

LAND PAWNING IN THE PHILIPPINES: AN EXPLORATION INTO THE CONSEQUENCES OF LAND REFORM REGULATIONS

GEETHA NAGARAJAN
M. AGNES QUISUMBING
KEIJIRO OTSUKA

I. INTRODUCTION

LAND pawning, alternatively referred to as usufruct mortgaging, is an interlinked land/credit transaction in which a pawner transfers his cultivation right temporarily to a pawnee for a loan for a specified period of time with an agreement to redeem it upon repayment without interest charges. While such a contract is not uncommon in other Asian countries (e.g., [6]), it has become particularly common in rice growing areas of the Philippines in recent years [1] [4] [5]. Unique to the Philippines is the fact that it is not necessarily the ownership right but, more importantly, the cultivation right of land reform beneficiaries (i.e., leasehold tenants and amortizing owners) that has been transferred through pawning.

In this country the land reform program, proclaimed in 1972, has been vigorously implemented in favorable rice growing areas [17]. Under the land reform program, share tenants are supposed to be converted either to leaseholders, when the landlord owned less than seven hectares of land, or to amortizing owners, when the landlord owned more than seven hectares. Both leasehold rents and annual amortization fee were fixed at about 25 per cent of average rice yield net of costs of seeds, harvesting, and threshing for three "normal" crop years preceding 1972. Since then, rice yields have significantly increased in favorable areas where high-yielding modern rice varieties have been adopted, thereby increasing the divergence between the returns to land and the leasehold rents or amortization fees prescribed by law over time. As a result, the "excess" profit accrues to the possession of cultivation right by the land reform beneficiaries. However, the land reform law prohibits the transaction of their cultivation rights except for the transfer to legitimate heirs through inheritance. Pawning of cultivation right, called *sangla*, is illegal but it can be easily concealed as a simple credit contract or temporary lending and borrowing of land without explicit rent payment. We postulate that the basic factor underlying the increased incidence of land pawning is the land rent regulations, coupled with technological change in rice farming, that have conferred the transaction value to the cultivation right of the land reform beneficiaries.

Pawning serves the dual role of exchanging loan and cultivation right, in which the pawner supplies land and demands credit, whereas the pawnee demands land and supplies credit. Therefore, the pawning contract can be considered either as a credit contract or as a disguised form of tenancy or subtenancy contract, in which the pawnee implicitly pays the rent in the form of forgone interest earnings. While the fact that the cultivation right commands a positive value is a prerequisite for its pawning, credit transaction motives or tenancy transaction motives, or both, must exist for the pawning contract to take place. If credit motives dominate, we expect to observe that the liquidity poor land reform beneficiaries obtain credit, using their cultivation rights as collateral, from the large farmers and other members of the wealthy rural class. If the tenancy transaction motives dominate, we expect to observe that the cultivation right is transferred from relatively land-abundant, large farm households to labor-abundant, small farm households, or from less efficient to more efficient farmers.¹ In other words, the rich tend to accumulate the operational holdings through pawning in the former case, whereas the pawning transaction may not have such adverse distributional consequences in the latter case. Whether and to what extent the credit and tenancy transaction motives affect the incidence of pawning transaction is a major empirical question to be addressed in this study.

Our analysis is based on a series of intensive farm household surveys in five selected villages in the Philippines for 1985–89. Section II briefly explains the land reform law in the Philippines, whereas Section III describes the technological and tenure characteristics of sample farmers and reports the incidence of pawning contracts. Section IV examines the impact of land reform implementation on the divergence between the returns to land and leasehold rents or amortization fees and the relationships between the incidence of pawning contract and tenure status as well as farm size of both pawners and pawnees. We identify determinants of farmers' decisions to pawn out and pawn in through logit regression analysis in Section V. We then examine the impact of pawning transactions on the incidence of a new labor contract, which is used as a substitute for subtenancy contracts in Central Luzon, in Section VI. Finally the policy implication of this analysis is discussed in Section VII.

II. LAND PAWNING AND PHILIPPINE LAND REFORM LAW

Philippine land reform law, declared by Presidential Decrees No.2 and No.27 in 1972, applies only to tenanted areas growing rice and corn, with exclusion of owner-cultivated areas and areas growing crops other than rice and corn. Landlords are allowed to retain seven hectares of land, to which the Operation Leasehold (LHO) program applies, and lands in excess of the retention limit are subject to the Operation Land Transfer (OLT) program [10]. Under the LHO program,

¹ As Otsuka, Chuma, and Hayami [19] argue and Hossain [12] empirically demonstrates, a basic economic function of tenancy transaction is to transfer the land from land-abundant to land-scarce farm households so as to equate the ratios of operational holdings to family labor endowments among households.

share tenancy is converted to leasehold tenancy with rent fixed at 25 per cent of average output net of costs of seeds, harvesting, and threshing for three normal crop years preceding the Presidential Decree. Under the OLT program, excessive lands are to be sold to former tenants at a price 2.5 times the gross normal output. The Certificate of Land Transfer (CLT) was distributed to eligible tenants, identifying their cultivation area and promising them the right to purchase the land, and CLT holders are required to pay amortization fees to the Land Bank within fifteen years. As Mangahas [14] has demonstrated, the annual amortization fee, if paid equally for fifteen years by installment, amounts to about 25 per cent of gross value of normal production in the early 1970s. Thus there is not much difference between the leaseholder and CLT holder status under the Philippine land reform program.²

