

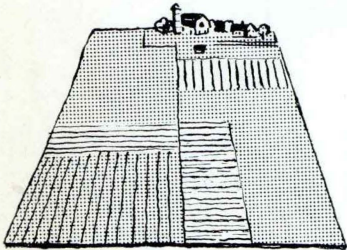
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NORTH CENTRAL REGIONAL PUBLICATION No. 50

FARM RENTAL PRACTICES AND PROBLEMS IN THE MIDWEST

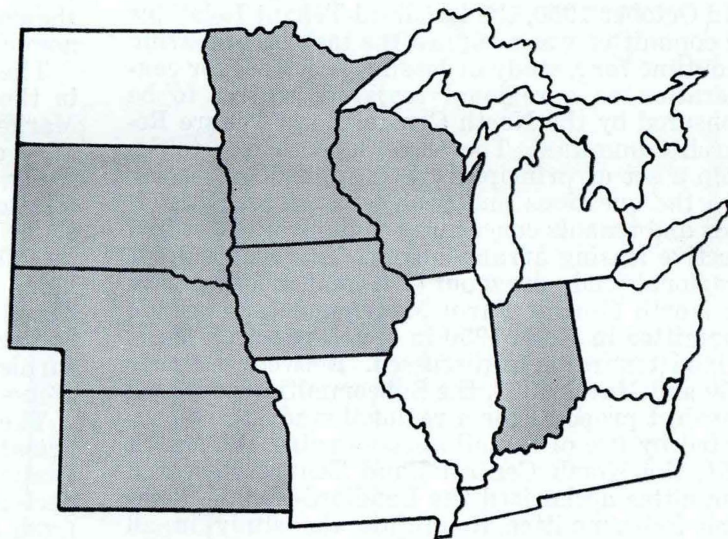
by Virgil L. Hurlburt



Agricultural Experiment Stations of

Illinois	Minnesota
Indiana	Missouri
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Kansas	North Dakota
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Farm Foundation and United States
Department of Agriculture, cooper-
ating.



RESEARCH BULLETIN 416

OCTOBER, 1954

IOWA AGRICULTURAL EXPERIMENT STATION

IOWA STATE COLLEGE

AMES, IOWA

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FOREWORD

In October 1950, the Landlord-Tenant Relations Subcommittee was assigned the task of preparing an outline for a study of leasing practices for consideration as a regional research project to be sponsored by the North Central Land Tenure Research Committee. The basic purpose was to develop a set of principles to be applied in dealing with the questions and problems raised by landlords and tenants concerning content of leases and effective leasing arrangements. The proposal for a regional study grew out of a joint meeting with the North Central Farm Management Extension Committee in April 1950 in which research needs in land tenure were discussed. Between October 1950 and March 1951, the Subcommittee prepared a project proposal for a regional study to be conducted by use of a mail questionnaire. In March 1951, the North Central Land Tenure Research Committee authorized the Landlord-Tenant Relations Subcommittee to initiate the study in all states able to participate. Seven states joined in the study, in cooperation with the Farm Foundation and the then Bureau of Agricultural Economics, United States Department of Agriculture.

A sampling procedure was developed in collaboration with the Statistical Laboratory, Iowa State College, to obtain a random sample of names of persons operating one tract or more of farm land under a lease. Economic areas as defined by the Census of Agriculture were used as the unit for sampling and analysis. In two states, two or

more economic areas were combined, giving a total of 46 areas or combinations of areas, as shown in fig. 1. These 46 areas are called economic areas in all following discussion.

The source of names of renters was the records in the county offices of the then Production and Marketing Administration, United States Department of Agriculture. Within each area used in the study, a sampling rate was calculated to give a total of 900 names distributed among and within counties in such manner that each lease in effect in 1951, whether for a whole farm or a tract of land, had equal chance of falling within the sample. The unit of observation was a lease, rather than a farm. A total of 900 names would furnish 300 usable schedules per area, assuming a one-third response to the mail questionnaire.*

The 300 replies per area were judged to be sufficient for reliable results, in view of the kinds of analyses intended and the types of inferences expected to be drawn from the data to be collected from respondents.

The content of the questionnaire was determined by the Subcommittee through discussion, pretesting of the preliminary forms and attention to the kinds of analyses expected to be made. The questions were designed to obtain information about the farm operated, the renter, the landlord and the details of the lease covering one tract. In addition, five questions were included to obtain

*The estimated one-third response was based upon experience with mailed questionnaires in an earlier regional study. John F. Timmons and Raleigh Barlowe. Farm ownership in the midwest. Iowa Agr. Exp. Sta. Res. Bul. 361. 1949.

