The economics of sharing: a transactions cost analysis of contractual choice in farming

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This article analyzes the reasons for the adoption of contracts in which factors receive a share of output as payment. Previous theories are unsatisfactory in that their assumptions and predictions are inconsistent with basic features of activities in which such contracts are used. A new explanation is offered based on the transactional problems of multiperiod contractual relationships. It is shown that share rents can solve transactional problems when fixed rents have high transactions costs and internal organization cannot be used because of monitoring problems.

1. Introduction

■ Contractual relationships in which two distinct factors of production are each paid a proportion of output have existed for millennia (Higgs, 1894, p. 5). In the United States these shares contracts were the most popular agricultural rental contract from 1880 to 1964 (Reid, 1979, p. 288). Recently, several theories have been constructed to explain the existence of shares contracts (Cheung, 1969; Stiglitz, 1974; Lucas, 1979). However, as shown below, these theories use assumptions and make predictions which are inconsistent with basic features of agriculture. In this article I present an alternative theory whose assumptions and predictions are consistent with these features. Most of the article is concerned with farming, but the concluding section briefly considers franchised distribution.

Previous theories of the existence of sharing have assumed that land quality is known, that contract choice is determined by short-run considerations, and that contracts are exchanged in competitive markets. These assumptions allow one to ignore the influence of transactions costs on contract choice. In this article, it is argued that it is reasonable to assume that land quality is unknown, that multiperiod considerations are crucial, and that small numbers bargaining is important. Using these assumptions, Williamson's (1975, 1979) transactions costs approach is employed to show that transactions costs are a crucial factor in contract choice. Then a new theory of the existence of sharing is presented by using the transactional approach.

Existing theories predict that share rates will vary in response to the large geographical and temporal variations in farm size, factor productivities, and factor scarcities. These predictions are not borne out in observations of shares markets. Contract terms are often stable over time and frequently show little spatial variation[1]—characteristics often at-

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[1] This statement does not imply that terms do not vary, but rather that variation is less than expected if terms reflected competitive valuations. The weight of opinion seems to be behind the conclusion of uniformity of agricultural share rates. DeCanio (1974, p. 165), in summarizing a systematic survey, refers to the "relative uniformity of [*post bellum* share rates], given the wide variation in their location, point in time, factor definitions,

tributed to the force of custom (Heady and Jensen, 1954, p. 563). The present theory explains both the lack of temporal and geographical variation and the role of custom in influencing contract terms. Existing theories also predict that the popularity of sharing is positively related to the riskiness of production.[2] However, Rao (1971, pp. 586–587), Roumasset (1976, p. 94), Bardhan and Srinivasan (1971, p. 58), Reid (1973, p. 121), and Wright and Kunreuther (1975, p. 544) present empirical evidence which is inconsistent with this prediction.[3] This article provides a theory which does not depend on risk-sharing.

2. Features of farming relevant to transactional considerations

■ In this section, I identify characteristics of farming which are relevant to a transactions costs analysis. Some immediate implications are also identified.[4]

(1) *Joint product.* In producing output, farmers change land quality. Land quality, the second output, can change dramatically with changes in operating procedures (Heady and Jensen, 1954, pp. 344–347). The *ex post* value of a contract to a landlord will depend critically on the tenant's use of the land.
(2) *Complex specification of land use.* As instructions on land use are too complex to specify exactly, contracts are always incomplete (Beneke, 1955, pp. 41–48).
(3) *Landlord authority and insecure tenure.* Characteristics (1) and (2) have an implication so immediate that it can be said to be a condition of transactions even though it is a result of transactors' choices. As land use is crucial to landlords and contracts are incomplete, landlords retain the right to give instructions on land use (Beneke, 1955, pp. 47–48). Authority is enforced by using short-term contracts. Thus, rental markets are characterized by recurrent contracting.
(4) *Long payoff period on investment in land.* Many investments in land are only profitable in the long run and will not be willingly undertaken by a tenant who expects a short tenure.[5] Consequently, tenant perception of security of tenure is crucial for efficient land use. Characteristics (3) and (4) lead to a paradox. Landlords want "a short lease but long tenure" (Heady and Jensen, 1954, p. 577).
(5) *Costly monitoring of land use.* Supervision of a tenant is a "sizeable management task" (Wallace and Beneke, 1956, p. 6). Landlords gain considerably if the tenant naturally uses the land in a manner consistent with the landlord's preferences.
(6) *Variability and nonmeasurability of land quality.* Quality variations between farms are large (Black, 1953, p. 553). Even existing tenants are unsure of land quality (Hedges, 1963, p. 88). Landlord and tenant are unlikely to concur in judging quality.
(7) *Informational asymmetry.* Prospective tenants usually have had less experience than landlords (Black, 1953, pp. 596–597) and are unlikely to know the characteristics of a particular farm. As a result, landlords know the potential value of a farm better than