In order to "protect" the status of the land reform beneficiaries, the land reform law prohibits pawning (or mortgaging to use the terminology in the Philippine Agrarian Reform Code) and sale of the cultivation right. In areas subject to the OLT program, the government is now the formal owner of the CLT lands and the lands under leasehold tenancy, which are expected to be converted to CLT lands in future. Therefore, the government can forfeit the cultivation right of the land reform beneficiaries, who are engaged in illegal transactions. The government can easily regulate the outright sale of the cultivation right, insofar as it is an owner of the land. However, it is difficult for the government to prepare clear evidence of pawning arrangement that can withstand law suits because the pawning contract is usually disguised as a simple credit contract or temporary lending and borrowing of land without any explicit rent payment. Moreover, the legal process must go through from mediation by village councils to municipal courts and, then, to higher courts. Since the pawning contract has the informal sanction of village communities and is usually approved by a village captain or councilman with formal signature, it is extremely difficult, if not impossible, to impose penalty on the practice of this contract. Because the administrative burden of taking legal action against the pawning contract is expected to be prohibitive, local agrarian reform officers tend to close their eyes on this open-secret illegal practice.

In areas subject to LHO program, the landlord still retains the ownership right of leasehold land. This implies that upon consent of the landlord the leasehold title can be legally transferred from the leaseholder to a third person, provided that such transfer does not involve payment to the tenancy title. In practice, such payment can be easily concealed and the illegal transfer of leasehold title is widely practiced with the approval of the agrarian reform office and the landlord, who does not care about such a transfer so long as the rent is paid.

Thus, the land reform regulations in the Philippines would have very different impacts on the transferability of the cultivation right in areas subject to LHO and OLT programs; while the leasehold title in LHO area can be "legally" transferable without recourse to land pawning, only land pawning is a feasible way to transfer

² In practice, many of the CLT holders did not regularly pay amortization fees, so that there are only a few of them who have completed the payment of amortization fees as of now.

the cultivation right of the land reform beneficiaries in OLT areas. In consequence, we expect that land pawning is more common in OLT area.

III. INCIDENCE OF PAWNING CONTRACTS AMONG SAMPLE FARMERS

Since pawning is illegal, it is difficult to obtain reliable information on its incidence by an ordinary farm household survey. We decided to resurvey 286 sample farmers in five selected villages, who were randomly selected and intensively surveyed by the International Rice Research Institute in 1985.³ Familiarity of enumerators with the sample farmers established through repeated interviews in the past greatly facilitated our resurvey conducted in 1989. Since many pawning contracts terminated within two to four years and the number of new contracts significantly changed from year to year, we collected information on all pawning contracts for five-year periods from 1985 to 1989 in order to remove erratic elements in pawning decisions over a shorter period of time.

Two villages are located in Central Luzon, whereas three villages are in Panay Island (see Figure 1). In the Central Luzon villages, called CL1 and CL2, large rice haciendas consisting of well over one hundred hectares existed before land reform.⁴ These two villages, therefore, are subject to the OLT program, even though most of the land reform beneficiaries are still leaseholders awaiting the conversion of their status to CLT holders.⁵ On the other hand, in the three villages in Panay Island, called P1, P2, and P3, landlords are mostly small to medium-sized landholders. Therefore, the areas are subject to LHO program except for a few exceptional cases.

These five villages are typical rice growing villages in Central Luzon and Panay Island, respectively, and the whole area is planted to rice during the wet season. Table I shows the number of sample farmers, average farm size, and technology characteristics in rice farming by village in 1985. The average farm size was substantially larger in the Central Luzon villages than in the Panay Island villages. CL1 and P1 are fully irrigated by well-maintained gravity irrigation systems, whereas CL2 and P2 are characterized by shallow, favorable rainfed conditions commonly found in the country. P3 is also rainfed but is located in a most unfavorable mountainous environment, which is prone to drought. Modern rice varieties (MVs) were fully adopted in CL1, CL2, and P1, whereas traditional varieties (TVs) were planted in the hilly part of P2 and mountainous part of P3

³ Results of the survey on land reform implementation are reported by Otsuka [16] and on rice production and income distribution by Otsuka, Cordova, and David [20].

⁴ According to information we gathered from ex-share tenants, the operation of haciendas was, in substance, no different from that reported by Takahashi [23] and Umehara [24] in rice haciendas in other parts of Central Luzon.

⁵ They have failed to obtain CLT holder status so far because of the various protests by their landlords, such as inaccurate measurement of tenanted areas and improper assessment of normal crop yields before the land reform.