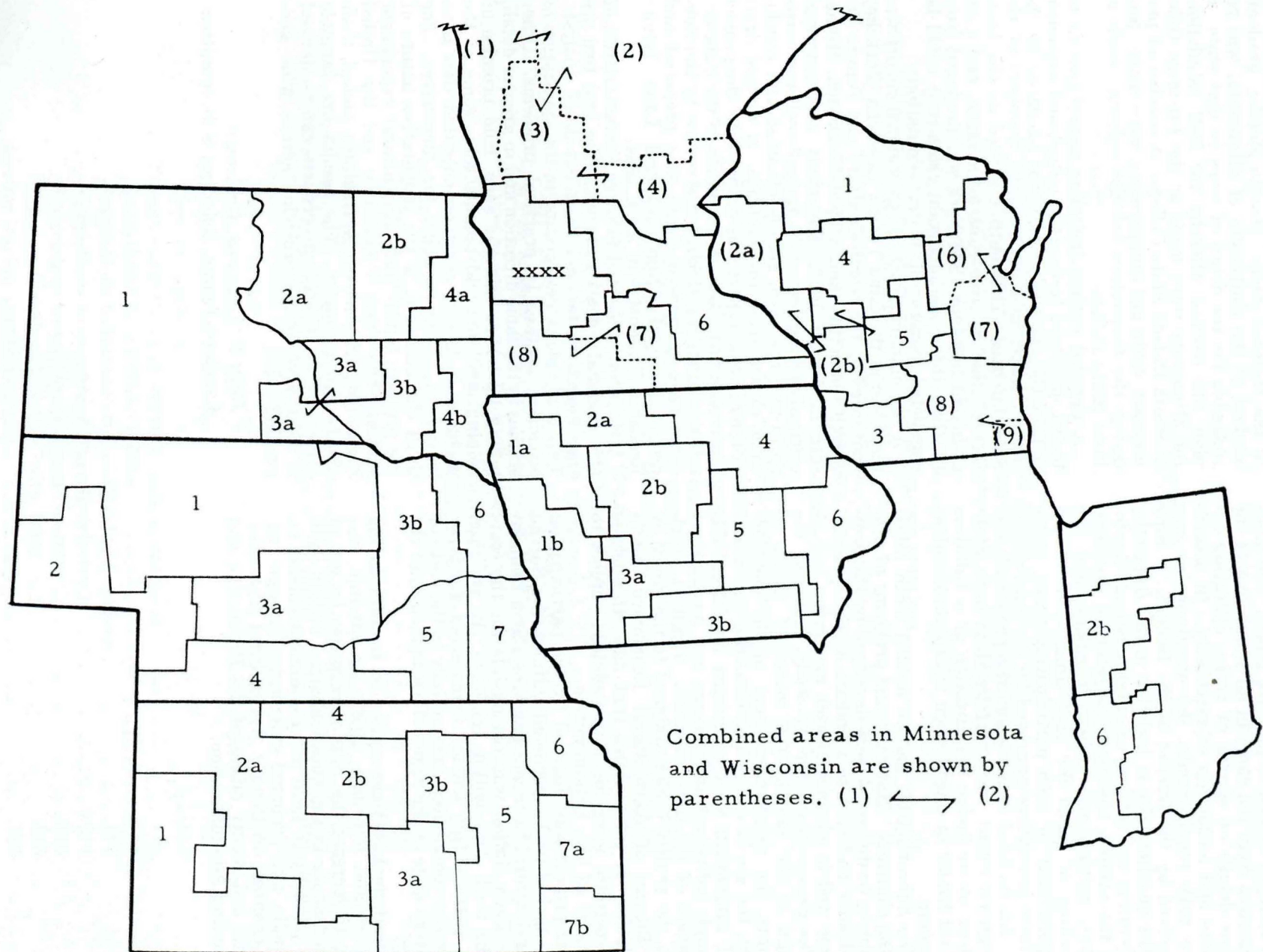


Fig. 1. Economic areas included in the study of farm rental practices.

opinions of tenants concerning leasing problems and changes needed to improve leases. The questionnaires were the same in all states, except for a few details on shares of crops, operating expenses and ownership of machinery. In accordance with requirements, the questionnaire was approved by the Bureau of the Budget. A copy of the questionnaire is included in the Appendix.

