SEASON, 1983-84

Type of mortgagee	Unfavorable area		Favorable area	
	Number of mortgage loans	Estimated probabilities that the land is mortgaged to lender type.	Number of mortgage loans	Estimated probabilities that the land is mortgaged to lender type.
1. Farmer-lender	11	.6875	7	.7778
2. Trader-lender	—	—	1	.1111
3. Non-farmer lender	3	.1875	—	—
4. Relative	2	.1250	1	.1111
ALL TYPES	16		9	

Source: Floro (1987).

have to mortgage their land is higher in favorable areas than in unfavorable areas. This may be explained by the fact that, while among poor borrowers it is the inability to meet their consumption needs during bad production periods that compels them to mortgage their land, loans with land mortgage received by middle and rich households are usually intended for specific "investments" such as higher education, acquisition of farm machinery, etc. Unlike "distress" loans, these types of mortgage loans are expected to be repaid once the specific "investments" pay off. The fact that there are relatively more opportunities for such investments in the favorable areas explains why middle and rich households in those areas are willing to obtain a loan requiring land as collateral.

TABLE 9
PERCENTAGE DISTRIBUTION AND ESTIMATED PROBABILITIES
OF HOUSEHOLDS WITH LAND MORTGAGES,
25 MORTGAGE LOANS, BY STUDY AREA AND INCOME
CLASS CATEGORIES, WET SEASON, 1983-84.

Income class	Unfavorable area		Favorable area	
	No. of HH w/ land mortgage	Probability that a HH belonging to income class has land mortgage	No. of HH w/ land mortgage	Probability that a HH belonging to income class has land mortgage
1. Poor	15	.4411	5	.2052
2. Middle	1	.0909	3	.1579
3. Large	—	.0000	1	.0625
TOTAL	16		9	
Probability that a HH in the study area has land mortgaged		.3265		.1451

Source: Floro (1987).

D. *Summary of Findings*

The impact of technical change on the rural household's demand for credit, the present composition of informal lenders and their credit terms have been examined in the first part of this paper. Using the findings of the Floro study on Philippine food (rice and corn) agriculture for empirical verification, this paper shows that:

1. Technical change has brought about an increased demand for

credit which has led to the higher debt burden of rural households.

2. Technical change facilitated the emergence of a new group of lenders — the traders — whose risk and collateral considerations are different from those of the traditional group of informal lenders (the landlords) and farmer-lenders.

3. The uneven spread of agricultural development and commercialization allows for the coexistence of diverse groups of lenders. Their different economic considerations lead to a *sorting phenomenon* whereby trader-lenders prefer to lend to rich households while farmer-lenders prefer to lend to poor householders. This lender-sorting behavior has resulted in market fragmentation.

4. The presence of market fragmentation in the informal credit sector partly explains why technical change did not necessarily lead to a reduction in the cost of credit to farmers. The high risks faced by farmers due not only to the vagaries of nature but also to market fluctuations and the absence of infrastructures and public services make default risk a serious concern even among informal lenders, particularly the traders. What has simply changed is the manner in which lenders sort their borrowers and the form in which they charge interest. Loans provided by trader-lenders almost always require tie-in output sales, and/or middlemen services. While these types of market interlinkages also occurred among farmer-lender loans, farmer-lenders tend to link their loans with land mortgages as well.

5. The differential impact of technical change on rural households is determined by the income status of the household. The emergence of trader-lenders, for instance, has a significant effect on the availability of credit to rich households, but not necessarily to poor households. In cases where trader-lenders do lend to poor borrowers, the effective rate charged, inclusive of any implicit charges such as underpricing of output and overpricing of inputs, is much higher than that charged to rich borrowers.

Undoubtedly, the introduction of modern technology has opened up new opportunities to put credit to productive use in agriculture. The adoption of modern technology has increased the farmer's output and, hence, his gross farm earnings. But whether this is enough to cover his debts (including interest) depends upon several other factors including the structure of the informal credit market. While technical change has facilitated the rise of trader-lenders, accessibility to their loans is *borrower-class specific*. This affects not only the amount which a farmer is able to borrow but also the cost

at which he obtains the loan. Given the structure of the informal credit market, credit accessibility becomes highly dependent on the income status of borrowers.