Fig. 1. Location of Sample Villages

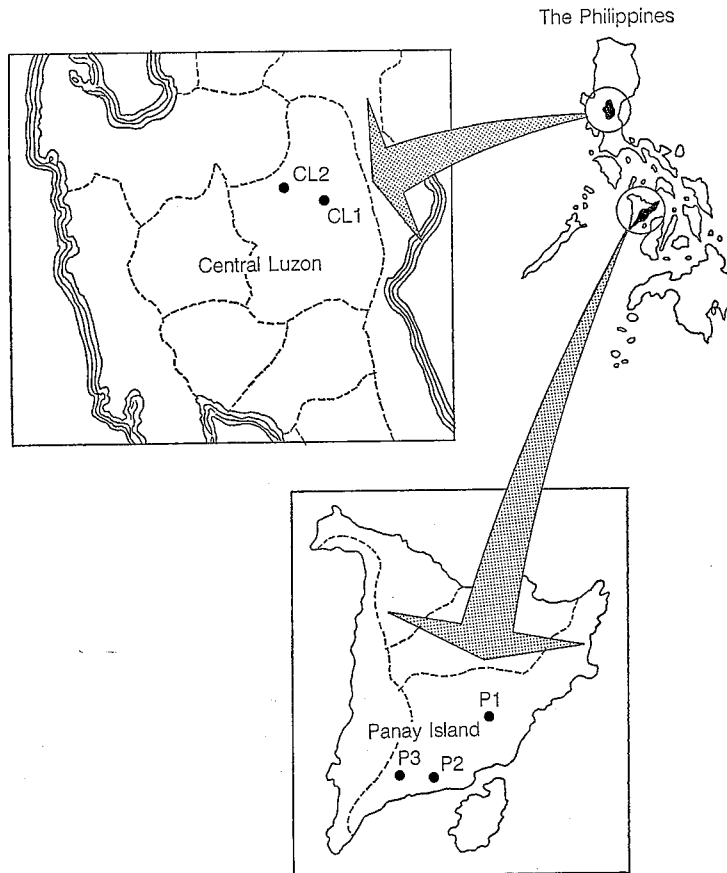


TABLE I
AVERAGE FARM SIZE AND TECHNOLOGY CHARACTERISTICS IN RICE FARMING
BY VILLAGE, 1985

	Central Luzon		Panay Island		
	CL1	CL2	P1	P2	P3
Number of sample farmers	85	52	37	65	47
Average farm size (ha)	2.1	1.7	1.1	1.4	0.9
Ratio of irrigated area (%)	100	16	100	0	0
Adoption rate of MVs (%) ^a	100	100	100	79	59
Rice cropping intensity	200	114	243	131	125
Average rice yield (t/ha) ^b	4.7	3.4	3.6	2.9	1.9

^a Figures refer to wet season only.

^b Weighted average of wet and dry season yields, weights being the ratios of planted areas.

TABLE II
DISTRIBUTION OF OPERATIONAL FARM AREAS BY TENURE AND BY VILLAGE,
1985 AND 1989 WET SEASONS

	Central Luzon		Panay Island			(%)
	CL1	CL2	P1	P2	P3	
Owner cultivator:						
1985	9	18	27	47	33	
1989	7	11	25	48	39	
Leasehold & CLT: ^a						
1985	80	76	38	32	8	
1989	65	68	31	25	15	
Share tenancy:						
1985	5	0	34	17	58	
1989	2	1	35	22	42	
Pawning:						
1985	6	6	2	5	1	
1989	26	20	9	5	5	

^a CLT refers to certificate of land transfer.

during the wet season.⁶ In the irrigated villages, more than two rice crops were grown. Double cropping of rice was practiced by several farmers in CL2 using irrigation pumps. With shorter growth duration of MVs and more even rainfall pattern in Panay Island, two crops of rice were grown under rainfed conditions in some parts of P2 and P3. Because of non-photo period sensitivity of MVs all rice varieties grown as second and third crops were MVs. Reflecting the differential adoption of MVs and different production environments, average yield per hectare was significantly higher in the irrigated than in rainfed villages, particularly the most unfavorable village, P3.

Before the land reform program was initiated in 1972, most farmers were share tenants in the Central Luzon villages, whereas both share tenants and owner cultivators coexisted in the Panay Island villages [16]. Land pawning was rarely practiced at that time according to our recall survey. Almost without exception, share tenants used to receive half of the rice output after deducting the harvesters' share and costs of purchased inputs supplied by landlords. The net share of output which accrued to tenants amounted to about one-third of gross output [11].

Table II shows the percentage distribution of operational farm areas by tenure in 1985 and 1989. Due to a relatively thorough implementation of land reform, share tenancy had almost disappeared in CL1 and CL2.⁷ Share tenancy persisted

⁶ According to a recent study of MV adoption in the Philippines by David and Otsuka [3], MVs have been almost fully adopted both in irrigated and shallow rainfed areas.

⁷ The relatively strict land reform implementation in the Central Luzon villages can be explained by the fact that the major political purposes of the land reform were to suppress rural unrest in Central Luzon and to strike a blow at the wealthy hacienda owners in that region [15] [25].

TABLE III
NUMBER OF PAWNING TRANSACTIONS AND NUMBER OF FARM HOUSEHOLDS
ENGAGED IN PAWNING CONTRACTS BY VILLAGE, 1985-89

	Central Luzon		Panay Island		
	CL1	CL2	P1	P2	P3
Pawning-out:					
Number of transactions	56	16	3	7	10
Number of pawners	38 (45)	10 (19)	3 (8)	4 (6)	8 (17)
Pawning-in:					
Number of transactions	29	15	2	8	16
Number of pawnees	19 (22)	9 (17)	2 (5)	5 (8)	6 (13)

Note: Numbers in parentheses show the percentage ratios to the total number of sample farmers.

in P1 and P2, even though many share tenants had been converted to leaseholders. In contrast, share tenancy was still very common in P3, where practically no land reform was implemented. An important finding from Table II is that areas under pawning contract increased considerably from 1985 to 1989, particularly in CL1 and CL2.⁸ Correspondingly areas under leasehold and CLT decreased in these two villages. In the Panay Island villages, pawning was much less common. Moreover, area under illegal practice of share tenancy increased in P2 and area under leasehold increased in P3. Note that our tenure classification in Table II is based on tenure status of cultivators, so that sub-leaseholders and sub-share tenants were included in leasehold/CLT and share tenancy categories, respectively.⁹ In P2 and P3, 10 to 30 per cent of tenanted areas were found to be subleased areas. Thus, the tenure changes in the Panay Island villages reflect the fact that though illegal, the direct transaction of tenancy right as well as subleasing arrangements was widely practiced. These observations suggest that in areas subject to OLT program, i.e., CL1 and CL2, where the transaction of cultivation right is strictly restricted, pawning contract is widespread, whereas in areas subject to LHO program, i.e., P1, P2, and P3, where direct transfer is feasible, pawning contract is less commonly used.

