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FARM TENANCY AND PRODUCTIVITY IN AGRICULTURE: THE CASE OF THE UNITED STATES*

The need to attain increased food production in underdeveloped countries has encouraged the continuing search for the secrets of agricultural success in the United States. The complexity of American agriculture in its unique social and economic setting is so great that it is futile to hope for a simple explanation. There is one conclusion, nevertheless, which seems to have gained wide acceptance. It is the belief that American agricultural performance is, to an important degree, a result of the system of land tenure characterized by the family-owned and -operated farm.

The purpose of this paper is to re-examine, in the light of American experience, certain issues concerning agricultural land use, hitherto emphasized by economists, arising from farm lease contracts. An effort will be made to inquire into the relative merits of owner operation and tenant operation as competitive ways of organizing agricultural production.

Public preference for, and support of, farm ownership by operators has been a dominant feature of United States agricultural policy. The weight of economic opinion has generally favored the conclusion that the operation of a large proportion of farm land by tenants is likely to lead to inefficient, if not wasteful or destructive, resource use. Yet, in 1959, a higher proportion of all land in farms was operated either by tenants or by part owners than in 1900. Moreover, in the areas with the most advanced production techniques, the proportion of leased tenant-operated land was in 1959 larger than the national average.

This paper argues that underdeveloped countries intent on technical progress in agriculture should recognize the fact that much of the most impressive gain in agricultural productivity occurred in areas of the United States where the dominant form of land tenure is a share rental arrangement between landlord and tenant.

LAND RENTAL IN ECONOMIC THEORY

The concern of the classical economists with land rental was directed mainly toward three sets of problems. The first was that of resource allocation, referring

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to the use of factors of production in the most efficient proportions. Next was the relation between security of tenure and the tenants' incentive to maintain the fertility of the land or to make permanent improvements. Finally, there was the question of the relation of land tenure to population growth. A brief review of these concerns will establish their contrast with present-day ideas. John Stuart Mill summarized the 19th-century state of knowledge on the issues in his *Principles* explaining share rental systems and their relation to political economy.[1] He used the French term for share tenant, *"metayer,"* which is derived from the Latin word *"medius,"* meaning middle or half.

In his view, there was no economic problem of distribution to be investigated when the division of the product was a matter of custom, as was allegedly the case under the *metayage* system. The point of interest was, instead, the assumed physical and moral effects of the rental system on the peasantry and on the efficiency of labor. Mill's observations are in the form of a comparison of family farm proprietors and the renting metayers. His conclusion was that the metayer had

> less motive to exertion than the peasant proprietor since only half the fruits of his industry, instead of the whole, are his own. But he has a much stronger motive than a day labourer, who has no other interest in the result than not to be dismissed. . . . The metayer is at least his landlord's partner, and has a half-share in their joint gains. . . . A multiplication of people beyond the number that can be properly supported on the land or taken off by manufacturers, is incident even to a peasant proprietary, and of course not less but rather more incident to a metayer population. The tendency, however, which we noticed in the proprietary system, to promote prudence on this point, is in no small degree common to it with a metayer system (5).

Commenting on the evolution of the French metayage system from serfdom, Adam Smith declared:

> It could never, however, be the interest even of this last species of cultivators to lay out in the further improvement of the land, any part of the little stock which they might save from their own share of the produce, because the lord, who laid out nothing, was to get one-half of whatever

[1] According to Mill, "The principle of the [French] metayer system is that the labourer, or peasant, makes his engagement directly with the landowner, and pays, not a fixed rent, either in money or in kind, but a certain proportion of the produce, or rather of what remains of the produce after deducting what is considered necessary to keep up the stock. The proportion is usually, as the name imports, one-half; but in several districts in Italy it is two-thirds. Respecting the supply of stock, the custom varies from place to place; in some places the landlord furnishes the whole, in others half, in others some particular part, as for instance the cattle and seed, the labourer providing the implements."

Mill then quotes Sismondi on share contract terms in Tuscany: "This connexion is often the subject of a contract, to define certain services and certain occasional payments to which the metayer binds himself; nevertheless the differences in obligations of one such contract and another are inconsiderable; usage governs alike all these engagements, and supplies the stipulations which have not been expressed; and the landlord who attempted to depart from usage, who extracted more than his neighbour, who took for the basis of the agreement anything but the equal division of crops, would render himself so odious, he would be so sure of not obtaining a metayer who was an honest man, that the contract of all the metayers may be considered as identical, at least in each province, and never gives rise to any competition among peasants in search of employment, or any offer to cultivate the soil on cheaper terms than one another." [Mill's quote is from "Letters from Italy," Dr. Rigby's translation, p. 22 (5)].