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and reliability. . . ." (See also Tables B.1 and B.2, pp. 287–288.) Reid and Shlomowitz have objected to the standard opinion on uniformity. Reid (1973, p. 119) has shown variation in rates in the *post bellum* South. (His conclusion that side conditions varied more is consistent with the present theory. The theory predicts that use of a particular rate may be symbolic, but that informational difficulties prevent comparison of side conditions). Shlomowitz' (1979, pp. 564–566) data show variation, but as some rates are very common, his evidence is not conclusive.

[2] Although Lucas (1979) has argued that labor monitoring costs explain the use of sharing, it can be shown that, if risk is absent, sharing is inferior to money rents.

[3] Cheung (1969, pp. 70–71), Huang (1974, p. 124), and Bardhan (1977, pp. 115–116) present evidence consistent with a positive relationship.

[4] The works cited are mainly books for practitioners (farm management textbooks). Information from such books will be consistent with that held by those making contracts.

[5] This does not mean that landlords should guarantee tenure. Landlords cannot tell which tenants will abuse the land. Thus, short-term contracts are necessary.

prospective tenants. Also, because landlords set the requirements for land use, they must know more than tenants about future requirements.

(8) *Tenant immobility.* As tenants invest in location-specific farm machinery (Wallace and Beneke, 1955, p. 82) and acquire a large amount of knowledge in running a specific farm (Hedges, 1963, p. 87), they will lose human and physical capital if their contracts are terminated. They are often immobile in the sense that present income is higher than net opportunity income (Fitzroy and Mueller, 1980, p. 17).

In the next section, these characteristics are shown to be important determinants of the transactions costs of different contractual modes. Characteristics (1), (2), and (3) are assumed to affect all transactions.[6] Thus, the underlying conditions of specific transactions are described by the configurations of characteristics (4)–(8).[7]

3. An organizational failures analysis of farming

■ The thesis of this article is that, under certain conditions, share contracts will be chosen because of their relative transactional efficiency. The thesis does not imply that sharing will always be used in farming. The transactions costs of contractual modes are determined by an interaction between the mode's properties and the conditions underlying the particular transaction. Thus, in identifying the variables which affect these conditions, the present theory identifies those variables which could predict the probability that sharing will be used.

It is assumed that choice must be made between fixed rents (i.e., markets), internal organization (i.e., hired labor), and sharing.[8] In this section, Williamson's (1975, 1979) analysis of markets and internal organization is applied to a transaction having underlying conditions described by characteristics (1)–(8). The analysis of markets is immediately applicable only when a good or service is exchanged for a fixed monetary amount. As will be shown later, share-rent transactions are different from usual market transactions. Therefore, Williamson's analysis of markets will apply to fixed rents but not to share rents.

Consider first fixed-rent markets.[9] Williamson identifies two situations in which market transaction costs are high. First, when bounded rationality is combined with complexity and/or uncertainty, complete contingent claims contracts are unattainable while sequential spot contracts may be hazardous. In farming, bounded rationality is important because of tenant inexperience and the nonmeasurability of land quality. Complexity occurs in specification of the tasks for land maintenance. Thus, sequential contracts are inevitable, but are likely to be hazardous for both the immobile tenant and the landlord protective of land quality.

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[6] Characteristic (3) is really a product of choice. However, it follows immediately from (1) and (2). Thus, (3) can be treated as a given. Therefore, the present analysis is not applicable where (3) does not hold because, for example, tenure is guaranteed in law.

[7] The method of analysis is similar to Williamson's (1979). Williamson identifies three dimensions for characterizing transactions: uncertainty, frequency, and idiosyncracy. Characteristic (3) refers to frequency and characteristics (2) and (6) refer to uncertainty. The problems Williamson links to idiosyncracy are similar to those identified here as the result of characteristics (6) and (8). I have identified a greater number of dimensions for characterizing transactions than Williamson because his analysis is more general. Where they overlap, the two studies' predictions are consistent.

[8] Williamson (1979) has identified four "governance structures." To the three listed, he adds trilateral governance. (Sharing is an example of "bilateral governance.") I do not examine trilateral governance since it has not been considered in the standard literature on sharing. There is also an argument which rules out trilateral governance. As the degree of uncertainty is large, an elaborate arbitration procedure is required. However, owing to diseconomies of scale, transactional units are small. Thus, these units cannot support a specialized arbitration procedure.