IV. Policy Implications

The policy implications of the present discussion are far reaching and not immediately obvious. Rather than lay down any comprehensive policy guidelines or examine the social and economic costs and benefits involved in making the choice among alternative sets of policies, this section discusses the possible implications of different policy emphases.

A. *Lagged Growth of the Rural Financial Markets*

While technical change has facilitated the rapid growth of product and input markets during the last two decades, the growth of rural financial markets has lagged behind. This is largely due to the structural characteristics of the agricultural sector and to the institutional and policy environment which has promoted a bias against agriculture. The existence of high transactions costs due to the presence of risk and uncertainty in agriculture has made its credit risk rating traditionally poorer than that of the commercial and manufacturing sectors. In addition, the general inability of many farmers to make ends meet during periods of natural calamities or crop failures, as well as during times of emergency such as sickness or death in the family, has led to high formal loan arrearages. As a result, most organized financial institutions, with the exception of rural banks, have chosen to stay in the periphery as far as rural financing is concerned and have concentrated their financial activities on the urban areas (Lamberte and Lim 1987; Ozaeta 1987).

Specific government interventions in the form of credit quotas, interest rate regulations, and loan targeting have accentuated the problem of rural financial markets. Empirical studies and project evaluations reveal the costly failure of these government schemes and the deleterious effects of these policies on the development of rural financial markets (Esquerra 1981; Von Pischke et al. 1983; Adams et al. 1984; Lamberte 1985).

The creation of specialized agricultural credit agencies and credit programs only limited the opportunity for portfolio diversification

and thereby increased the risk faced by credit programs and credit agencies. Loan target specification often required screening procedures, detailed monitoring and supervision which raised the effective costs of lending. The imposition of interest rate controls, moreover, impelled financial institutions to make use of nonprice allocative mechanisms to ration credit. The concessionary rediscount rates offered by the Central Bank to priority sectors like agriculture have actually paralyzed the savings mobilization activity of financial institutions (Gonzales-Vega 1983). Instead of helping develop the rural financial system, they merely encouraged the financial intermediaries to become heavily dependent on the Central Bank for loanable funds. This also discouraged them from increasing their own funds vis-à-vis rural deposit mobilization.

The increased flow of subsidized credit funds to agriculture in the late sixties up to the late seventies was thus not accompanied by parallel improvements in the environment for rural finance, much less by wider credit accessibility. Due to high arrearages, many formal financial institutions who acted as conduits for these government credit subsidies were plagued by the problem of non-repayment of loans. This only increased the number of ineligible farmer-borrowers since loan repayment was one of the main requirements for subsequent loan provisions. As the source of cheap credit began to dry up, eligibility for subsequent borrowings became more stringent. Both the commercial and rural banks required that previous loan obligations be met. They began to impose lower loan ceilings and asset collateral requirements. Although the credit subsidy program was originally designed to benefit the small farmers, the formal financial institutions favored lending to more viable, less risky farmers with larger landholdings. This made formal loans accessible to an even smaller segment of the rural population.

The reduction of credit subsidies in the early eighties accentuated the decline of formal credit allocated to agriculture (David 1982). Banks, as profit-maximizing entities, sought to lend to those sectors where their combined costs of funds and of supervision were relatively lower, mainly the urban sector (Tolentino 1986). The inability of the formal financial sector to service the growing financial needs of the rural population indicates that the rural financial markets have not kept pace with the development of other markets.

B. *Comparative Advantage of the Informal Sector*

While the formal financial intermediaries remain impaired in the rural areas, the informal credit sector has remained resilient in the face of government intervention and market distortions. In fact, it is able to cope remarkably well with the recent changes in agricultural production brought about by technological development and government policies. TBAC (1981), Serrano (1983), Sacay et al. (1985), and Floro (1987) demonstrated that the informal financial market is a highly flexible sector that adjusts itself to prevailing economic conditions.