Printing and mailing of questionnaires, obtaining the sample, checking the returned questionnaires, editing and coding schedules, and the punching of cards for IBM analysis were the responsibility of each participating state, under uniform procedures approved by the Subcommittee. All regional analysis and the preparation of a regional report were performed at Iowa State College by or under the direction of a full-time project leader in consultation with Subcommittee members.

The Subcommittee met as needed when called by the chairman. Materials and problems of procedure to be discussed were developed by the project leader and sent to members of the Subcommittee well in advance of each meeting.

The general plans for the study, including the design of the sample, the source of names of tenants, the rough framework of the questionnaire, the use of a mail questionnaire and use of IBM equipment, were completed by June 1951, through individual assignments and meetings of members of the Subcommittee. Virgil L. Hurlburt, the project leader assigned to the study by the Bureau of Agricultural Economics, began work July 1, 1951. After that date, the details of procedure were his responsibility, subject to approval of the Subcommittee.

The project was financed by the participating state agricultural experiment stations, the Bureau of Agricultural Economics and the Farm Foundation. Each station was responsible for the costs of the work done within the state. In addition, each participating agency transferred funds or otherwise contributed substantially to the costs of the work done at the regional headquarters of the study.

Questionnaires were mailed to tenants during January and February 1952. An attempt was made to increase the rate of response by use of colored paper in the questionnaires, repeat mailings, publicity in local papers, announcements on the radio, and prepared statements through regular channels to County Agricultural Extension Agents and county offices of the Production and Marketing Administration.

Data for Minnesota were used for pilot analysis in the regional study. Marvin Kottke, graduate student at the University of Minnesota, was responsible for the detail of work in that state. A plan was devised whereby the IBM tabulations for Minnesota were made at the Business Office at South Dakota State College. A number of preliminary sorts and comparisons were made, thus laying the foundation for the regional work at Iowa State College.

A detailed outline including hypotheses to be tested, proposed tests, and content and organization of the regional report was prepared by the project leader and reviewed by members of the Subcommittee. This outline served as the basis for selection of cross-runs to be made, and a set of instructions for IBM work was prepared from it. Only the more important cross-runs could be completed because of budget limitations.

A preliminary draft of the regional report was discussed at the Land Tenure Research Workshop sponsored by the North Central Land Tenure Research Committee and held at Blackduck, Minnesota in August 1953. The study was examined critically by a group of 30 agricultural economists as to methods used, results obtained and conclusions drawn from the evidence. A revised draft of the regional report was prepared by the project leader and distributed to members of the Subcommittee in January 1954. After review by the Subcommittee, a revised draft was prepared and presented to the North Central Land Tenure Research Committee in April 1954.

Attention is directed to three characteristics of this regional research project. The first two are the subject matter and the methods of analysis. This study plows new ground in the application of economic analysis to practical problems. Other studies in the same direction and in greater detail, taking up where this one ends, hold promise of helping landlords and tenants solve some of the problems in leasing arrangements that they have long been unable to solve for themselves. The third characteristic is the cooperative nature of the project. Seven state agricultural experiment stations, the Farm Foundation and the United States Department of Agriculture pooled their efforts and resources. The results are tangible evidence that effective procedures can be devised to deal with social problems across wide geographic areas.

JOHN F. TIMMONS, Chairman
Landlord-Tenant Relations Subcommittee

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GLOSSARY

Farm firm: The decision-making unit in agricultural production; a unit within which factors are combined and production decisions are made, whether the resources are owned by one resource owner or are split between a landlord and a renter.

Resource: Any factor of input in the firm; a factor is a unit of resource.

Renter: A tenant or a part-owner. For this study the types are: (1) full tenants, one landlord—rent all the land they operate from one landlord; (2) full tenants, two or more landlords—rent two or more tracts from different landlords; (3) part-owners, one landlord—rent one tract and own some land; and (4) part-owners, two or more landlords—rent two or more tracts from different landlords and own some land.

Tenant: The operator under a lease covering one tract or one farm.

Landlord: An individual owning or controlling a tract of land operated by a renter.

Lease, leasing arrangement or rental agreement: A written or oral contract between a landlord and a renter concerning use of resources for a given period and a specified payment.

Cash lease: A rental agreement in which the payment is a specified amount of money.

Crop-share lease: A rental agreement in which the payment is a share of the crop or crops.

Crop-share-cash lease: A rental agreement in which the payment is a share of the crop or crops and a specified amount of money.