[9] As this analysis relies heavily on Williamson (1975), it is kept brief to devote as much attention to sharing as possible.

Transactions costs of markets may also be high when opportunism and small numbers are combined. Landlords and tenants have the ability and the incentive to be opportunistic in misrepresenting quality and disguising intentions on contract renewal and land maintenance. If large numbers led to competitive bidding, opportunism would not be a problem. However, the large-numbers condition may be "illusory" (because heterogeneity is ignored) or may not be present at contract renewal (Williamson, 1975, p. 27). Prospective tenants do not have the necessary quality information to make the types of bids which would temper opportunism. Even if tenants know land quality exactly, landlords can be opportunistic and take advantage of tenants' immobility.[10]

The foregoing implies that, given conditions likely to occur in farming, the transactions costs of fixed rents may be large. However, two caveats must be borne in mind. First, special circumstances may make the analysis inapplicable. For example, if trust exists for noneconomic reasons (e.g., family ties), sequential contracts are not hazardous and opportunism will not occur. Second, the analysis is useful only if there is an alternative without the problems of fixed rents. Then the analysis can be used to identify the variables which affect the *relative* transactions costs of fixed rents: for example, complexity of land maintenance procedures and variation in land quality.

Williamson (1975) has identified properties of transactional modes used when markets have high transaction costs.[11] These properties show the contracting needs which arise in farming when fixed rents are costly. First, an alternative mode should economize on bounded rationality by facilitating adaptive sequential decisionmaking by a single authority. In farming, land use decisions must be made in such a manner. Therefore, the contract must foster the development of trust which reduces the risk associated with the sequential decisions of the landlord. Second, a viable mode must promote convergent expectations and improve coordination. Convergence of expectations on security of tenure will reduce monitoring costs and improve land use. Third, transacting parties need to reduce the bargaining and maladaption costs caused by opportunism. In farming, these costs may be high because of disagreement over land quality and the likelihood of a secure tenure. Fourth, an alternative mode must facilitate dispute resolution. When the land is damaged or tenants feel threatened by their immobility, a mechanism for dispute resolution is needed. Lastly, Williamson emphasizes the value of "atmosphere." Atmosphere is valued for its own sake and for the fact that it may improve productivity by fostering consummate cooperation (Williamson, 1975, p. 69). Consummate cooperation is necessary for land use to be consistent with a landlord's preferences.

Given Williamson's analysis, it is natural to ask whether internal organization will be used. Internal organization requires that managers be monitored—a requirement that can be costly in farming. Scale economies in supervision are absent due to geographical dispersion of activity. Changing conditions preclude the use of rules. Peer group pressure, which often promotes an organization's interests, is absent. The standard assumption, then, is that the monitoring of farm managers is costly (Wallace and Beneke, 1956, pp. 71, 233–236).[12] To predict the relative transactions costs of internal organization, the variables which affect monitoring costs (e.g., ease of task routinization) must be measured.

The foregoing suggests that both fixed rents and internal organization may have undesirable properties, given conditions likely to arise in farming. An alternative, possessing two properties, may be less costly. First, it must not require monitoring of all labor

[10] Later, it will be shown that initial conditions are all important. Thus, the case of an existing tenant who knows asset quality is not so important as it might first seem.

[11] Williamson associates these properties with internal organization. However, any viable alternative mode would need at least some of these properties.

[12] There are objectors to the usual conclusion that monitoring costs of direct management are high relative to those under renting: for example, Cheung (1969, p. 67) and Reid (1976, p. 570). See, however, Reid (1973, p. 127).

input. Second, it must satisfy, to some extent, the five needs (listed above) which Williamson has shown arise when markets (i.e., fixed rents) have large transactions costs. Monitoring of labor can be foregone under sharing because the share tenant has a direct incentive to contribute effort. Thus, when monitoring is prohibitively costly, sharing will be preferred to internal organization. The following analysis will assume that monitoring is prohibitively costly. Thus, the analysis is not applicable to all situations: internal organization is used in certain areas of agriculture. However, this assumption is made to pay more attention to the more interesting question of choice between share and fixed rents.