The preceding section has shown that technical change altered not only the existing system of production but also the accompanying system of informal finance. With the introduction of land reform and modern technology in agriculture, the traditional group of moneylenders — the landlords — have withdrawn. The void they left in the credit market has been quickly filled by the new crop of moneylenders — the trader-lenders and farmer-lenders. The terms of credit also changed from tied-in tenant credit to output and land tie-in arrangements to accommodate changes in relations of production and exchange. Moreover, these informal credit sources were more efficient in terms of delivering credit to farmers. Ozaeta (1987 pp. 3-4) noted that

because of their essentially local and indigenous operations, they have access to more credit information. Thus their loan processing is necessarily quicker and their credit decisions are made on the spot. Secondly, their flexibility allows them to lend both for production and for interim consumption needs of their borrowers. The fact that funds borrowed may be used for purposes not related to crop production since credit is fungible, does not affect their collection performance. Thirdly, their lending operations are unregulated and therefore not subject to reporting and monitoring bureaucracies. Lastly, their lending operations are merely peripheral activities . . . their bread and butter being their trade margins and not their financing income.

These explain why informal lenders are able to reduce their administrative and risk costs while at the same time providing smaller loan sizes during times that they are needed.

C. *Policy Strategies towards Revitalizing RFMs*

The comparative advantage of informal lenders over financial

institutions with respect to information access and to enforcement of credit terms, as well as to their "unregulated" and "unsupervised" nature, has stimulated discussion among policymakers and academics. The new consensus that is emerging today is that the informal credit sector plays a significant role in credit allocation in the rural areas. Its widespread use suggests that it is well suited to most rural conditions (Von Pischke et al. 1983, p. 8).

But while there is general agreement that the informal sector is more efficient than the formal credit sector, there are differences among policymakers and economic advisers on the type of financial strategy to pursue and on the type of credit channel to use. Some argue that financial market revitalization should be targeted towards the rehabilitation of formal financial institutions particularly the rural banks. Others hold the view that integrating the informal sector into the formal sector would greatly enhance the overall performance of the rural financial system. Both sides, however, agree that there are lessons that can be gleaned from the informal sector operations which are useful for making policy adjustments.

1. Financial Liberalization Strategy

One major policy reform that has been introduced as part of the formal financial institutions' rehabilitation package is financial liberalization. The informal lenders are largely unconstrained by government policies such as legal ceilings on interest rates so that they are able to offer more flexible repayment schemes and credit terms. This implies that a move away from specialized, supervised credit programs and the removal of unnecessary and distortionary government regulations in the financial system may be beneficial.

In 1984, the government has started to address the distortions in the rural financial markets by deregulating some aspects of the financial system. Lending and deposit interest rate ceilings have been removed. Treasury bills are being auctioned while Central Bank bills are slowly being phased out. The rediscounting rates have been adjusted to approximate the market rate. Selective credit controls have also been lifted.

However, other aspects of financial intermediation such as bank entry and credit quotas remain, subject to government control. The absence of free entry in the banking system has limited the volume of funds mobilized in the rural areas as well as the variety

of financial services provided (Lamberte and Lim 1987). Current branching regulations in the Philippines are perceived to be onerous especially to rural financial institutions. For instance, the requirement to purchase a minimum amount of special government securities for every new branch is a form of entry barrier. It allows existing banks, whether efficient or inefficient, to appropriate rents in a certain area (Lamberte and Lim 1987).

The agricultural loan quota scheme required all banking institutions to set aside at least 25 percent of their loanable funds generated for agricultural credit. It was designed to encourage urban-oriented institutions to undertake rural lending and to mobilize available resources for agricultural development. But, as pointed out by a Central Bank memorandum, the scheme did not serve to increase the flow of funds to the agricultural sector. On the contrary, it only resulted in penalizing nonagricultural borrowers and at the same time increasing the banks' cost of intermediation. Critics of the two government restrictions are thus pushing for their removal to help promote more competition between formal and informal lenders in the rural financial markets.

2. Diversification of Formal Financial Institutions

One policy recommendation that has recently gained attention is allowing the banks to diversify into allied activities such as trading, marketing, etc. The interlinking of credit with other markets appears attractive since informal lenders' access to information and enforcement of credit terms relates to this feature of informal credit markets. The predominance of market interlinkage has extensively been discussed in the literature (Bardhan 1980; Braverman and Stiglitz 1980, to name a few). When markets are characterized by high transactions cost and asymmetric information, moral hazard problems are not insignificant. Interlinking of markets is a response to the imperfect character of markets.