> is produced. The tithe, which is but a tenth of the produce, is found to be a very great hindrance to improvement. A tax, therefore, which amounted to one-half, must have been an effectual bar to it (*9*).

A modern writer, D. Gale Johnson, in an article defending the short-term lease as serving "a useful purpose in creating conditions within which the crop share lease results in a reasonably efficient utilization of land," summarizes the misallocation argument against tenancy in these terms:

> Under a crop share lease, if the landlord's share of the crop is half, the tenant will apply his resources in the production of crops until marginal cost of crop output is equal to half the value of the marginal output. The same tenant, however, will conduct his livestock operations where important costs are borne by the landlord and receipts are not shared with him, in the usual manner. The landlord will not invest in land assets unless the value of the marginal product is twice the marginal cost (*4*).

RESOURCE EFFICIENCY

The resource-efficiency argument is somewhat academic. The ability of tenants and their capital position are highly variable as are the quality of land and the size of farms. Both tenant and landlord have an incentive to *try* to increase the marginal productivity of their own resources by combining too little of these with the inputs of the other. The tenant of ordinary ability with too little capital for buying and operating a farm tries to get a lease on a large fertile farm, and the landlord with a depleted farm tries to find a first-class tenant with sufficient inventory of farm equipment and other forms of operating capital. In a competitive market, however, neither wholly succeeds, and in such contracts as are consummated, numerous small agreements on provisions in the lease permit an amazingly refined adjustment. For example, a landlord's suggestion that a third cultivation of the corn would pay (at no cost to him) may be met with the tenant's suggestion that the living room really would be improved by new wallpaper (at no cost to him). The divergence in incentive, instead of leading to misallocation as Smith and Sismondi postulated, would appear to provide a force which leads to efficiency *if neither group has monopoly power.* In any event, their observations, based on 18th-century European agriculture, are not sufficiently descriptive of the relevant variables today to be very helpful in explaining the objection to tenancy in modern American agriculture.

The static classical argument assumes that tastes of consumers, the stock of resources, and techniques are constant. Under these assumptions the divergence in incentives could lead to a "misallocation," should either tenants or landlords be sufficiently powerful to secure contracts that correspond with their desires. (The argument, in short, refers to movement *along* a production function, and the inefficiency can only be defined in terms of a divergence from a theoretical ideal; it cannot be demonstrated empirically.) Leaving aside the question whether such inefficiency exists in reality and not simply in the minds of economists, it is clear that the significant changes in American agricultural production have been those associated with massive shifts in techniques rather than with small changes in the ratio in which labor and capital were combined with land.

Crucial questions regarding the economics of technical change are concerned

with the timing of the abandonment of old techniques and obsolete capital goods, and the acceptance of new production techniques. Changes in technique may shift the order of comparative advantage between products, and choice of product and choice of technique are often jointly determined. The well-known relation between factor proportionality and marginal physical product, on which the efficiency argument about tenure rests, may become even more important.

It is questionable whether the classical formulation applies to the United States economy where notable changes in consumer tastes, changes in the relative availability of skilled labor and ordinary capital, and changes in technique are the rule. Efficient firms must be responsive to all of these changes. Moreover, a realistic test of efficiency would not ignore the response of a firm to changes in the capital value of land. Lease contracts separate the function of capital ownership of the land from the responsibilities of farm operation. They relieve the tenant from investing his capital chiefly in farm real estate and permit him to use all of his capital for operating a much larger farm than he could own and operate. In a share-rental contract, each party has an incentive to see that the other performs his function efficiently.

Ultimately, when no practical change in operator, scale, or methods holds promise and his agricultural investment fails to remain competitive, the capitalist landlord can sell his farm and reinvest his capital in urban real estate or the security market. His economic incentive to own and lease farm land as an investment is governed by the rates of return offered by alternative investments, including stocks and bonds. The tenant, on the other hand, has ultimate reference to these markets for his capital, to the urban labor market for his own employment, or to the land market which he may enter to become a self-employed owner-operator, either on a commercial scale or as a subsistence farmer. The commercial farm owner-operator who becomes physically or financially disabled, for whatever reason, may be able to continue to live on the farm and to provide self-employment for a long period of time while consuming his capital assets rather than earning the competitive rate of return on them.