Choice between the two types of rents rests on a weighing of the superior incentive properties of one against the transactional advantages of the other. Because a fixed-rent tenant receives all the benefit from extra effort, incentives under fixed rents are superior to those of sharing. Therefore, if sharing is to be used, it must have transactional properties not possessed by fixed rents. In the next section, these properties are identified, and it is shown that they correspond to the needs of parties searching for an alternative to fixed rents. If the benefits of these properties are large enough to outweigh the costs of inferior incentive to effort under sharing, then sharing will be chosen over fixed rents.

4. The role of share contracts

■ The discussion is in several parts, each establishing a property of sharing. The importance of each property depends on the extent to which share contracts prevail in a community. The order of presentation corresponds to the degree of prevalence, beginning with properties relevant when sharing is rare. In each part, variables affecting the property's importance are identified and the relationship between the property and the transactors' needs clarified.

□ **Bargaining and signaling.** It is useful to differentiate between two types of fixed rents. Fixed rents that vary with land quality are called quality rents, while those that conform to some average payment are called flat rents. If quality rents are sought, competitive bidding is only possible if many prospective tenants invest effort in estimating land quality. If this effort is too costly, bargaining and opportunism ensue. Given that bargaining can be distasteful, that misunderstandings arising from opportunism may destroy trust, and that bargaining entails counterproductive threats of dismissal, the cost of seeking quality rents may be high. A simple alternative may be preferable. Schelling (1960, p. 67) has observed that long negotiations often converge "on something as crudely simple as equal shares." These negotiations, and resultant indirect costs, can be saved by using a "crudely simple" formula. The ready alternatives are shares or flat-rate fixed rents.

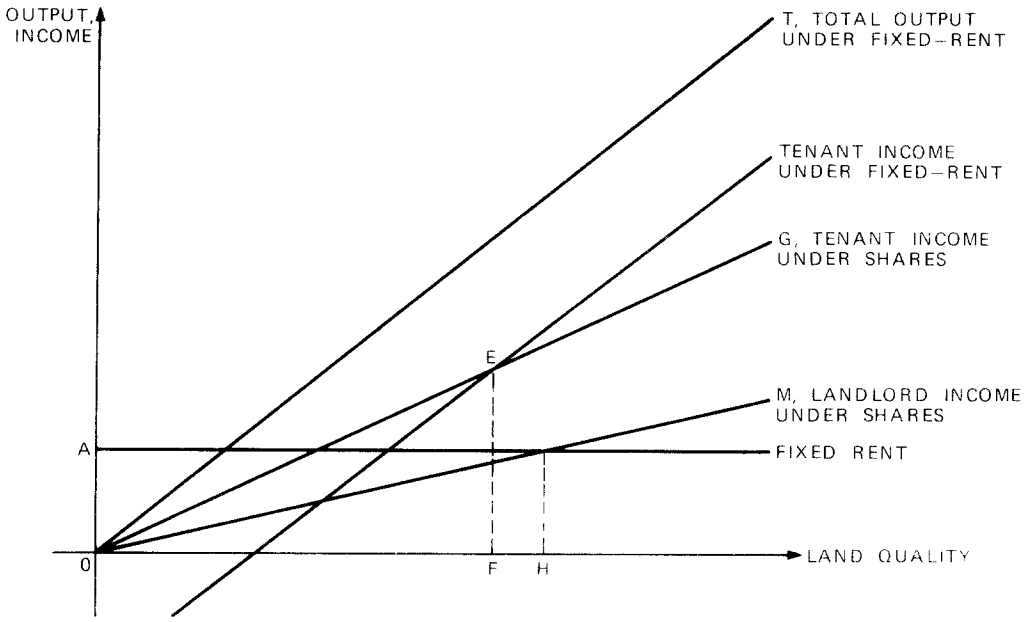
Figure 1 is used to show that, when the alternatives are shares or flat-rate fixed rents, share contracts will begin to rise. Suppose that flat-rate fixed rents equal to OA prevail.[13] If average land quality is OF, fixed-rent tenants expect to receive EF.[14] An owner of higher quality land has an incentive to signal quality to prospective tenants. If the landlord offers a contract in which the landlord earns less than OA if tenant income is less than EF, a tenant will know that the landlord owns higher quality land. For example, the share contract defined by OEG and OM would only be offered by a landlord with land quality greater than OH. Tenants would prefer that contract to the prevailing fixed-rent contract because of the information conveyed by the former. The depicted share contract will not

[13] The diagrammatic method is from Hallagan (1978), but is used differently.

[14] Strong assumptions are made to present the argument in a simple diagrammatic framework. It is assumed that tenants know quality when using the land; output is linearly related to quality; tenants are identical; and landlords know tenants' future decisions. The argument will apply in situations where these assumptions do not hold.