Moreover, proponents of this policy strategy argue that market interlinkage enhances the control of lenders under conditions of risk and uncertainty. For instance, the presence of a tie-in sale arrangement strengthens the market position of traders as output-buyers. Output price determination is now made by contract rather than through the forces of supply and demand. On the other hand, the lender's involvement in a trading activity provides him with a strong

organization for controlling credit flows (i.e., tracking the farmer's activity from his acquisition of inputs to planting and harvesting) and for enforcing repayment schedules.

Besides, the costs of loan screening, supervision, and monitoring may be accommodated by the substantial trading margins. In other words, involvement in trading and related activities also opens additional profit opportunities to the financial intermediary in the form of markups on the input sales and margins on the output purchases.

While it may indeed be tempting to jump into the bandwagon of "interlinked markets," one needs to raise the question of whether rural financial institutions are motivated to engage in trading and other related activities. Do they have the technical and managerial skills necessary to run a trading operation? Given this to be the case, there is a strong possibility that financial institutions may evolve into agricultural development corporations involved not only in lending but also in marketing, input dealing, and brokering.

Such a scheme, however, may run against the goal of wider credit accessibility. Financing can easily be limited to the trading and related activity in which the financial institution is engaged so that it still stays in the periphery as far as rural financing is concerned. Further studies are required to provide empirical support to the different positions on this issue. The impact of this scheme on bank competition in general and on credit allocation in particular needs to be examined.

3. Integration of the Informal Sector

The banks' inability to provide an efficient credit delivery system has led to the development of other policy schemes that maximize the role of the informal sector. Informal lenders have increasingly been recognized as efficient credit channels to a majority of the rural population who have little or no access to formal institutions. Several financing strategies using informal lenders — traders, in particular — as conduits of government loanable funds have been considered by the Monetary Board as a result. Since 1984, two credit schemes involving informal lenders have been implemented, namely: (a) the Quedan Guarantee Fund Board tieup scheme, and (b) the End users/Input Suppliers Assistance scheme.

Under the first arrangement, participating banks provide production loans at 15 percent interest rate per annum to farmers directly,

but subject to a tie-in stipulation that the grain harvest or a portion of it be sold to a specified quedan-franchised operator, usually a rice miller or wholesaler. Loan collection is done for the lending bank by the operator who, in turn, receives a quedan loan at 6 percent interest during harvest time for grains procurement. Such a scheme is designed to take advantage of the traders' efficiency at loan collection, thereby lowering the risk of default and, at the same time, lowering the transactions cost to the borrower by allowing him to pay the loan in kind.

The end-users/input suppliers assistance scheme extends production credit to farmers using end-users and input suppliers as conduits. Loan funds under this arrangement are channeled through an agent bank by the Ministry of Agriculture and Food. End-users are individuals or enterprises who purchase farm produce for further processing while input suppliers are those who sell inputs to farmers.

Two types of tie-in requirements are stipulated under this scheme. Loans from input suppliers require the farmer to obtain his production inputs such as seeds, fertilizers and chemicals from the input supplier-lender. This is to ensure timely and adequate provision of the production inputs and, at the same time, provide the required technical assistance. The end-users, on the other hand, require farmers to sign contracts to deliver the specified volume of their produce at harvest time at a buying price which must not be lower than the prevailing NFA support price.

The agent banks charge an interest rate of 6 percent per annum (inclusive of service charges) to the input suppliers/end-users, and, in turn, the latter relend the loan to the farmer at 15 percent per annum. The stipulated loan period is 160 days from the date of refinancing. Amounts not paid within this period are subject to a penalty rate of 42 percent per annum.

The policy of channeling formal credit to informal lenders has been justified on the grounds of efficiency and increased financial integration. With respect to efficiency, the abovementioned programs are judged on the basis of repayment performance. Both the quedan financing scheme and the end-users/input suppliers scheme have high repayment rates as shown in Table 10. Unlike the previous specialized credit programs of the government, the high loan recovery indicates that these schemes are doing quite well.