The concept of resource efficiency that defines economic progress is broader than the ordinary idea of economic efficiency based on factor proportions with standard production techniques. It must also offer promise that socially important and scarce economic opportunities will be seized and exploited. In the modern world this is likely to mean that all dimensions of economic organization need to be readily adjustable. The conflict between this concept of resource efficiency and the idea of economic security for farmers is distressingly obvious. To explain the performance of United States agriculture, however, is not to assert that either farm operators or landlords found progress comfortable.

SECURITY OF TENURE

Adam Smith argued that cash-rental contracts are likely to lead to resource misallocation because the tenant has no incentive to make permanent improvements. This fact has often been recognized in legislation providing either for a reasonably long leasehold or for owners to reimburse departing tenants for unexhausted improvements. Nevertheless, this argument is subject to the same criticism as the assertion that share-rental contracts are likely to lead to an inap-

propriate combination of factors in production: namely, unless landlords or tenants have unusual economic power, there is no logical reason why tenants should pay, nor landlords could charge, more or less than the normal rent on the land in its given state under ordinary methods of cultivation. If either party does have unusual economic power, the problem is caused by monopoly power, not by the contractual arrangement as such. Again, the argument is based on a theoretical concept of efficiency which cannot be verified empirically. Whatever the status of the relation between fact and theory, cash rental was and is comparatively unimportant in the United States. Only about 3 per cent of the land in farms in 1954 was under cash rental contracts. The merits or demerits of cash renting thus clearly have no important role to play in explaining American agricultural development.

FARM TENANCY IN THE UNITED STATES

Depending on one's focus, there is clearly scope for wide differences in interpretation of the "facts" on the operation of farm land by tenants. Even when the facts are objectively established and accepted, there remains almost unlimited scope for value judgments concerning what is "good" or "bad." The classical theory of land rental, which has just been reviewed, is based on the value judgment that inefficient resource use is socially bad. But the theory predicts, as an objective proposition, that land rental will cause inefficient resource use. To test the hypothesis the theory suggests, it is necessary to measure the extent of land rental in the United States and to form a judgment about the degree of economic efficiency associated with agricultural production units operated by tenants as compared with the efficiency of production units operated by owners.

TYPES OF LAND TENURE

Following accepted usage, land tenure means "all the relationships established among men which determine their varying rights in the use of the land" (*6*, p. 429). Confusion arises because different disciplines focus attention on different aspects of "rights in the use of land." From a legal point of view, ownership of a parcel of land with full power of disposal of the property or its usufruct, power to bequeath and to encumber, is at one end of the spectrum. It is applicable to either the individual or the state. From an economic point of view, the central concept underlying tenure is the productive potential of a parcel of land during a single growing season, the right to which can be sold for a fixed price (cash rent) or a share of the product (share rent). Such rental schemes are midway through the tenure spectrum. At the far extreme are share-cropping arrangements (*1*), which are not so much land-rental contracts as specialized-labor contracts (*7*).

Between the extremes of debt-free ownership and share cropping are innumerable gradations. For example, some "owner"–operators have large debts on their land, and may, for this reason, be subject to some control by the lender, in which case the legal distinction between owner operation and tenant operation may be sharper than the economic distinction. In other words, the tenant with a share contract and the owner with a large mortgage may be economically indistinguishable. Again, some farmers own a farm, lease part of it to a tenant,

and, in turn, rent additional land from another owner which they may either operate or sublet. Each of these relationships may be formalized in contracts between strangers, or they may be informal, semi-explicit arrangements between family members where potential inheritance is a factor. The possibilities for subdividing rights in land are obviously so numerous that it is difficult to define "land rental" with a single, precise term.

This difficulty with definition naturally casts a shadow over the meaning of any abstract argument about ideal forms of land tenure. More important, it means that any method of measuring actual land rental will have serious faults and that results should be treated with skepticism. But some methods of measurement are more defensible than others.