FIGURE 1

THE USE OF SHARES CONTRACTS WHEN FLAT-RATE FIXED RENTS PREVAIL



be an equilibrium contract. The diagram cannot be used to show an equilibrium contract because the average quality of land under fixed rents, which is assumed constant in the figure, declines as the use of sharing increases. However, the purpose here is solely to show that share contracts will begin to arise. Once there are share contracts in existence, there are more powerful arguments (to be delineated in later sections) which show that share contracts will remain in existence and proliferate.

By communicating quality, sharing satisfies the need of contracting parties to reduce opportunism which, as Williamson shows, is one reason why transactional modes other than markets are adopted. When opportunism is likely and much can be gained from communicating quality, the transactions costs of sharing relative to fixed rents fall. Therefore, sharing is particularly likely to arise when land quality is highly variable and when the return on investment in land is high.

□ **Contract renegotiation.** Fitzroy and Mueller (1980, p. 20) emphasize that those who surrender their mobility need to trust in equitable future treatment. Also, trust in security of tenure is important in maintaining land quality. Therefore, a readily renewable contract is more valuable than one which must be renegotiated. Renegotiation may entail threats of nonrenewal which will destroy trust. Thus, landlords want contracts which tenants know are in the landlords' interest to renew, thereby reducing the scope for opportunism on contract renewal promises. Tenant behavior would then be very different from when the contract must be renegotiated.

Fixed rents and shares differ in their ability to satisfy the need for renewable contracts. When conditions change, landlords and tenants expect changes in factor returns. Assume, for example, output price rises. Then landlords expect land value to increase. Under fixed rents, an increase in the return to land requires renegotiation. Under an unchanged share contract, landlord earnings change in the "correct" direction:[15] that direction expected

[15] This result can be easily proved using Stiglitz' (1974) model. The only extra assumption that is needed is that aggregate consumption is a normal good.

if land received a competitive return. Given limited information, correspondence between the signs of actual and "expected" change in returns is the most that could be discovered about the appropriateness of factor returns. App (1924, p. 412) has noted the different properties of the two rents:

> In the case of long leases for cash rent the actual cash-rental value of the land may become out of line with the rent specified in the lease on account of changes in prices and other conditions. Such objection to long-term leases is overcome in part, if not entirely, when the rent is a share or a fixed amount of the crop.

The automatic adjustment in returns is crucial when landlords want to raise land quality. Improving quality requires the compliance and help of tenants. To gain from the improvement, a landlord would have to renegotiate a fixed rent. Ironically, when tenant security is needed to encourage responsiveness, insecurity is generated by renegotiation. In contrast, if a share remains unchanged, the landlord benefits from land improvement.[16] Renegotiation is not a necessary consequence of the improvement. Tenants will be more receptive to landlord orders under shares than fixed rents. That receptiveness reduces monitoring costs and makes efficient land use more likely.[17]

In reducing demand for renegotiation (and associated bargaining costs and opportunism), sharing offers benefits not offered by fixed rents. Trust in a secure tenure increases and land use is improved. Therefore, the relative transactions costs of sharing depend upon, for example, the length of the payoff period for land investments, and the importance of output price changes. As the payoff period lengthens, the more will sharing be needed to generate the expectation that tenants will benefit from land improvement. The faster prices change, the greater is the advantage of shares over fixed rents.

□ **Equity and trust.** Equitable treatment can increase efficiency directly because equity itself is desired, and indirectly because a feeling of equity may change behavior. Economists seldom mention the desire for equity, perhaps because competitive rewards are viewed as equitable when information is complete. However, under incomplete information, equity may be an important concern (as in internal labor markets (Doeringer and Piore, 1971, p. 18)). Thus, following Williamson (1975, p. 39), it is assumed that tenants seek equity.

Indirect consequences of equity are also important. Equity is necessary because mobility will not be surrendered unless there is an expectation of equitable treatment (Fitzroy and Mueller, 1980, p. 15). Also, trust may arise if tenants feel they are treated equitably. If trust is created, efficiency gains may follow through improved land use and reduction in monitoring costs. The need for trust may lead the parties to adopt an equitable contract even if it is inferior in short-run efficiency terms. In Schelling's (1960, p. 45) words, it may be worth risking ". . . a small investment to create a tradition of trust. The purpose is to let each party demonstrate that he appreciates the need for trust and that he knows the other does too." By using equitable contracts, landlords show awareness of the need for trust.