If one is concerned, however, with wider credit accessibility and increased financial integration especially among small farmers,

TABLE 10
SUMMARY PERFORMANCE OF SELECTED CREDIT
PROGRAMS AS OF SEPTEMBER 30, 1986
 (Amount in million pesos)

Name of program	Loans granted	Loans collected	Repayment rate
I. Quedan Financing			
1. Traders/ processors	1,767.3	1,625.5	99.8
2. Small farmers	6.1	3.6	94.8
II. End-users/Input			
Suppliers Assistance Scheme			
1. Intensified Rice Prod'n Program	46,776	32,225	89.0
2. Expanded Corn Program	78,328	57,073	94.0
3. National Rootcrops Program	6,601	1,520	—
TOTAL	139,025	90,818	92.0

Source: National Food and Agricultural Council (NFAC)
 Agricultural Credit Policy Council (ACPC).

the extent to which the two policies are able to meet this policy objective depends not only on the volume of credit available in agriculture but, more importantly, on the farmers' access to these funds and on the terms at which they obtain credit.

An initial evaluation of the end-user/input supplier scheme indicates that no direct verification has been made on whether the funds channeled through the informal conduits reached more farmer-borrowers and on what terms these loans were offered (Esguerra 1987). It is also implicit in the two policy schemes that:

(a) Provision of more credit funds to informal lenders will lead to wider credit accessibility because end-users/input suppliers are

required to provide credit no higher than the stipulated loan ceiling per hectare which is equivalent to the cost of material inputs and the farmer's share of the crop insurance premium.

(b) Cheap cost of funds to informal lenders will lead to a reduction in the borrowing cost of farmers.

(c) There are no implicit charges to farmers, i.e., underpricing of output or overpricing of inputs.

In other words, it is assumed that credit provision to the agricultural sector under the two schemes will not only stimulate broad-based rural development and productivity growth but also increase the flow of credit funds and the provision of financial services to small farmers.

The study by Floro suggests, however, that these assumptions may not be consistent with the particular lending behavior of trader-lenders and the heterogeneous character of credit market agents. The sorting phenomenon that has been observed in the Philippine informal credit market implies that informal lenders sort their prospective borrowers according to their particular risk and collateral criteria. With regard to trader-lenders, they tend to allocate a greater proportion of their loans to rich households. This means that wider credit accessibility may not necessarily take place under the informal lenders' conduit schemes. Any additional funds available to the informal lender may result in bigger loans for the same number of farmers.

A president of a development bank operating in the rural areas familiar with trader-lenders operation remarked that "millers (only) give production credit to their farmer *"sukis"* (regular clients who, in turn, will pay them back in time). This may not be the most equitable way of doing it. This may not be helping directly the farmers, but this is how the system goes" (de Guzman 1987, p. 5).

Another issue of concern is the effect of credit subsidy to the informal lenders on the cost of borrowing to small farmers. The end-users/input suppliers assistance scheme offers a credit line with maximum ceiling of 1 million pesos for individuals and 1.5 million pesos for corporate borrowers and cooperatives when loans are unsecured. The amounts are higher for secured loans. Given the relatively large loans provided to informal lenders, it is likely that the target clientele are big input dealers such as the Philippine Planters' Product, Inc., and big rice millers with an average capital of 2 million pesos.

Floro (1987) shows that big traders and ricemillers seek out mid-

dlemen whom they trust, who have assets and resources for leverage, and who know the farmers in the area very well. Trader-lenders therefore entrust substantial loan amounts to selected rich farmers in order to buy output from other farmers. This layer of middlemen/jobbers forms the credit-marketing channel in the rural areas. Credit may therefore pass through several banks before finally reaching the small farmer-borrowers. There is no assurance that the concessionary rate of interest given to the big end-user/input supplier will be passed on to the farmer-borrower. Neither is there any assurance that no underpricing of output or overpricing of inputs will take place as stipulated in the contract agreement. A legitimate question that needs to be answered in this regard is, what proportion of the credit subsidy under the end-users/input suppliers assistance scheme is captured by the trader-recipient and the middlemen-lenders? Any monitoring or supervision of loan disbursement by the informal lenders will therefore need to take into account the presence (or absence) of a developed credit delivery system not different from the marketing channel.

Besides, if financial liberalization is the general policy currently being undertaken by the government, then subsidized loans to informal lenders are not in keeping with this policy. The previous discussion suggests that credit subsidy programs are neither efficient nor equitable instruments of channeling credit to small farmers. Past experiences have shown that subsidized loans were concentrated in the hands of bankable farmers with higher income. Moreover, there is the possibility that credit, being fungible, may have been diverted to other uses.