After reviewing the tenure classes used in the Census, four or five approaches for estimating the extent of land rental in the United States will be considered. Although the Census defines a farm without regard to ownership, it provides statistics of land area in farms according to the form of tenure under which the land is held. The following tenure classes are used:

1. Full owners
   This, of course, does not mean that the land is fully owned in the sense of being free from debt, nor even that it is the property of the operator himself (it may belong to another member of the farmer's family or be a portion of an undivided estate), but rather that none of the land in the farm is leased from a third party.
2. Part owners
   This designation refers to those farmers whose farm units are composed partly of owned land as defined for full owners, and partly of land which is leased, whatever the nature of the contract.
3. Managers
   This term refers to hired personnel in a "direct operation." This classification does not distinguish those direct operations carried out by owners from those carried out by entrepreneurs who hire managers to operate leased land.
4. Tenants
   The census designation *tenants* is a generic term that includes the sub-classes: cash, share-cash, share (including crop-share and livestock-share), and finally, for the South only, croppers (sometimes called share croppers).

The census, in short, provides number of farms, number of farmers (which is equal to the number of farms), and acres of land (in farms) operated under each type of tenure. The problem is to estimate from these data the amount of tenant-operated land. Some authors use the percentage distribution by number of farms and operators (*12*, Table 4, p. 1033):

	Per cent of all farm operators	
Year	Owners and part owners	Tenants
1900	63.7	35.3
1920	60.9	38.1
1940	60.7	38.8
1960	79.6	19.8

These data show that the majority of farms in the United States have always been operated by owner-operators, and that the proportion of tenant-operated farms, after rising slightly from 1900 to 1940, is now rapidly declining (the figures for 1945, 1950, and 1955 are 31.7, 26.9, and 24.0). But this statement is misleading if it is supposed that the economic importance of tenant operation is reflected by the distribution of the *number* of farms.

The number of farms in the United States decreased from 5.7 million in 1900 to 3.7 million in 1959. But of the latter, nearly 1.3 million were part-time or part-retirement farms, which two classes of farms account for about 1.17 million or 40 per cent of all full and part-owners. Considering only commercial farms, 45.3 per cent were in the hands of full owners in 1959, while 29.2 and 24.8 per cent were farmed by part owners and tenants, respectively. Even this distribution fails to reflect the relative economic importance of the three classes. Using as a criterion of economic importance the value of farm products sold by commercial farms in 1959, part owners led with 37.3 and full owners followed with 35.5 per cent, while tenants accounted for 21.8 per cent of output. But even the value of output fails to reflect the crucial facts. This figure includes the value of livestock and livestock products sold, and these products accounted for 56 per cent of total output in 1959. There is nothing in the theory of tenure to suggest that efficiency in livestock production is in any way related to the terms under which a farmer holds his land. On the contrary, the theory of tenure is concerned solely with the efficient combination of land with other inputs in crop production.

The importance of land rental in crop production is great:

	Per cent distribution for type of farm		
Tenure of Operator	Cash grain	Other field crops	Cotton
Full owners	30.3	34.9	23.2
Part owners	37.6	35.0	23.9
All tenants	31.9	29.2	52.5

The relevant measure of the extent of land rental is therefore the per cent of the land in economically important crops which is leased.

It is therefore clear that the first approach based on the distribution of *number* of operators gives a false picture of the extent of land rental. There remains, however, the problem of classifying the land operated by part owners in economically important crop areas. The importance of owner-operator units has sometimes been exaggerated by treating part owners as if they were full owners. This clearly gives a biased result and is no more justifiable than treating part owners as tenants because they rent some land. The most defensible approach seems to be that of adding the acreage of rented land held by part owners to that held by tenants, and the acreage of land owned by these part owners to that held by full owners. The basic facts on the extent of land rental in the United States according to this criterion are shown in Table 1.

The central fact is that the percentage of all land in farms actually farmed by its owner has decreased slightly from about 60 per cent in 1900 to about 55 per cent in 1959. The percentage of all land rented, on the other hand, rose from about 31 to 35 per cent. About 10 per cent of all farm land is in large units op-