The first sense in which sharing can be viewed as equitable is that both parties' source of income is the same: gross revenues. In contrast, increases in fixed rents appear to come directly from tenants rather than from gains from cooperation. Moreover, under shares the party usually viewed as the superior is dependent on tenant performance for income. A tenant may view sharing as a relationship between equals. Indeed, Higgs (1894, p. 5) described "*metayage*" as a partnership and in the Philippines one word means both

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[16] Footnote 15 applies here also.

[17] Previous authors have argued that quality is improved under sharing because both parties gain. These arguments assume that contracts remain in existence for a long time. The present theory does not conflict with these arguments, but there is a major difference. Here, I show why the same contract can be expected to continue.

sharecropping and partnership (Kikuchi and Hayami, 1980, p. 361). The desire for equity may explain the popularity of the 50:50 share contract.

Equity advantages of sharing increase when other share contracts exist. Comparison with others is a way to judge equity. For fixed rents, such comparisons are costly. Farms differ in size, and therefore in rental value, and there is usually no easy source of rental information (Beneke, 1955, p. 29). Thus, comparison costs may be high because fixed rents vary between contracts. In contrast, share rates need not vary across farms. The theory of the preceding subsection explains why shares can be constant despite input variations, whereas constancy is less likely for fixed rents. Share tenants, seeing that their share rate is common, may decide they have been treated equitably. Of course, these tenants have used an unsophisticated definition of equity. However, if the productivities of different farms are unknown, comparability of shares may be the only applicable definition of equity, *given* available information.

The feeling of equity is enhanced if a share rate has been used for a long time. Customary arrangements are often viewed as equitable (Doeringer and Piore, 1971, p. 29), as Beneke (1955, p. 45) has noted for farming: "Often both parties use the degree to which a provision is accepted and followed in the community as a test of its fairness." If customary rents are deemed equitable, sharing is superior to fixed rents as the latter are more likely to be renegotiated when conditions change (as shown above).

As Williamson has demonstrated, if market transactions are costly, a preferable transactional mode should provide atmosphere and facilitate adaptive sequential decisions. In providing equity, sharing improves atmosphere. If trust ensues, a tenant will be more likely to be responsive to the landlord's adaptive sequential decisions on land use. Thus, the relative transactions costs of sharing will be lower when there are large potential gains from investment in land, when tenants are exceptionally immobile, and when monitoring of land quality is costly. If an antagonistic relationship between landlord and tenant is likely, sharing will be especially valuable. For example, in Southern Italy where distrust was the norm, sharecropping was common (Banfield, 1958, pp. 51–83). In contrast, in Japan where tradition fostered the development of trust, sharecropping was uncommon (Waswo, 1977, pp. 25–30). Thus, choice between share and fixed rents may be partially explained by variables measuring social and cultural phenomena.

□ **Custom and opportunism.** If a particular share becomes predominant, it may be deemed equitable on customary grounds and will be demanded by tenants. Landlords must offer that share to prospective tenants. Existing tenants know that landlords know that poor performance is the only reason to change tenants. Deceptive threats are pointless when tenants know the alternative offers. Custom replaces competition in attenuating opportunism when competition is impossible because of informational difficulties.[18] The role of custom in disciplining landlords was noted by Sismondi (Cheung, 1969, p. 40): ". . . [T]he landlord who attempted to depart from usage, who exacted more . . . would be so sure of not obtaining a *metayer* who was an honest man. . . ."

Customary contracts can satisfy the need to reduce opportunism and obtain convergent expectations on contract renewal. As share rents are more likely to become customary than fixed rents, sharing has an advantage when opportunism is likely or when convergent expectations are needed. Also, reference to custom provides a means of resolving disputes: custom is a "governance structure." Where transactions are recurrent and transaction-specific actions are present, but where internal organization is ruled out,

[18] Note that the arguments of this and the preceding subsections are quite different. Above it was argued that customary contract led to a feeling of equity which created trust and therefore more efficient land use. The argument here is that customary contract stifles opportunism because tenants are aware of the alternative contract offers.

the governance structure must provide ". . . some way for declaring admissible dimensions for adjustment such that flexibility is provided under terms in which both parties have confidence" (Williamson, 1979, p. 251). When the share is decided with reference to custom, admissible adjustments may also be decided by using custom.[19]

□ **Custom and asset use.** When using a customary share, there is some consistency between the two parties' payoffs from land maintenance. If, in raising quality, a landlord lowers present tenant income, then present landlord income will be lower. As customary contracts raise expectations of a secure tenure, tenants expect to gain future income when landlords gain. However, consistency is not complete: landlords will not conserve tenant effort. Still, on decisions between present and future output, agreement is more likely under a customary share than under fixed rents. Given this agreement, experienced tenants are given much latitude in operational decisions (Hedges, 1963, p. 37). Thus, customary shares can reduce monitoring costs and induce efficient land use. Further, atmosphere improves when direct orders are not needed. Thus, by changing expectations and improving atmosphere, sharing satisfies some of the needs of parties looking for an alternative to fixed rents.