The subsidized cost of funds for informal traders is no different from the rediscount subsidies that were generously granted to government banks and rural banks. The legitimate question raised by Esguerra (1981) on who pays and who benefits from Masagana — 99 credit subsidy may also be applied to the 139 million pesos end users/input suppliers assistance scheme. A more detailed inquiry on this issue may possibly reveal findings similar to Esguerra's study which indicated that the subsidies granted by the government through the M-99 program, although meant to be fully enjoyed by farmer-borrowers, were largely captured by the lenders.

One may also raise the question of the necessity of credit subsidy program to stimulate informal lenders to mobilize bigger volumes of funds into agriculture. Does it help forge formal informal

market linkages and improve the efficiency of rural financial markets? Several private bankers notably those of the Luzon Development Bank, Bank of Philippine Islands, and Philippine Commercial and Industrial Bank admit that they have been financing traders even before the scheme took effect in 1984. In fact, "most commercial banks have chosen to stay in the periphery as far as rural financing is concerned. A common practice is to finance only the traders and processors." (Ozaeta, 1967, p. 6). This implies that formal-informal linkages already exist within the financial system. Loans are granted to informal lenders on the basis of their marketing/trading activity, not their lending activity.

A portion of these bank loans, especially those with short maturity periods, are used as trader operating capital for purchasing output from farmers. Floro (1987) has shown that the movement of the traders' operating capital corresponds with the cycles of production and of lending. Between harvest times, operating capital is used for lending purposes by traders. Loans are released during planting season and collected at harvest time. Instead of paying the farmer during harvest for his output, traders advance the payment in the form of loans at the start of production period. It is in this manner that formal loans received by traders are recycled as credit to farmers. Providing traders with more credit capital at subsidized rates under the present assistance scheme may actually be a pointless exercise.

A number of studies have drawn attention to the impact of the policy schemes involving informal lenders on the distribution of income in the rural areas (Floro 1987, Lamberte and Lim 1987). Floro (1987) focuses on the bilateral relationship between agents with unequal market power. Her study argues that the existence of power relations affects the bargaining process of contracting parties in markets. Lamberte and Lim (1987) support this view and issue warnings on hasty policy formulations. They stressed that traders usually have information about market prices which the farmers do not have and that they possess transaction-specific assets which strengthen their bargaining power.

In this regard, the recommended credit programs must also be carefully examined as to whether they directly or indirectly exacerbate the prevailing conditions of the economic environment. Floro points out that one big drain on the farmers' earnings are the "hidden charges" such as the underpricing of palay prices by

traders and the overpricing of fertilizer and pesticides by input dealers. Another is the threat of land reduction or land loss vis-à-vis the lending operations of rich farmers. In the long run, such credit practices undermine the stability and viability of the rural population which then feeds on the high risk and high cost perception of rural financial institutions regarding the agricultural sector.

In calling attention to the complexity of the RFM operations, the preceding discussion issues a note of caution for policymakers concerning the use of informal lenders in the rural financial intermediation. A thorough understanding of the informal credit markets in a rural environment characterized by imbalance of power is essential to avoid dangerously misleading conclusions. History is replete with lessons on the many government "remedies" that only perpetuate and deepen the poverty of small farmers.

D. *Conclusion*

Undoubtedly, the rural financial market, given its vital role in providing financial services to the agricultural sector, requires government assistance in improving its performance and in meeting the new challenges posed by the new agricultural development program. But any rehabilitation policy package, whether it involves the formal sector alone or includes the informal sector as well, must be organigant of the basic roots of the problem. The lagged growth of the RFMs, in comparison with other rural markets, is the result not only of past government policies but also of the current state of the economic environment. Most farmers face high input prices and low output prices, do not own their landholdings, obtain poor and unstable yields, earn incomes which are barely enough to meet their subsistence needs, and have limited or no access to government services and to markets. Government policies in the past tended to be biased against agriculture. There is absence of good transport links and support infrastructures like irrigation in many rural areas. The terms of trade have remained unfavorable to the agricultural sector. These conditions essentially made agricultural lending more risky and costly relative to industry and commerce.