Table III, which shows the number of pawning transactions and the number of sample farmers engaged in pawning contracts both as pawner and pawnee from

⁸ It must be pointed out, however, that the incidence of pawning in 1985 would have been underreported, because the survey in that year was not specifically designed to obtain information on this illegal practice. It was found in subsequent surveys that while pawning contracts made in 1985 were accurately recorded, those made in earlier years were not well captured. According to informal discussions with key informants, however, very few pawning contracts were made before 1985.

⁹ Also note that in the Panay Island sample many cultivators are sons and sons-in-law of tenancy title holders, who did not explicitly pay rents to their parents. Our tenure classification is based on the tenure status of their parents in those instances.

1985 to 1989, also confirms the importance of pawning contracts in the Central Luzon villages. In CL1, as much as 45 per cent of sample farmers had pawned out at least once for the five-year period. Not only the number of pawning transactions but also ratios of farmers engaged in pawning were generally smaller in the Panay Island villages. Note that the number of pawners tend to be larger than the number of pawnees because many of the pawnees were traders and moneylenders, who resided in nearby towns and were not included in our survey.

It seems clear from Tables II and III that the pawning contract has become quite common in recent years and brought about considerable changes in the tenure structure in areas subject to strict land reform regulations. Such changes in the tenure structure may represent adjustments to a disequilibrium in the tenancy market created by the restriction on the transaction of cultivation right of the land reform beneficiaries. The major purpose of pawning contract, however, may lie in transaction of credit using the cultivation right as collateral. In the Philippines formal financial institutions supplied a huge volume of subsidized credit to the agricultural sector in the 1970s, but widespread default problems led to the drying up of credit funds [2]. As a result, it is now difficult to obtain cheap formal sector credit without collateral. Because of the restrictions on its transfer, the cultivation right of the land reform beneficiaries does not have collateral value, especially in credit transactions with formal financial institutions. Therefore, it is also reasonable to hypothesize that the pawning contract represents a response in the informal credit market to the imperfection of formal markets.

Since the cultivation right of owner cultivators are legally transferable, they ought to have better access to credit sources and wider options of farm size adjustments than the land reform beneficiaries. Hence we expect that the incidence of pawning the cultivation right of owner cultivators is less frequent. It is also important to note that we do not assert that the land reform beneficiaries tend to pawn in the cultivation right from other beneficiaries. The incentives to pawn in are determined not by the tenure status but by the total asset position of farmers, according to the credit transaction motive hypothesis, and by the relative endowments of land, family labor and management ability of farm households, according to the tenancy transaction motive hypothesis. In other words, we assert that the land reform beneficiaries have an option to pawn out their cultivation right but have no particular incentives to supply credit or demand additional land through pawning in, unless they are better endowed with assets and non-land resources.

IV. TENURE STATUS, FARM SIZE, AND PAWNING CONTRACTS

We hypothesized that the basic factor underlying land pawning by the land reform beneficiaries is the divergence between the returns to land and leasehold rents or amortization fees prescribed to be fixed at about one-fourth of yield in the early 1970s. Table IV compares average leasehold rent, amortization fee, share rent, and residual profit per hectare by village in 1985. Since share rents are freely determined by contracting parties, they can be considered as a proxy for the return

TABLE IV
COMPARISON OF LEASEHOLD RENT, AMORTIZATION FEE, SHARE RENT, AND
RESIDUAL PROFIT AMONG FIVE VILLAGES, WEIGHTED AVERAGE
OF WET AND DRY SEASONS IN 1985

	(1,000 P/ha)				
	Central Luzon		Panay Island		
	CL1	CL2	P1	P2	P3
Leasehold rent	1.7	1.5	2.3	1.5	1.3
Amortization fee	1.7	1.6	— ^a	— ^a	— ^a
Share rent	5.1	— ^a	3.2	2.6	1.7
Residual profit ^b	4.7	3.3	3.6	4.5	1.0

Note: Weights are ratios of planted areas.

^a Observations are too few or nonexistent.

^b Gross value of production minus actual costs of current inputs, hired labor, and hired capital as well as costs of family labor and owned capital imputed by prevailing wage rates and capital rentals.

to land.¹⁰ The residual profit is computed by subtracting actual and imputed costs of labor, current inputs, and capital from gross value of production, using the market wages and rentals of farm machinery and draft animals for imputation of costs of family labor and owned capital inputs.¹¹ The residual profit thus computed corresponds to the return to land and management as well as imputation errors. To the extent that the return to land is a dominant element in the residual profit, it can be regarded as another proxy for the return to land.

Leasehold rent was highest in P1, because only in this village MVs were fully adopted and the yield gain was realized before 1972. Leasehold rents were relatively similar among other villages, because yields with traditional varieties before 1972 were also similar. As expected, leasehold rents and amortization fees were almost identical in both CL1 and CL2. It is remarkable to observe that the returns to land proxies by share rents and the residual profits were substantially higher than leasehold rents and amortization fees except in P1, where leasehold rent was high, and in P3, where land reform had minimum impact.¹² It is clear that the land reform beneficiaries captured sizable gains from increased returns to land, which must have conferred positive transaction values to their cultivation right.