TABLE 1.—LAND IN FARMS: PERCENTAGE DISTRIBUTION BY TENURE OF OPERATOR*

	1900	1910	1920	1930	1940	1950	1954	1959
United States								
Per cent of land held by part owners								
Owned	50.5	50[a]	50[a]	49.1	48.1	54.1	55.2	54.9
Rented	49.5	50[a]	50[a]	50.9	51.7	45.9	44.7	45.1
Full owners	51.4	52.9	48.3	37.6	35.9	36.1	34.2	30.8
Part owners	14.9	15.2	18.4	24.9	28.2	36.4	40.7	44.8
Tenants	23.3	25.8	27.7	31.0	29.4	18.3	16.4	14.5
Managers	10.4	6.1	5.7	6.4	6.5	9.2	8.6	9.8
Full owners plus land owned by part owners	58.9	60.5	57.5	49.8	49.5	55.8	56.7	55.4
Tenants plus land rented by part owners	30.7	33.4	36.9	43.7	44.0	35.0	34.6	34.7
Total	100	100	100	100	100	100	100	100
North Central States[b]								
Per cent of land held by part owners								
Owned	52.6	50[a]	50[a]	52.6	49.7	54.7	55.6	55.7
Rented	47.4	50[a]	50[a]	47.4	50.3	45.6	44.4	44.3
Full owners	53.0	49.3	44.0	35.2	33.0	36.2	34.5	32.4
Part owners	19.3	20.6	21.4	26.7	27.9	36.6	39.6	43.8
Tenants	24.9	28.0	32.2	36.2	37.5	25.4	24.5	22.1
Managers	2.8	2.1	2.4	1.9	1.6	1.8	1.5	1.7
Full owners plus land owned by part owners	63.2	59.6	54.7	49.2	46.9	56.2	56.5	56.8
Tenants plus land rented by part owners	34.0	38.3	42.9	48.9	51.5	42.0	42.0	41.5
Total	100	100	100	100	100	100	100	100

*Computed from data in the U.S. Dept. of Commerce, *Census of Agriculture 1959* (1962), Vol. II, Chapter X, and U.S. Dept. Agr., *A Statistical Summary of Farm Tenure, 1954* (Agricultural Information Bulletin No. 200, 1958).

[a] The actual division between owned and rented land farmed by part owners is not available, so the computation is based on the assumption that the division was half and half.

[b] States constituting each region are: E.N.C., Ohio, Indiana, Illinois, Michigan, Wisconsin; W.N.C., Minnesota, Iowa, North Dakota, South Dakota, Kansas, Nebraska, Missouri.

erated by hired managers. These national totals, however, include subsistence and dairy areas where owner-operators are predominant.

But the theory of rental, as has been pointed out, is more concerned with crop land. The greatest concentration of crop land is in the cornbelt and the wheat lands of the Great Plains. Thus the key area for the study of land rental in relation to crop production is the North Central states. In fact, the contribution of this area to total farm output increased from 44 per cent of the national total in 1920 to 48 per cent in 1957 (Table 2). The importance of these states clearly bulks so large that an explanation of the growth of agricultural production and productivity for this area alone would go a long way toward explaining the performance of American agriculture.

TABLE 2.—REGIONAL SHARES IN NET FARM OUTPUT OF ALL FARM COMMODITIES, 1920, 1940 AND 1957*

(*Per cent*)

	1920	1940	1957
United States	100	100	100
Northeast	10	9	7
New England	2	2	2
Middle Atlantic	8	7	5
North Central	44	43	48
East North Central	19	19	20
West North Central	25	24	28
South	34	32	27
South Atlantic	12	12	10
East South Central	8	7	6
West South Central	14	13	11
West	12	16	18
Mountain	5	6	7
Pacific	7	10	11

* U.S. Dept. Agr., *Trends and Patterns in U.S. Food Consumption* (Agriculture Handbook No. 214, 1961), Table 2.1, p. 10.

In the North Central states the importance of owner-operators has decreased (Table 1). The percentage of all land in farms actually farmed by the owner decreased from about 63 per cent in 1900 to about 57 per cent in 1959. Conversely, the percentage of all land in farms which was rented, that is, land farmed by some type of tenant, increased from 34 to 41.5 per cent in the same period. The percentage of land farmed by owners decreased during the first thirty years of this century, while that of tenants increased, the two being equal in 1930 with 49 per cent each. After that date, the trend reversed (a record 51.5 per cent of the land in the North Central states was rented in 1940) and land farmed by owners then rose and appears to have stabilized in 1950 at about 56 per cent. The latter figure is true for both the North Central states and the entire United States.

In short, although a third to a half of the land in the great grain-producing area of the Middle West has been rented over the past sixty years, the area has produced an increasing proportion of a rapidly expanding total until it now accounts for nearly half of the national agricultural output.

These are the facts on the extent of land rental. It remains to form a judgment on the probable effects of land rental on crop production. The rate of technical improvement in crop production naturally governs the rate at which livestock production can be increased.