Livestock-share lease: A rental agreement in which the payment is a share of the income from livestock and crops, and livestock are the major source of income.

Labor-share lease: A rental agreement in which the payment is a share of the crops or livestock income, and the tenant's contribution is primarily his own labor.

Special or other lease: A rental agreement in which the payment cannot be classified clearly into one of the above types.

Statistically significant or significant difference: A difference of sufficient magnitude that it would occur less than once in twenty times in repeated sampling; the 5-percent level of significance is used for all tests in this study.

ACKNOWLEDGMENTS

Active participation and wholehearted cooperation of numerous individuals in both official and personal capacities have made this study possible and have facilitated its completion. The author is indebted to many persons for their valuable contributions in time, effort and ideas. Appreciation is expressed to the following:

Organizations and Agencies: Farm Foundation, Chicago, Illinois; Extension Service, each participating state; Statistical Laboratory, Iowa State College; Business Office, South Dakota State College; Agricultural Conservation Program Service (formerly PMA), USDA.

Members of Landlord-Tenant Relations Subcommittee, NCLTRC: John F. Timmons, Iowa State College, chairman; Wilfred H. Pine, Kansas State College (and Howard Dorset); A. A. Dowell, University of Minnesota (and Philip M. Raup); Burton L. French, University of Nebraska (and Howard W. Ottosen); Russell L. Berry, South Dakota State College (and Canute Johnson); Philip M. Raup, University of Wisconsin (and Raymond J. Penn); Joseph Ackerman, Farm Foundation.

Individuals: John F. Timmons for his constant counsel and effective leadership. Walter E. Chryst, Production Economics Research Branch, ARS, USDA, for his critical and constructive suggestions throughout the study and especially for his contributions to the framework of analysis. Marshall Harris, Production Economics Research Branch, ARS, USDA, for many administrative arrangements and for stimulating critical review. Burton L. French, University of Nebraska (presently ARS, USDA) for active participation throughout the study and for statistical consultation. Julia Ann Hurlburt, wife, colleague, student, for superior assistance in preparing and analyzing the data, supervising clerical work and completing drafts of the report.

Valuable assistance was received from Raymond Jessen, Norman Strand, Emil Jebe, Mrs. Bertha Eastman, Mrs. Mary Clem, Mrs. Martha Thomas, John A. Nordin, Earl O. Heady, W. G. Murray, Miss Louise Haug, Mrs. Edna Janssen and Mrs. Garth Champagne. Mention should also be made of the thousands of respondents who supplied information in mail questionnaires.

THE HIGHLIGHTS

The economic functions of a lease provide a standard against which the terms of the contract may be evaluated. Strictly speaking, economic problems in leasing arise whenever terms of the lease, as such, encourage inefficient use of resources or cause transfer of income from one to the other party in the agreement.

- All farms must meet the same tests of economic efficiency.

- Four incentive conditions are needed in each lease to encourage efficient use of resources and to prevent transfers of income between resource owners.

- Few leases contain all four of these incentive conditions. Consequently, there are one or more conditions in most leases to encourage resource owners to maximize the returns from the resources they contribute rather than to try to maximize the returns on the combined resources in the farm firm.

- Practices vary widely between economic areas on the sharing of costs and returns but tend

to follow rather uniform patterns within economic areas.

- Few leases contain provisions for specific payment by the renter for housing facilities provided by the landlord. Thus, few leases make a clear-cut distinction between consumption and production expenditures within the farm firm.

- Much more attention and careful economic analysis needs to be devoted to the difference between the fixed and variable resources provided by the parties to the agreement.

- In any share lease, all variable expenses and income need to be shared in the same proportion as are the fixed resources furnished by the two parties if both parties are to benefit equally from their contributions to the agreement.

- The similarity of terms from lease to lease and the lack of variation in leasing practices within economic areas suggests that much more attention needs to be devoted to the content of the individual agreement to fit the needs of the landlord, the renter and the property involved.

Farm Rental Practices and Problems in the Midwest

BY VIRGIL L. HURLBURT¹

THE FRAMEWORK FOR ANALYSIS OF RENTAL PRACTICES

Leasing and ownership are alternative methods of obtaining the use of farm real estate. These two methods are not perfect substitutes for each other because of the subjective values attached to ownership including status, feeling of independence and greater certainty of tenure. This study recognizes farm tenancy as a method of obtaining the use of farm lands, buildings and equipment by operators who otherwise might not be able to do so and as a method by which farm owners obtain the services of operators.