5. Conclusion

■ The argument has shown that share rents have properties not possessed by fixed rents and that these properties will be valuable, given the characteristics of farming. However, one cannot immediately predict that sharing will always be used: contract choice will depend on a weighing of the benefits of each mode. Rather, this article predicts which variables affect those benefits, and, consequently, the variables which affect the likelihood that sharing will be used in any particular circumstance.

Because sharing's advantages depend upon its prevalence, one can make tentative predictions on the dynamics of the use of sharing. Sharing is initially used to save bargaining costs and to signal quality. With less incentive to renegotiate, initial contracts remain in use. As sharing becomes common, opportunism becomes attenuated and equity advantages increase. Then a single share rate may become symbolic. Tenants use that rate to judge whether landlords are willing to, using Schelling's words, "risk a small investment to create a tradition of trust." The rate will be copied in a process analogous to the spread of customary law:

> Take, for example, [the practice] of offering a twenty-one gun salute to visiting heads of state. . . . It is apparent that once the pattern of twenty-one became familiar, any departure from it could generate misapprehension; spectators would spend their time, not in enjoying the grandeur of the cannon roar, but in counting booms, attributing all sorts of meanings—intended and unintended—to any departure from the last allocation. Generally we may say that where *A* and *B* have become familiar with a practice obtaining between *C* and *D*, *A* is likely to adopt this pattern in his actions toward *B*, not simply or necessarily because it has any special aptness for their situation, but because he knows that *B* will understand the meaning of his behavior and will know how to react to it. (Fuller, 1978, pp. 68–69)

At the instant one rate becomes widely adopted, sharing's contribution to efficiency is greatest. The relative scarcities which gave rise to that rate may still exist. However, as scarcities change, the customary rate remains because tenants use that rate to judge both landlord intentions and equity. The rate's rigidity slows resource reallocation and may eventually lead to inefficiency. However, the efficiency consequences of sharing cannot be fully evaluated without understanding how a whole community came to adopt that rate and why individuals act in their own interests in using that rate.

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[19] Here the theory is similar to Reid's (1973, 1976) in arguing that sharing facilitates adjustments to changing conditions. However, the analysis is different because Reid does not attribute any role to custom.

6. The case of franchising

■ This article would have limited interest if it applied solely to farming. However, its theory should apply wherever the assumptions of Section 2 are satisfied. Characteristics (1)–(8), with one exception, approximate conditions in franchising (McGuire, 1971). The franchisor's brand image plays a role equivalent to the land. The exception bears on characteristic (4). A franchisor has many franchisees, all using one brand. Thus, in maintaining brand image, franchisees provide benefits to each other. As repeat custom is more likely for a system than for one franchisee, optimal brand images for franchisee and franchisor are different. Thus, it will be necessary for the franchisor to monitor franchisee operations.

Given the similarity of conditions in franchising and farming, most of the theory will apply to franchising: bargaining costs must be reduced, trust created, etc. Thus, sharing may be advantageous. However, the function relating the likelihood of sharing's use to the underlying characteristics will be different in franchising and farming. As monitoring is always necessary, the cost of monitoring franchise operations may not be important in predicting sharing's use in franchising. In contrast, speed of change of exogenous variables may be more important in franchising than in farming. The franchisor has much scope for reaction to change: new franchises can be created. Given this possibility, the franchisee may need to insist on equitable, and thus shares, contracts.

Franchise contracts are typically shares contracts: franchisees pay a fixed share of revenues to franchisors. Also all franchisees in one system have identical contracts. In franchising this similarity in contracts arises from a single decision, in farming through many separate decisions. The similarity of outcome, despite the necessity of different processes, reinforces the theory that it is the common underlying characteristics which lead to the use of sharing in the two activities.

References

APP, F. *Farm Economics Management and Distribution.* Philadelphia: Lippincott, 1924.

BANFIELD, E. *The Moral Basis of a Backward Society.* New York: Free Press, 1958.

BARDHAN, P.K. "Variations in Forms of Tenancy in a Peasant Economy." *Journal of Development Economics,* Vol. 4 (1977), pp. 105–118.