There can be no question that the distinguishing characteristic of United States agriculture over the century and a half since the year 1800 has been the unprecedented reduction in the labor required to produce a unit of grain and of fiber. Some data that illustrate this well-established fact are shown in Table 3. The increase in output per hour of labor reflects higher yields resulting from shifts in the geographic distribution of production, from increased use of ferti-

TABLE 3.—LABOR COSTS OF PRODUCING CORN, WHEAT, AND COTTON IN THE UNITED STATES, 1800–1950*

Year	Wheat			Corn			Cotton		
	Yield per acre (bu.)	Hours per acre	Hours per 100 bu.	Yield per acre (bu.)	Hours per acre	Hours per 100 bu.	Yield per acre (lb.)	Hours per acre	Hours per bale
1950	16.6	4.6	28	39.0	15.2	39	283	74	126
1940	15.9	7.5	47	30.3	25	83	245	98	191
1920	13.8	12.0	87	28.4	32	113	160	90	269
1900	13.9	15	108	25.9	38	147	191	112	280
1880	13.2	20	152	25.6	46	180	179	119	318
1840	15	35	233	25	69	276	147	135	439
1800	15	56	373	25	86	344	147	185	601

* U.S. Dept. Commerce, *Historical Statistics of the United States, Colonial Times to 1957: A Statistical Abstract Supplement*, Series K83–97, Man Hours Used to Produce Specified Amounts of Wheat, Corn and Cotton: 1800 to 1950, p. 281.

lizer, supplementary irrigation, and improved cultural practices, and from improved varieties. It also reflects the effects of mechanization which reduced the hours per acre required to perform all the operations from tilling through harvesting of the crop. Wheat, corn, and cotton are not unique. The general improvement in agricultural techniques has been applied to other crops and forages as well. Thus, without here attempting to measure the labor savings in the production of oil seeds, forages, and fruits and vegetables, what is true of the major grains is also true of them.

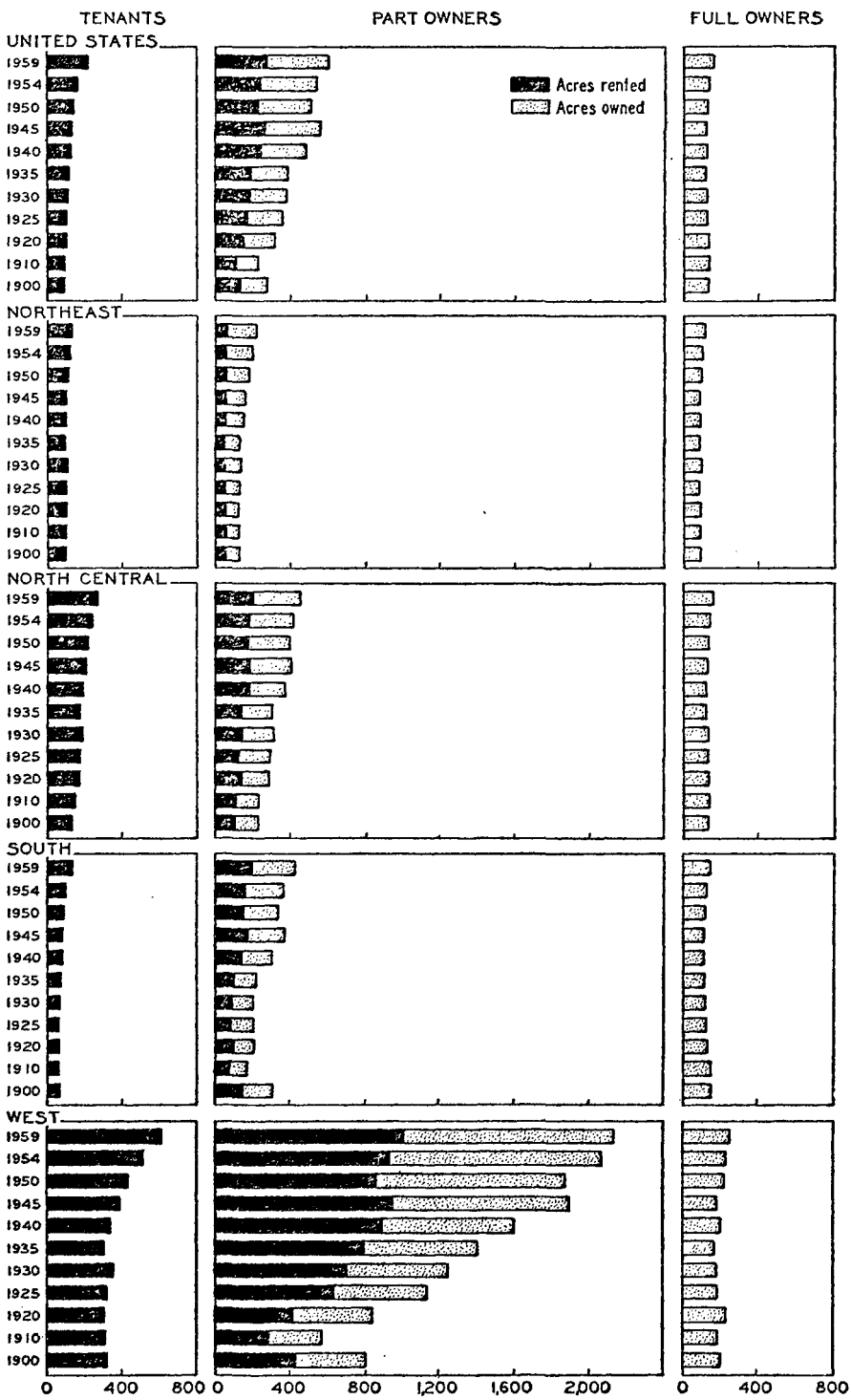
The North Central states in 1960 produced 83 per cent of the country's corn crop on 78 per cent of the total corn acreage. The area also accounted for 58 per cent of the wheat crop on 57 per cent of the harvested acreage.