Hayami and Kikuchi [7] found that in a village in Laguna, where LHO program applied, the land reform beneficiaries (i.e., leaseholders) subleased their lands and captured the gap between the return to land and leasehold rent fixed by law in the

¹⁰ Note that share rents tend to be higher than leasehold rents by 20 to 40 per cent even in the absence of rent regulations because of the difference in risk premium arising from the fluctuation of rent revenue under the share contract. See Otsuka and Hayami [21] for a survey of the share tenancy literature.

¹¹ See Otsuka, Cordova, and David [20] for further detail.

¹² The estimated residual profits were relatively high in P2 partly because of particularly favorable rainfall and low in P3 partly because of a drought problem in the survey year of 1985.

TABLE V
INCIDENCE OF PAWNING CONTRACTS BY REGION AND BY TENURE STATUS, 1985-89

	Owner Cultivators	Leaseholders and CLT Holders	Share Tenants
Central Luzon:			
Total number of sample farmers	17 (100)	118 (100)	2 (100)
Number of pawners	5 (29)	44 (37)	1 (50)
Number of pawnees	4 (24)	25 (21)	0 (0)
Panay Island:			
Total number of sample farmers	58 (100)	40 (100)	51 (100)
Number of pawners	13 (22)	2 (5)	2 (4)
Number of pawnees	13 (22)	1 (3)	2 (4)

Note: Numbers in parentheses show the percentage ratios to the total number of sample farmers.

form of subrent. A recent resurvey of the same village by Hayami et al. [8] also found that direct transactions of leasehold title with the consent of landlords were widely practiced. As a result, the pawning of leasehold title was seldom used to transfer the leasehold title in this village.

Similarly in the Panay Island villages, subleasing and leasehold title transactions were common and pawning transactions were less frequent. In fact, Table V shows that only two leaseholders had pawned out their cultivation rights from 1985 to 1989 in the Panay Island villages.¹³ In contrast, 37 per cent of the land reform beneficiaries in the Central Luzon villages had pawned out their cultivation rights at least once for the five-year period. As our hypothesis implies, the land reform beneficiaries in the Central Luzon villages subject to the OLT program pawned out their cultivation rights more frequently. The number of land reform beneficiaries who pawned out (i.e., pawners) were comparatively larger than those who pawned in (i.e., pawnees) in these villages. Not unexpectedly, the land reform beneficiaries do not seem to have particular incentives to pawn in additional lands. A relatively small number of owner cultivators pawned out in the Central Luzon villages. Given the options of using their lands as collateral for credit and of selling their lands, there is good reason to expect that owner cultivators do not pawn out their lands. To the extent that they are wealthier and/or more efficient farmers, however, they may want to expand their cultivation areas by pawning in.

¹³ There were a small number of farmers, who held mixed tenure status. For those mixed tenants, the dominant tenure in terms of cultivation areas is used for the tenure classification in Table V.

TABLE VI
INCIDENCE OF PAWNING CONTRACTS FOR 1985-89 BY FARM SIZE CLASS IN 1985

	Farm Size Class (ha)			
	Less than 1	1-2	2-3	3 and above
Central Luzon:				
Number of sample farmers	54 (100)	39 (100)	23 (100)	21 (100)
Number of pawners	19 (35)	15 (38)	8 (35)	6 (29)
Number of pawnees	8 (15)	7 (18)	4 (17)	9 (43)
Panay Island:				
Number of sample farmers	84 (100)	48 (100)	8 (100)	9 (100)
Number of pawners	8 (10)	7 (15)	0 (0)	0 (0)
Number of pawnees	7 (8)	3 (6)	2 (25)	1 (11)

Note: Numbers in parentheses show the percentage ratios to the total number of sample farmers.

Generally, however, they are relatively small farmers. On the other hand, share-tenants in general do not pawn out their lands presumably because share rents are close to the returns to land. Moreover, they are generally poor because of high rent payment, so that they would not have much incentive to pawn in additional lands.

An important distributional question is whether smaller farmers tend to pawn out their lands to larger farmers. That is expected to be the case, if the credit motive dominates farmers' decisions to enter pawning contracts. Table VI shows the incidence of pawning contracts for 1985-89 by farm size class in 1985. According to this table there is no close association between the ratio of pawners and their farm size. There is therefore little indication that the farmers' decision to pawn out their cultivation rights is positively correlated with farm size. In the Central Luzon villages, however, the ratio of pawnees is particularly high among larger farmers, who cultivated more than three hectares of land. This indicates that the farm size is likely to be positively associated with farmers' decision to pawn in. The descriptive analysis, however, cannot sort out relevant and irrelevant factors explaining the pawning decisions. Therefore, we estimate the logit functions to identify the determinants of farmers' decisions to pawn in and pawn out in the next section.

V. DETERMINANTS OF PAWNING CONTRACTS

We estimated separate logit functions for pawning-out and pawning-in, in which dependent variables were unity if a farm household had ever engaged in the

pawning contracts as a pawner in the former case and as a pawnee in the latter case from 1985 to 1989. We specified the same set of independent variables for both functions.

We used four independent variables, which are expected to be related to the credit demand or supply of farm households; they are farm size, the current estimated value of non-land physical assets (e.g., farm machinery, draft animals, livestock, and buildings), schooling of household head as a measure of human capital, and the number of household members. Suspecting that farm size and non-land assets are endogenous variables, we used area of inherited land and the current value of inherited assets. If the loan demand is a critical determinant of pawning transactions, the first three variables (farm size, non-land asset, and schooling) are expected to affect the decision to pawn out negatively and to pawn in positively. The converse will be case for the number of household members, because the credit need increases and the asset endowment per person decreases with the membership. Furthermore, according to our survey, the most important reason for pawning-out is to invest in children's schooling and temporary migration to the Middle East countries. Thus, the larger number of household members may be associated with the larger demand for credit for the purpose of those human capital investments.