Selected phases of current leasing practices are analyzed to: (1) appraise their economic significance; (2) indicate the nature of the economic problems involved in leasing; and (3) suggest some of the adjustments required to solve the problems of leasing. That landlords and renters need help in developing effective leasing arrangements is attested to by the continuing number of requests for assistance or advice received each year by the state agricultural extension services, the colleges of agriculture and by the United States Department of Agriculture.

Analysis of rental problems and practices requires definition of the function of the farm firm, the function of a lease, and the nature of the basic problem in leasing arrangements. Understanding the meaning of these concepts is essential in the separation of lease-oriented problems from other economic problems of the farm as a firm. The analytical framework itself is made up of the principles of production organization applied to the particulars of leasing arrangements.

The farm as an operating unit is the production unit in agriculture. The purpose or function that this unit serves in agriculture, as in any industry, is to provide a framework within which production decisions are made and executed. An operating unit may include resources in several ownerships and be composed of several decision-making units. In essence, a separate firm or decision-making unit exists whenever two different resource owners pool their resources in production.

A leasing arrangement is an agreement within

the farm as an operating unit. Essentially, a lease is a contract between a landlord and a renter concerning use of resources for a given time period and for a specified payment. The lease may be either written or oral. It may cover all or only part of an ownership unit. The operator may own other land, may rent tracts of land from other landlords and operate them all as a unit or he may rent from only one landlord. The landlord may share in cash operating expenses, ownership of livestock or provide the use of machinery and equipment; or he may furnish only the land, with or without buildings and improvements.

The economic function of a lease is twofold: (1) to provide a basis for combining resources in production; and (2) to distribute income to resource owners within the firm.

The lease takes as given the kinds and amounts of resources owned or controlled by the parties to the agreement. The fact that one individual may own a dozen farms, all of which he rents to as many different tenants, may influence the terms he is willing to offer or accept. Or, the fact that a renter owns or has access to enough machinery, livestock and operating capital to farm a unit twice as large as the average in the community may put him in a better position to bargain with a landlord. However, the lease is an operating agreement regardless of the amount of resources each party owns or controls. The agreement merely states the conditions of use and the manner and amount of payment to be received by both parties for the use of resources in the firm.

The basic economic problem in the development and use of farm leases stems directly from the function to be performed by the lease. Namely, the problem is to determine the terms that are necessary in the lease to allow and encourage an efficient combination of resources and to distribute the income to the owners of the resources in accordance with the productivity of the resources.

Numerous questions arise within any farm firm regarding resource valuation, level of output, combination of enterprises and choice of alternatives in production regardless of who owns the various production resources. Strictly speaking, none of these questions is a leasing problem *per se* unless efficiency in use of resources or income distribution

¹Production Economics Research Branch, Agricultural Research Service, USDA.

within the firm is affected by terms or conditions of the lease.²

The function of the lease and the nature of the basic problem in leasing as defined above establish the frame of reference for analysis of rental practices. Any leasing practice may be analyzed in terms of its effect upon efficiency of resource use and upon distribution of income to resource owners within the farm firm.

In economic analysis, efficiency of resource use is a function of quantity and price relations. Consumer preferences are expressed in sets of prices in the market. Resources are used efficiently within the firm when profits are a maximum. Thus, leasing practices may be analyzed in terms of their effects upon the profits of the firm by specifying the conditions for any farm firm and those for tenant operated firms to maximize profits.

Reduced to the simplest terms, the conditions required for any farm firm to maximize profits from given quantities of resources over a period of years are:

1. Relation of factor to factor. An increment of one factor is substituted for an increment of another factor until the cost of the increment of the one is exactly equal to the cost of the increment of the factor it replaces in the production of a given output. This rate of substitution applies within one production period and between production periods.

2. Relation of product to product. An increment of one product is substituted for an increment of another product until the value of the increment obtained is exactly equal to the value of the increment replaced. This rate of substitution applies to any two products in one production period and between two time periods.

When these two conditions are satisfied, the final unit of each factor earns the same rate of return in each of its uses in the firm.³

If profit is to be a maximum when the farm or tract is tenant operated, there can be no condition

²Excluded from analysis in this study are the whole set of problems of renters finding farms, landlords finding tenants, finance, and scale of operation. These and other problems are associated with tenancy and must be dealt with in the larger framework of improving land tenure. However, the content of the lease and the nature of leasing practices, though influencing them and influenced by them, are not the main device or method to solve the problems involved. Also, this study takes as given the rate of payment and the shares that are reported, and does not treat the problem of determining the cash rent per acre or the fractional share of expenses and returns.