If the salient point of Table 2—the fact that the North Central and the Western states both show an increasing trend in total agricultural production—is considered in relation to Chart 1, an impression does emerge. Chart 1 vividly shows that the striking change in farm size since about 1930 is mostly explained by the increased size of farms operated by part owners. And that growth seems to have depended almost equally on increases in owned and rented land. The development, measured by acres per farm, was greatest in the West, next greatest in the North Central states, but quite impressive in the South. The North Central and Western states also show an increase in the size of farms operated by tenants, while those of full owners show little change.

The judgment that emerges seems inescapable. The areas in the United States that are becoming relatively more important as producers of agricultural products show a decided increase in farm size. A considerable amount of the growth in farm size is explained by land rental. In some cases the size of farms held by tenants is simply larger. In others, the upsurge of size of farms operated by part owners has resulted from both purchase and rental. In that sense, it might be said that the very survival of the economically strongest "owner-operators" depends on their ability to rent additional land, which converts them to part owners. Approaching this preferred status from the other direction, successful tenants buy land, but rent still more.

CHART 1.—AVERAGE SIZE OF FARM BY TENURE OF OPERATOR FOR THE UNITED STATES AND REGIONS, 1900 TO 1959*

(*Acres*)



* Data from U.S. Dept. Commerce, *Census of Agriculture 1959* (1962), Vol. II, Chapter X, page 1019.

Far from inducing inefficiency, land rental in the United States, it appears, plays a vital role in facilitating rapid change in farm size. These adjustments have been associated with the changes in production techniques that alone can explain the great increase in labor productivity in American agriculture.

CONCLUSIONS

The popular prejudice against land rental in the United States is most likely based on the natural desire of farmers to have the freedom and security which land ownership sometimes brings.[2] It was also supported by the early American belief that democracy itself was dependent on a nation of farmers, although, as A. Whitney Griswold has shown (*3*), this belief is not warranted.

The principal criticism of land rental that flows from neo-classical economic theory is a suspicion that share rental might induce some short-run inefficiency in resource combination because the tenant does not receive all of the product.

In spite of the popular preference for owner-operated farms, their support by government land policy, and the unfavorable prediction of economists, the growth of commercial farming, as we have shown, was associated with an increase in land rental. Moreover, those crops for which resource savings have been most impressive and those areas in which the highest productivity of land and labor is obtained are in the North Central States, where a high percentage of the tillable land is farmed under lease contracts. Notwithstanding the long period during which belief in the superiority of farm ownership by operators has been accepted, the weight of United States experience clearly shows that land rental is an integral part of American agriculture.

In recent years economists have shown some tendency to retreat from the position of full support of the owner-operator unit by redefining the "family farm" in terms of the source of labor requirements. On this view, the proportion of the total labor supply provided by the farm family is the criterion for identifying the family farm (*8*). This is one way of recognizing the fact that land rental has become a way of life in American commercial agriculture. But the recognition is grudging: it is admitted that land rental is not always harmful, and may be of positive usefulness to farmers on their way to full ownership. No one up to now, it appears, has suggested that American agricultural progress has actually been promoted by the widespread use of land-rental contracts.