——— AND SRINIVASAN, T.N. "Cropsharing Tenancy in Agriculture: A Theoretical and Empirical Analysis." *American Economic Review,* Vol. 61, No. 1 (March 1971), pp. 48–64.

BENEKE, R.R. *Managing the Farm Business.* New York: John Wiley, 1955.

BLACK, J.D. *Introduction to Economics for Agriculture.* New York: Macmillan, 1953.

CHEUNG, S.N.S. *The Theory of Share Tenancy.* Chicago: University of Chicago Press, 1969.

DE CANIO, S.J. *Agriculture in the Post Bellum South: The Economics of Production and Supply.* Cambridge: M.I.T. Press, 1974.

DOERINGER, P.B. AND PIORE, M.J. *Internal Labor Markets and Manpower Analysis.* Lexington: D.C. Heath and Company, 1971.

FITZROY, F.R. AND MUELLER, D.C. "Contract and the Economics of Organization. University of Maryland, 1980.

FULLER, L. "Law and Human Interaction" in H. M. Johnson, ed., *Social System and Legal Process,* San Francisco: Jossey-Bass Publishers, 1978.

HALLAGAN, W. "Self-Selection by Contractual Choice and the Theory of Sharecropping." *Bell Journal of Economics,* Vol. 9, No. 2 (Autumn 1978), pp. 344–354.

HEADY, E.O. AND JENSEN, H.R. *Farm Management Economics.* Englewood Cliffs: Prentice-Hall, Inc., 1954.

HEDGES, T. *Farm Management Decisions.* Englewood Cliffs: Prentice-Hall, 1963.

HIGGS, H. " 'Metayage' in Western Europe." *Economic Journal* (March 1894), pp. 1–11.

HUANG, Y. "Risk, Entrepreneurship, and Tenancy." *Journal of Political Economy,* Vol. 81, No. 5 (September/October 1973), pp. 1241–1244.

KIKUCHI, M. AND HAYAMI, Y. "Technology and Labor Contract: Two Systems of Rice Harvesting in the Philippines." *Journal of Comparative Economics,* Vol. 4, No. 4 (December 1980) pp. 357–377.

LUCAS, R.E.B. "Sharing, Monitoring, and Incentives: Marshallian Misallocation Reassessed." *Journal of Political Economy,* Vol. 87, No. 3 (May/June 1979), pp. 501–521.

MCGUIRE, E.P. *Franchised Distribution.* New York: The Conference Board, Inc., 1971.

RAO, C.H.H. "Uncertainty, Entrepreneurship, and Sharecropping in India." *Journal of Political Economy,* Vol. 79, No. 3 (May/June 1971), pp. 578–595.

REID, J.D. "Sharecropping and Agricultural Uncertainty." *Economic Development and Cultural Change,* Vol. 10, No. 2 (Summer 1976), pp. 564–576.

———. "Sharecropping as an Understandable Market Response: The Post Bellum South." *Journal of Economic History,* Vol. 33, No. 1 (March 1973), pp. 106–130.

———. "Sharecropping and Tenancy in American History" in J. A. Roumasset, J. Boussard, and I. Singh, eds., *Risk, Uncertainty, and Agricultural Development,* Southeast Asian Regional Center for Graduate Study and Research in Agriculture, Laguna, 1979.

ROUMASSET, J.A. *Rice and Risk.* New York: North-Holland, 1976.

SCHELLING, T.C. *The Strategy of Conflict.* Cambridge: Harvard University Press, 1960.

SHLOMOWITZ, R. "The Origins of Southern Sharecropping." *Agricultural History* (July 1979), pp. 557–575.

STIGLITZ, J.E. "Incentives and Risk Sharing in Sharecropping." *Review of Economic Studies,* Vol. 41, No. 2 (April 1974), pp. 219–255.

WALLACE, J. AND BENEKE, R. *Managing the Tenant-Operated Farm.* Ames: Iowa State College Press, 1956.

WASWO, A. *Japanese Landlords: The Decline of a Rural Elite.* Berkeley: University of California Press, 1977.

WILLIAMSON, O.E. *Markets and Hierarchies: Analysis and Antitrust Implications.* New York: Free Press, 1975.

———. "Transaction-Cost Economics: The Governance of Contractual Relations." *Journal of Law and Economics* (October 1979), pp. 233–261.

WRIGHT, G. AND KUNREUTHER, H. "Cotton Corn and Risk in the Nineteenth Century." *Journal of Economic History,* Vol. 35, No. 3 (September 1975), pp. 526–551.