³This is the case of the multiple-product firm operating under competition and uncertainty, with a given amount of resources. The only further requirement for the firm with unlimited capital is that the marginal rates of transformation of factor into product equals the ratio of their prices; namely, increment of factor divided by increment of product equals price of product divided by price of factor, and all ratios equal 1. These are a simplification of the three Hicksian conditions of equilibrium. The illustrations used by Earl Heady for the tenant firm are an application of the Hicksian conditions.

Obviously, the maximum profit combination for the given farm firm does not necessarily maximize income for the individual operator if there are greater income earning opportunities available to him outside the firm. Firms can maximize income from given quantities of resources without the industry being in equilibrium. In other words, simply because the majority of firms maximize income from given resources does not deny the possibility of greater total product by shifts between firms. However, the problem under discussion here is at the intra-firm level, although admittedly, faults in leasing arrangements can and do contribute to economic inefficiency by retarding adjustments in allocation of resources between farms.

See J. R. Hicks. *Value and capital*. 2nd ed. Chs. 6 and 19. Oxford at the Clarendon Press. 1946.

See Earl O. Heady. *Economics of agricultural production and resource use*. Chs. 6 and 8. Prentice-Hall Inc., New York. 1952.

in the leasing arrangement that will change either product cost or factor return. Four incentive conditions are required within the lease to encourage operation at a level that will maximize income from the combined resources of tenant and landlord. Otherwise there is incentive for either the landlord or the tenant to attempt to maximize returns from the resources he contributes, and the sum of the returns to each maximized separately is always less than the total when returns are maximized on the combined resources. If the farm is operated at the highest profit combination without meeting these conditions, there is a transfer of income from one resource owner to the other.

CONDITIONS NECESSARY WITHIN THE LEASING ARRANGEMENT TO ENCOURAGE OPERATION AT THE MAXIMUM PROFIT FROM THE COMBINED RESOURCES OF LANDLORD AND TENANT

The four conditions are:

Incentive condition 1. The share of the factor of variable input must be the same as the share of output of product obtained from it.

Incentive condition 2. The shares of all products must be the same.

Incentive condition 3. Each resource owner must receive the full share of the product earned by each unit of resource he contributes.

Incentive condition 4. Each resource owner must have opportunity to receive return on investment made in one production period but not forthcoming until a subsequent period.

The four conditions provide a tangible basis for analysis of leasing practices in terms of the economic functions of a lease. In the following section leases are examined to find whether the incentive conditions are present. The testing device is a comparison of shares, of contributions and returns and of associated characteristics of leasing arrangements. The comparisons do not prove whether resources are used efficiently on rented farms or whether there are income transfers between resource owners under a given lease. Much more detailed analysis is needed to determine the degree of efficiency in resource utilization. Also, it must be emphasized that the presence of all incentive conditions in a lease does not guarantee that resources will be used efficiently. Operators may not have the necessary information or may not choose to react to the incentives.

Absence of any one of the conditions needed to encourage efficiency in use of resources on tenant operated farms or tracts can motivate decisions and actions concerning use of resources and cause departure from the highest profit combination for the combined resources of landlord and tenant. The conditions are multiple. Each of them must be present in each lease whether the operator rents one or more tracts, is a part-owner or pays a cash or share rental. Cash leases automatically satisfy the first two conditions, but share leases may or may not. For purposes of analysis, it is not necessary to know how many leases depart

from two or more incentive conditions. It is only necessary to know that one of the incentive conditions is not present.

SIGNIFICANCE AND LIMITATIONS OF THE INCENTIVE CONDITIONS

Efficient production measured by maximum profit for the firm is a social goal which may differ from the goal or purpose of the individual. If both the necessary conditions for income maximization and the incentive conditions are met, however, the societal goal and the individual goal are the same. With the income for the firm at a maximum, production of goods and services is a maximum and is in harmony with the preferences expressed by consumers through market prices.⁴ Also, with the income of the firm at maximum the incomes of both landlord and tenant are maximum. Thus, the total set of conditions necessary for the tenant operated firm to maximize profits provides a guide to both individual and social goals.