The most impressive development of recent years has been the persistent increase in the percentage of land in the hands of part owners. These operators generally own more land than do full owners in the same region, and, in addition, rent an acreage similar to that farmed by the average tenant. Thus they farm larger acreages than either full owners or tenants. The increasing proportion of all land in farms held by part owners suggests that this group contains some of the most successful owners who have enlarged their operations by renting, as well as successful tenants who have bought a farm but continue to rent other land. If management is the scarcest resource, as farm-management studies seem to show, perhaps part of the explanation of the economic success of share-rental contracts in the United States is that they deploy the available supply of

[2] Renne says, "Americans generally have come to regard tenancy as a social disease and an inferior form of tenure compared with ownership" (*6*).

managerial talent with greater effectiveness than would a system in which ownership and managerial responsibility had to reside in one person, as it does with the owner-operator. But this possibility is inconsistent with the theoretical objection that land rental may induce inefficiency. Which view do the facts best support?

Excepting circumstances where either tenants or landlords have monopoly power, competition would logically be expected to lead to rental contracts satisfying the classical definition of efficient allocation. It is of course a mistake to attribute the undesirable results of monopoly power wherever it may exist in land ownership to rental contracts. In addition to the efficiency argument concerned with factor proportions, economists have shown concern about the effects of land rental on capital maintenance and accumulation. If there is competition among tenants for land, and among landlords for tenants (assuming both have alternative uses for their resources), then these fears are unfounded. As it seems doubtful that either tenants or landlords have persistently had monopoly power in the United States, this potential cause of misallocation probably has been of no consequence. With the competition and alternatives that have existed, maintenance of the capital is the landlord's responsibility, and he has the legal power to augment, maintain, or deplete his capital in land according to his desires and ability.[3] There are other reasons for concluding not only that the concern of economists has failed to touch the essential issues in land rental in the United States, but rather that economic logic in fact helps explain the evident economic success of the share-rent contract.

In practice, the main requirement for short-term efficiency in agricultural production is wise choice of product and use of the most economic production technique available. Instead of recognizing these conditions as a problem, traditional theory passes them by with the assumption that entrepreneurs will make the most advantageous choices. The theory, therefore, offers no explanation of the fact that a wide range of techniques as well as resources of both high and low quality are actually in use at any given time.

One interpretation of the observed facts on land rental in the United States is that the division of responsibility between land owners and tenants creates a structure of interests which, in a market economy, tends to promote efficient combination of resources in the short run. By efficiency we mean that appropriate quantities and qualities of management, land, labor, and other capital are combined for the production of marketable products by the least expensive means available. The nominal one-year farm lease contract provides great flexibility. Any dimension of a producing unit can be promptly expanded or contracted as soon as experience indicates some adjustment would be desirable. The endless succession of small though prompt adjustments constitutes the dynamism of American agriculture.

Commercial agriculture is, economically, a division of the industrial complex in the sense that it must compete with other sectors for both resources and

[3] In the late 1930's, agricultural poverty and the lack of maintenance of agricultural capital were often blamed on land rental, but disinvestment during the depression was general and there seems to be no evidence that it was greater on rented than owned farms. Fertility maintenance as a problem of investment and disinvestment through the crop rotation cycle is further developed in 2.

markets. The arguments which support private ownership of capital, including land, logically support land rental in the legal sense that ownership comprises freedom of disposal. It is therefore conceivable that the specialization of functions that land rental permits in American agricultural production is analogous to that which the joint stock corporation brought to other divisions of industry. If, as is widely believed in the West, a market economy and private ownership of resources help to explain agricultural progress, then land rental should be expected to be a part of the explanation.

Without disparaging the effectiveness of the American policy of encouraging widespread ownership of land as a means of conquering and settling the frontier and contributing to a broad distribution of ownership of capital, there is every reason to doubt the wisdom of today advising countries that have followed other policies for the past two or three centuries to now experiment with 19th-century American land policy—especially the homestead principle. Many such countries are confronted with the urgent need to increase food production with their existing agricultural resources. This means that ways will have to be found to increase output per unit of input.

The thesis of this paper is that share-rental contracts are an integral part of the economic organization of United States agriculture. It seems likely that the contribution of these contractual forms to rapid technical change means that wherever it is socially urgent to achieve increased agricultural productivity, one should look at the structure of incentives determining land use and production techniques, rather than at land ownership alone.

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