The World Bank (1983) report has shown that one of the main causes of high arrearages in credit programs, besides natural calamities, is the prevalence of small farmers' income which does not allow them to meet their consumption requirements, to pay their

debts, and to save or place surplus funds in banks at the same time. With resources being fungible, a substantial share of the additional funds received through the credit programs is utilized for purposes not related to crop production. The World Bank, in fact, emphasizes that misallocation of credit arises when borrowers of formal credit have sizable accumulated debts or significant unsatisfied priorities such as family health, education, etc. No matter how well-organized, efficiently managed and economically sound the rural financial institutions, their success in terms of credit delivery and savings mobilization in the broader rural population will also have to depend on the overall improvement of farmers' economic well-being.

Recommended policy reforms which include less loan targeting, the removal of credit subsidies to both the formal and informal sectors, and more lenient bank entry and bank branching regulations are indeed necessary to improve the efficiency of RFM operations. But to solve the rural credit dilemma, these policies are not enough. As Floro (1987) remarked:

In the short run, such a policy goal requires enhancing the bargaining position of small farmers and increasing market competition. One means by which this can be achieved is by allowing them to form credit and marketing cooperatives. These and other types of farmer-initiated credit institutions enhance market competition and improve on the efficiency of credit allocation. (p. 289)

In the longer run, however, credit programs must be accompanied by government policies that will ensure the increased incomes and economic viability of the majority of the rural population which would then improve the repayment capacity of borrowers as well as stimulate savings. As Gonzales-Vega (1986, p. 9) pointed out, "credit interventions cannot correct for the negative impact of other policies or compensate for low returns from rural investments." A successful credit policy must therefore be linked to other policies such as land reform, pricing policy, infrastructure development, etc. (Lamberte and Lim 1987). Without these policy reforms, the impact of any credit-supply related strategy may prove to be limited.

APPENDIX I
 STUDY AREA CLASSIFICATION OF 111 FARM HOUSEHOLDS BY TYPE OF
 ENVIRONMENT AND PROXIMITY TO TOWN MARKETS
 SELECTED PROVINCES, WET SEASON, 1983-84

Characteristics	Province location of households						
	Cagayan (HH = 20)			Iloilo (HH = 38)		Nueva Ecija (HH = 53)	
Farm location	Upland rainfed	Lowland rainfed	Lowland irrigated	Plateau/ Upland rainfed	Lowland irrigated	Lowland rainfed	Lowland irrigated
Average farm size	4.8	3.4	7.1	3.9	2.6	2.4	1.7
Usage of fertilizer	low	low	medium/low	low	high	medium	high
Usage of tractor, thresher, etc.	none	none	partial	none	full	partial	full
Average rice field	814	1176	3132	2764	4620	3552	4340
Access to nearest town market	10-15 km.	5.08 km.	4.7 km.	8-14 km.	0.5-3 km.	5-8 km.	2.4 km.
Number of HH samples	8	8	4	16	22	13	40
Study area classification	U	U	U	U	F	U	F
Total number of household sample in							
Unfavorable area	49						
Favorable area	62						