Since land pawning is illegal, various problems can potentially occur, if the contracting parties do not truthfully obey the contractual agreements. Therefore, personal reputation is considered to be an important qualification to enter a pawning contract. Though imperfect, we used residential stability, which is defined as the number of years staying in the village to one's age, as a variable related to personal reputation. The larger the residential stability, the greater will be the involvement in the village community and the more well known will be personal attitudes and performance in the past. We hypothesize that this variable has positive effects on the probabilities of entering the pawning transactions as both pawners and pawnees.

As variables reflecting the tenancy transaction motives, we used the land-worker ratio, which is defined as the ratio of farm size to the number of household members aged between fifteen and sixty, and the residual profit per hectare per year as of 1985. The greater the land-worker ratio, the smaller will be the demand for cultivated land, which implies that the land-worker ratio is positively associated with pawning-out and negatively with pawning-in. On the other hand, the larger the residual profit, the more efficient will be the farming. Thus this variable is hypothesized to be associated negatively with pawning-out and positively with pawning-in, if the tenancy transaction motive plays a role in the pawning transactions.

Finally, we included leasehold/CLT area ratio (LH), owner-cultivation area ratio (OC), and their interaction terms with Central Luzon region dummy to test the hypothesis that it was primarily the land reform beneficiaries in the Central Luzon villages who pawned out because of the strict land reform regulations.¹⁴

¹⁴ Note that LH and OC variables are either one or zero except for a small number of cases in which farmers had mixed tenure status.

TABLE VII
DETERMINANTS OF THE PROBABILITY OF FARM HOUSEHOLDS ENGAGING IN
PAWNING-OUT TRANSACTIONS: MAXIMUM LIKELIHOOD LOGIT ESTIMATES

	Whole Sample (1)	Central Luzon Sample (2)	Panay Island Sample (3)
Intercept	-1.94** (-4.03)	-2.02** (-3.41)	-0.54 (-0.69)
Farm size	-0.03 (-0.51)	0.07 (0.93)	-0.30* (-1.68)
Non-land asset	-9.12** (-3.51)	-18.31** (-4.30)	-2.93 (-0.87)
Schooling	-0.11** (-2.71)	-0.08 (-1.33)	-0.21** (-2.94)
Number of household members	0.11* (2.21)	0.33** (3.85)	-0.01 (-0.10)
Residential stability	0.68* (1.87)	0.69 (1.40)	0.92 (1.42)
Land-worker ratio	-0.06 (-0.58)	-0.16 (-1.16)	0.31 (0.98)
Residual profit	-0.02 (-0.77)	-0.01 (-0.32)	-0.13 (-1.49)
Leasehold ratio (LH) ^a	-0.28 (-0.63)	0.42* (2.22)	0.04 (0.10)
Owner-cultivation ratio (OC)	0.25 (0.56)	0.49 (1.29)	0.13 (0.22)
LH × Luzon dummy	1.87** (2.41)		
OC × Luzon dummy	0.02 (0.04)		
Luzon dummy	1.20** (3.26)		
Chi square	93.31	63.27	23.51
Log-likelihood	-261.98	-140.70	-105.22

Note: Numbers in parentheses are asymptotic *t*-values. ** indicates significance at 1 per cent level; * at 5 per cent level.

^a LH includes cultivated area by CLT holders.

We expect that the interaction term between LH and the Central Luzon dummy in the pawning-out function is significantly positive. In order to control other differences between Central Luzon and Panay Island, the Central Luzon region dummy was also added.¹⁵

The estimation results of pawning-out logit functions are shown in Table VII. In order to examine the possible differences in slope coefficients between Central

¹⁵ We also estimated the logit functions using village dummies rather than the Central Luzon region dummy. Results, however, are qualitatively unchanged.

Luzon and Panay Island cases, the separate functions are estimated for each region [equations (2) and (3)] in addition to the estimation with the whole sample [equation (1)]. In equation (1) most coefficients have expected signs and about half of them are significant. The estimated coefficients are substantially different between equations (2) and (3), which suggests that significant structural difference existed between the two regions. Yet none of the coefficients are significant in opposite directions.

Judging from negative and highly significant coefficients of non-land asset and schooling variables and positive and significant coefficient of the number of household members in equation (1), the asset-poor farmers, who must support a large number of household members, tend to pawn out their cultivation right. These results are consistent with the credit motive hypothesis for the pawning contract. The estimated coefficient of the inherited farm size variable, however, is not significant, except in equation (3), which used only Panay Island samples. This may be because it was primarily tenure status rather than mere farm size that determined the asset value of land.

As hypothesized, residential stability has positive and significant coefficient in equation (1), reflecting the illegal nature of pawning contracts. The estimated coefficients of land-worker ratio and residual profit, however, are not significant, which suggests that neither land-abundant households nor inefficient farmers transferred their cultivation right through pawning-out. Thus, the tenancy motive hypothesis is rejected.

The hypothesis that the land reform beneficiaries in the Central Luzon villages pawn out their cultivation right is borne out by the highly significant coefficient of the interaction term between LH and Central Luzon dummy in equation (1) and the significant coefficient of LH variable in equation (2). Non-significance of LH and OC variables across equations and of OC-Luzon dummy interaction term in equation (1) would imply that those who have other options to transfer their cultivation right did not dare to pawn out. In other words, it was the land reform beneficiaries in the Central Luzon villages who have been forced to pawn out their cultivation rights because of the strict regulations on the direct tenancy title transactions.