One of the limitations of the incentive conditions for profit maximization is involved in the functions of the lease. If, through joint determination and mutual agreement of landlord and tenant, the firm is operated at the maximum profit combination, even though one or more of the incentive conditions is absent, then the efficiency goal has already been attained. In particular cases, income transfer from one party to the other may be a primary and an intended purpose. An income transfer takes place within the firm if either party receives less than the full share of the product earned by the resource he contributes to the firm. For example, if the return to land in a cash lease is calculated to be at the rate of \$25.00 per acre and the tenant pays only \$15.00 as cash rent, income from the land is transferred to the tenant.

If an income transfer takes place but resources continue to be used efficiently and the parties to the agreement are aware of the transfer, society suffers no loss. Only the parties to the agreement are affected. If one wishes to give part of his income to the other, the choice is his own.⁵

Income transfers are an expected and rational event in leases among relatives. A father may purposely pay all of the fertilizer costs, even though he receives only half the corn, to increase the income of his son. Likewise, a son or daughter taking over the home farm after the parents have retired may pay a cash rent above gross returns to land to provide support for the parents. Similar transfers might take place among nonrelatives.

When the income transfer is not an intended purpose and it occurs as a result of the lease, the lease is at fault. One party or the other is receiving less than full return for the use of the resources he contributes.

⁴The fact that some factor prices are sticky and some product prices are administratively determined through legislated programs does not deny the argument, because in spite of these imperfections in markets, prices are given to the firm at any one time. However, administered prices may not be in line with consumer preference and total production may not result in a maximum contribution to total welfare.

⁵This applies in the case of efficient operations. Obviously, if an income transfer motivates continuity of non-economic units and retards inter-firm allocation of resources, society does lose.

Purposes or goals other than income maximization influence the use of resources in production. Preference for consumption expenditure in the present is an example. A family with teen-age children, when considering alternative uses of \$2,000 profit from farming operations, may purposely choose a new automobile rather than investing in contouring and terracing the farm. An individual may choose to go fishing on the day or two well suited to plowing corn—thus choosing leisure rather than income. In choosing other use of his time or other resources, the individual attempts to maximize his satisfactions. The conscious choice of leisure as compared to a few more dollars of income by working more hours or the preference to raise only spotted Poland-China hogs when the income earning possibilities are greater by devoting capital to milking Holstein cows is a rational choice to him. He is using his resources to obtain the satisfactions he wants. Use of resources by an individual has no effect upon prices of factors and of products. But if, through this type of preference by groups of individual producers, the supply of a given product is less than consumers are willing to take, price of the given good will increase, and thereby encourage a higher price for the factors which go into it.

In all firms there are decisions to be made between consumption expenditures and investments in production. Problems of firm-household relations are not peculiar to rented farms and do not deny the efficiency concept as a test of the use of resources committed to production. In economic analysis, the sets of preferences are taken as given at any one point of time and supposedly are reflected in market prices.

Resources cannot be used efficiently if the quantities available for combination are less than those required for an economic unit. Here again, the problems of economic organization as influenced by quantities of resources available are the same for the leased farm as for any other farm firm. This does not deny that the leasing of a tract of land may be the method by which a given operator increases the size of his business or that capital limitations affect resource use on tenant operated farms. Principles of economic analysis apply the same whether all resources are in one ownership or are split between two or more parties. Limited resources and the existence of non-economic units are not necessarily the fault of leasing as a method of operating.

The major limitations of the necessary conditions are methodological and technological. The problems of calculation are complex. Knowledge is lacking for a wide range of production functions. Some factors cannot be added in small increments. It takes a trained technician to calculate or estimate marginal costs in a multiple product firm, and most farms are multiple product firms. These difficulties do not deny the efficacy of the framework of analysis. Tenants and landlords will need the assistance of technicians in solving leasing problems the same as they need the assistance of soil specialists or animal husbandry technicians.

In addition to the above limitations for the set of incentive conditions as a whole, there are several that apply to each by itself. The following discussion of the four incentive conditions attempts to assess the more important limitations and indicate the significance of each as a methodological tool in the analysis of leasing practices.

The discussion of limitations and the following analyses are based upon three assumptions. First, plans are made and executed for given production periods, usually 1 year. Some of the resources are fixed for the given period. For example, the quantities of land and buildings are fixed and therefore their costs are fixed costs. Second, in the production planning process as well as in the production process, variable resources are added to fixed resources in such kinds and quantities as to equate the return on the final unit of the variable in each of its uses. This means that the final units of labor used in production of corn, hogs, soybeans, wheat or milk result in the same value of product. Third, adjustments are made between production periods in the fixed resources so that in the long run all resources are variables.