U - Unfavorable
 F - Favorable

REFERENCES

- Adams, Dale W. "Are the Arguments for Cheap Agricultural Credit Sound?" In *Undermining Rural Development With Cheap Credit*, edited by Dale W. Adams, Douglas H. Graham, and J.D. Von Pischke. Boulder, Colorado: Westview Press, 1984.
- Bardhan, Pranab. "Interlocking Factor Markets and Agrarian Development: A Review of Issues." *Oxford Economic Papers* (1980).
- Bhaduri, Amit. *The Economic Structure of Backward Agriculture*. London: Academic Press, 1983.
- Bottomley, Anthony. "The Premium for Risks as a Determinant of Interest Rates in Underdeveloped Rural Areas." *Quarterly Journal of Economics* 77 (1963).
- Braverman, A., and J. Stiglitz. "Moral Hazard and Interlinked Contracts in Rural Developing Economies." World Bank, Washington, D.C., 1980.
- Constantino, Renato. *The Philippines: A Past Revisited*. Foundation for Nationalist Studies, Quezon City, 1975.
- Dalisay, Amando. "Types of Tenancy Contracts on Rice Farms in Nueva Ecija." *Philippine Agriculturist* 26 (1937).
- David, C. C. "Credit and Rice Policies in Philippine Agriculture." Discussion Paper Series No. 82-2, Philippine Institute for Development Studies, May 1982.
- Deomampo, N., and M. Sardido. "A Survey of Marketing Policies for Agriculture in the Philippines." *Journal of Agricultural Economics and Development* IX (1979).
- Esguerra, Emmanuel. "The Redistributive Potential of the Masagana-99 Credit Subsidy." Masters thesis, University of the Philippines, 1982.
- _____. "Can the Informal Credit be Co-opted into Government Credit Programs?" *Journal of Philippine Development*, forthcoming.
- Floro, Sagrario L. "Credit Relations and Market Interlinkage in Philippine Agriculture." Ph.D. dissertation, Stanford University, 1987.
- Gonzales-Vega, Claudio. "The Ohio State University's Approach to Rural Financial Markets: A Concepts Paper," Economics and Sociology Occasional Paper No. 1248, Ohio State University, 1986.
- Hester, Evett et al. "Some Economic and Social Aspects of Philippine Rice Tenancies." *Philippine Agriculturist* 12 (1924): 367-444.
- Lamberte, Mario, and Joseph Lim. "Rural Financial Markets: A Review of Literature." Staff Paper Series No. 8702, Philippine Institute for Development Studies, 1987.
- McKinnon, Ronald. *Money and Capital in Economic Development*. The Brookings Institution, Washington D.C., 1973.
- McLennan, Marshall. *The Central Luzon Plain: Land and Society in the Inland Frontier*. Quezon City: Alemars-Phoenix Publishing House, 1980.

- Mears, Leon et al. *Rice Economy of the Philippines*. Quezon City: University of the Philippines Press.
- Ozaeta, Antonio. "The Role of Financial Institutions in Rural Development." Paper presented at Workshop on Rural Financial Market Research, Central Bank, January 6, 1987.
- Pelzer, Karl. *Pioneer Settlement in the Asiatic Tropics*. American Geographic Publishing, Inc., New York, 1945.
- Philippine Institute for Development Studies (PIDS). *Agenda for Action for the Philippine Rural Sector*. National Economic and Development Authority, Makati, 1986.
- Quiñones, Benjamin. "Explaining Variations in Interest Rates in Informal Rural Financial Markets in the Philippines." Masters thesis, University of the Philippines, 1982.
- Sacay, Orlando J.; Meliza H. Agabin; and Chita Irene E. Tanchoco. *Small Farmer Credit Dilemma*. Technical Board for Agricultural Credit, Manila, 1985.
- Serrano, Segfredo. "The Economics of Linking Credit to Other Markets in Camarines Sur, Bicol Region, Philippines." Masters thesis, University of the Philippines, 1983.
- Subido, Chita. "What's Wrong (or Right) About our Credit Policies?" Discussion Paper No. 81-10, School of Economics, University of the Philippines, 1981.
- Swaminathan, Madhura. "The Study on the Credit Behavior of Farm Families in Nueva Ecija." Agricultural Economics Department Paper No. 82-27, International Rice Research Institute, 1982.
- Technical Board for Agricultural Credit. *A Study on the Informal Rural Financial Markets in Three Selected Provinces in the Philippines*. Presidential Committee on Agricultural Credit, Manila, 1981.
- _____. "A Study on Selected Rural Banks Participating in the Supervised Credit Programs." Manila 1983.
- _____. "Follow-up Report on the Six 'Good' Rural Banks Participating in the Supervised Credit Programs." Manila, 1984.
- _____. *Agricultural Credit Study*. Manila, 1985.
- Technical Board for Agricultural Credit and UP Business Research Foundation, Inc. (TBAC-UPBRF). "Research Project on the Rural Financial Markets in the Philippines." Manila 1981.
- Tolentino, Bruce. "Current Imperatives and Developments in Philippine Agricultural Credit Policy." Agricultural Credit Policy Council, Manila, 1986. Mimeographed.
- Von Pischke, J. D., and Dale Adams. "Fungibility and the Design and Evaluation of Agricultural Credit Markets." In *Rural Financial Markets in Developing Countries*, edited by Von Pischke et al. Baltimore: Johns Hopkins University Press, 1983.
- World Bank. *Philippine Agricultural Credit Sector Review*. Washington D.C. Report No. 4117-PH, May 12, 1983.