The estimation results of pawning-in probability functions are exhibited in Table VIII. The inherited farm size has positive and highly significant coefficients in all three equations, non-land asset and schooling of household head have positive and significant coefficients in equations (1) and (2), and the number of household members has negative and significant coefficient in equation (2). These results suggest that the rich farmers, who do not have to support a large number of household members, tend to pawn in the cultivation right to expand their operational holdings. These results are again consistent with the credit motive hypothesis of pawning transactions.

As expected, residential stability has positive and significant coefficients in equations (1) and (2). For the decision to pawn in, there is weak support for the tenancy transaction motive hypothesis: land-worker ratio has negative and significant coefficient in equation (1), suggesting that the farm households endowed

TABLE VIII
DETERMINANTS OF THE PROBABILITY OF FARM HOUSEHOLDS ENGAGING IN
PAWNING-IN TRANSACTIONS: MAXIMUM LIKELIHOOD LOGIT ESTIMATES

	Whole Sample (1)	Central Luzon Sample (2)	Panay Island Sample (3)
Intercept	-2.97** (-5.90)	-2.54** (-3.92)	-3.20** (-4.34)
Farm size	0.23** (4.32)	0.18** (2.11)	0.20** (2.56)
Non-land asset	3.87** (3.14)	15.58** (5.36)	-0.77 (-0.39)
Schooling	0.09* (2.32)	0.22** (3.10)	0.06 (1.16)
Number of household members	-0.01 (-0.17)	-0.33** (-2.82)	0.06 (0.86)
Residential stability	0.61* (1.65)	1.00* (1.81)	0.81 (1.41)
Land-worker ratio	-0.24* (-1.92)	-0.27 (-1.41)	0.03 (0.11)
Residual profit	0.02 (1.17)	0.00 (0.16)	0.07* (1.76)
Leasehold ratio (LH) ^a	-0.45 (-1.17)	-0.24 (-1.04)	-0.57 (-1.40)
Owner-cultivation ratio (OC)	-0.74* (-2.23)	-0.82** (-1.99)	-0.54 (-1.53)
LH × Luzon dummy	0.29 (0.70)		
OC × Luzon dummy	0.53 (1.22)		
Luzon dummy	0.29 (0.83)		
Chi-square	59.29	77.42	19.62
Log-likelihood	-261.51	-106.54	-133.91

Note: Numbers in parentheses are asymptotic *t*-values. ** indicates significance at 1 per cent level; * at 5 per cent level.

^a LH includes cultivated area by CLT holders.

with large area relative to family labor did not pawn in land; and residual profit has positive and significant coefficient in equation (3), implying that at least in Panay Island villages the more efficient farmers pawned in.

Among the tenancy related variables, only the coefficients of OC in equations (1) and (2) are significant, but unexpectedly negative. We do not have any particular clear-cut reason for such results. It must be pointed out, however, that there was a relatively small number of owner cultivators in our sample farmers, particularly in the Central Luzon villages. More interesting are the results that the status of land reform beneficiaries did not affect the decision to pawn in. Thus

the land reform beneficiaries supply lands to the non-beneficiaries, but not vice versa.

To sum up, the results of the logit analysis in this section support the hypotheses that the pawning contract is designed primarily to circumvent the land reform regulations on the transaction of the cultivation right of the land reform beneficiaries and that the demand for and the supply of credit are the major forces underlying the pawning transactions. The puzzle is that despite the legally imposed distortion in the tenancy market, the tenancy transaction motive is of secondary importance in land pawning. In the next section we explore how the "tenancy market" operates under the land reform regulations on tenancy transactions.

VI. PAWNING AND A NEW LABOR CONTRACT IN CENTRAL LUZON

In the Panay Island villages, the outright sale of the cultivation rights of leaseholders as well as subleasing of their lands among the small circle of relatives and close friends are pervasive. Under such conditions significant disequilibrium in the tenancy market will not arise. In contrast, such illegal practices are seldom observed in the Central Luzon villages due to the strict implementation of land reform programs. Unless the tenancy titles are transferred from those who own excessive lands to those who would like to cultivate additional lands, the disequilibrium in the tenancy market may accumulate over time. As we have seen, however, the tenancy transaction motives explain at best only a small part of the pawning transactions. On the contrary, the pawning transaction appears to aggravate the disequilibrium in the tenancy market by transferring the tenancy rights to larger farmers. The question is how the wealthy large farmers, who have accumulated the cultivation rights through pawning, managed their operational holdings.

Hayami and Otsuka [9] observe that a "new" labor contract called *kasugpong* has recently become common in Central Luzon.¹⁶ Under this contract a laborer receives either a fixed-sum of paddy or 10 per cent of gross output at the end of a crop season in exchange for his continuous labor service throughout the season. *Kasugpong* laborers come mostly from the landless laborer class. Although the payment of proportional share of output resembles share tenancy, such *kasugpong* contract (also called *porcientuhan*) is not usually considered as tenancy contract because of the low output sharing rate. According to Otsuka, Marciano, and Hayami [22], however, tasks performed by the *kasugpong* laborer are essentially the same as those by tenants and owner cultivators, e.g., land preparation, water control, chemical applications, and the supervision of casual laborers. Therefore,

¹⁶ The *kasugpong* contract itself existed even before the land reform. Traditionally, however, the *kasugpong* laborer was a young boy who stayed in farmer's house and helped with farm tasks as well as the household activities of a master-farmer. Typically he worked together with his master on the farm and took care of draft animals throughout the year. The *kasugpong* contract practiced at present is new in the sense that the laborer is assigned the obligation of performing certain farm tasks, as in the case of tenant cultivation.

TABLE IX
 DISTRIBUTION OF OPERATIONAL HOLDINGS OF SAMPLE FARMERS, PAWNEES,
 AND NON-PAWNEES, AND THE INCIDENCE OF KASUGPONG CONTRACTS IN
 CENTRAL LUZON VILLAGES, 1989

	Farm Size Class (ha)				Total
	Less Than 1	1-2	2-3	3 and Above	
Number of sample farmers	54	39	23	21	137
With <i>kasugpong</i> labor	1 (2)	6 (15)	3 (13)	8 (38)	18 (13)
Number of pawnees	8	7	4	9	28
With <i>kasugpong</i> labor	0 (0)	1 (14)	1 (25)	7 (78)	9 (32)
Number of non-pawnees	46	32	19	12	109
With <i>kasugpong</i> labor	1 (2)	5 (16)	2 (11)	1 (8)	9 (8)
z-statistics of the difference in ratios ^a	-0.42	-0.09	0.93	3.24**	3.34**

Note: Numbers in parentheses show the percentage ratios to the total number of sample farmers, pawnees, and non-pawnees, respectively.

^a Pertains to the difference in ratios of farmers employing *kasugpong* labor between pawnees and non-pawnees.

they hypothesize that the *kasugpong* contract is used by large farmers as a substitute for tenancy or subtenancy contracts because of the present land reform regulations on tenancy title transactions.

We would further hypothesize that the pawning contract enhances the incidence of the *kasugpong* contract, as the larger farmers accumulated the lands through pawning not because they are endowed with abundant family labor relative to land but because they are in a better position to supply credit. If this is the case, the ratio of pawnees who employ *kasugpong* labor will be higher than the ratio of non-pawnees who employ *kasugpong* labor.

Table IX compares the distribution of operational holdings of all sample farmers, pawnees, and non-pawnees with *kasugpong* labor contracts in the Central Luzon villages in 1989. Among the sample farmers there is a tendency for larger farmers to employ *kasugpong* labor more frequently. This is consistent with the hypothesis of Otsuka, Chuma, and Hayami [18] that the *kasugpong* contract is used as a substitute for tenancy contract by large farmers. It can be also observed that such a tendency is stronger for the pawnees than for the non-pawnees. In fact, z-statistics of the difference in ratios of farmers employing *kasugpong* labor between the pawnees and non-pawnees are highly significant for the largest farm size class (three hectares and above) and the case of total comparison (last column). This seems to support the hypothesis that while the disequilibrium in the tenancy market is aggravated by the pawning contract, the *kasugpong* contract is employed to mitigate such disequilibrium.

The *kasugpong* contract, however, is found to be inefficient relative to tenancy contracts and owner cultivation, according to a comparison of physical yield and residual profit per hectare by Otsuka, Chuma, and Hayami [18] using the data collected in CL1. They attribute the inefficiency of the *kasugpong* contract to insufficient work incentives provided to the laborers due to the payment of a fixed-sum or a small proportion of output. Historically in Central Luzon traders, who accumulated the lands through land pawning of owner-cultivated areas, entered into a tenancy contract with the pawners [13]. At present, not only traders but also large farmers, who pawned in the cultivation right of land reform beneficiaries, tend to employ *kasugpong* laborers to cultivate the accumulated lands, because subleasing is strictly prohibited. Thus, the pawning contract induced the use of an inefficient labor contract under the present land reform regulations.

VII. CONCLUDING REMARKS

This article explored the causes for the recent surge in the incidence of land pawning contracts in the Philippines. The major conclusions can be summarized as follows: (1) the regulation of leasehold rents and amortization fees at a level lower than that of market equilibrium conferred the transaction value to the cultivation right of the land reform beneficiaries; (2) farmers transferred their cultivation right through the illegal practice of land pawning because its transaction is legally prohibited; and (3) the cultivation right is transferred from the poor to the rich in accordance with credit transaction motives partly because it cannot be used as collateral in the credit market. In short, the results of our analysis strongly indicated that land pawning is largely a consequence of the land reform regulations on leasehold rents and amortization fees and on the transaction of tenancy titles, coupled with imperfect credit markets.

Land pawning under the present land reform regulations led to the inequitable distribution of operational holdings, which further resulted in the use of the inefficient labor contract. If the current trend continues, both the efficiency of production and the equity of distribution in rural areas of the Philippines, where the land reform programs have been strictly implemented, will deteriorate further.

To restore efficiency and equity, appropriate policy measures must be taken. So far as the need for credit is a major motivation of the poor farmers to pawn out their cultivation right, an obvious solution may be to provide cheap credit to those farmers. The difficulty of implementing such a program, however, is evidenced by the failure of the public sector credit program in the 1970s in the Philippines. Another solution may be to grant the right to transfer the tenancy titles to the land reform beneficiaries. Under the present regulations, the land reform beneficiaries in OLT areas cannot use their cultivation right as collateral for credit, precisely because it is not transferable. Yet the cultivation right has a transaction value. Therefore, if it is made transferable, the land reform beneficiaries can use it to obtain credit from outside sources including formal financial institutions without engaging in pawning transactions. In fact, we observed that pawning of the cultivation right was much less common in the Panay Island

villages, where the cultivation right was actually transferable. It seems that unless the restriction on the tenancy title transaction is relaxed, the current trend toward inefficiency and inequity cannot be reversed.

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