Distinction between fixed and variable resources is particularly important because management decisions cannot be made effectively without that distinction. A fixed resource has a constant cost over a given time period and over a given range of output. The cost of a variable resource depends upon the level of output. Although the economic principles apply the same to tenant operated as to other farm firms, the distinction between fixed and variable factors and costs by landlord and tenant is itself a crucial decision in the development of a leasing arrangement. Fixed costs may be divided between tenant and landlord to determine the rental share. Also, the labor of the tenant is a fixed cost for the production period in the sense that some portion of it must be used regardless of the level of production; but, the number of hours and quality of labor required depends upon the enterprises in the firm.⁶

Incentive 1. Sharing of costs and returns. The share of the factor of variable input must be the same as the share of output of product from it. Difference between share of cost and share of return motivates operation at other than the highest profit combination or causes transfer of income from one resource owner to the other. Cash leases fulfill this condition because the tenant furnishes all the variables and receives the returns from them. A simple illustration may suffice to indicate why this condition is necessary in any share lease to motivate operation at the highest profit combination, and why income is transferred between

resource owners if the shares differ and the firm is operating efficiently.

Assume that commercial fertilizer is a necessary input for corn production and that a 50-50 sharing of the corn is the form of the rental payment. If the cost of fertilizer is also shared 50-50, both parties to the agreement will be interested in applying fertilizer until the final unit of application just pays for itself in value of corn produced. Any difference between share of cost of fertilizer and share of value of corn changes the level at which application of fertilizer is most profitable. If the tenant pays all the costs of fertilizer, the most profitable application for him is to apply fertilizer until the cost of the final unit of input is equal to half the value of the additional corn produced by that input. This results in a different level of output than would be the case if the share of cost were the same as the share of return.

Suppose further that the two parties agree to apply fertilizer at the most profitable combination, but the tenant (or the landlord) pays all the costs of fertilizer. The one who paid the costs of fertilizer would receive a return of less value than the cost of the final units of input, and the other party would receive an income from those inputs.

There is only one case in which unequal shares of cost and return on a variable will not motivate change from the highest profit combination for combined resources of landlord and tenant or cause shift in income between resource owners. If the farm is operated at the highest profit combination, one variable cost can be matched or balanced against another in such manner that total variable costs and returns are shared in the same proportions as are total fixed costs.

Crop-share-cash leases in which the cash payment is a per acre rental for pasture or hay land pose special and particular problems in equating shares of costs and returns. In the case of hayland used in the crop rotation plan, it is not likely that all variable costs associated with hay production are paid by the tenant; yet, he receives all income from the hay produced. Also, in the case of permanent pasture, the tenant would need to pay all variable costs to match the 100 percent of variable return he receives in pasture. In practice, few crop-share-cash leases would meet the requirement that the share of variable cost be equal to the share of variable return, throughout the firm.

The requirement that the share of variable cost be the same as the share of the return means that all variable costs must be shared in any share rental arrangement. In practice, some items of variable costs may be so small as to be of no effect. Also, a given technique such as the use of weed spraying may produce such high returns that it is used regardless of who pays the cost. These minor limitations do not deny the general applicability of the incentive condition.

In this study, the test of incentive condition 1 is made by comparing shares of selected items of costs and returns to find the frequency of equal sharing by economic areas. The number of departures from equal shares of costs and returns

⁶This illustration is an example of Weintraub's statement that, "Sometimes a factor is technically fixed although the payment of its services is variable. . . ." Weintraub's discussion of factors of production and fixed and variable factors is *apropos* but is not sufficiently definitive. The problem of handling costs of labor and of management is an example of the need for further theoretical analysis of leasing practices. Management can be treated as a fixed cost, with an evaluation placed upon that supplied by both landlord and tenant. If treated as a variable, the return from management goes to the resource owner and is shared between landlord and tenant in a share lease, possibly in a different proportion than that in which it is furnished. See Sidney Weintraub, *Price theory*, p. 55 and Chapter 3. Pitman Publishing Corporation, New York, 1949.

indicate the number of leases in which there are economic motivation for operations at other than the highest profit combination for all resources.

Incentive 2. Equal shares of all products. Cash leases automatically fulfill the condition because the rental is a fixed cost for all products. In share leases, any difference between shares of two products provides incentive to move away from the quantities of the two products that result in the highest profit from the combined resources of landlord and tenant. Difference between shares of products offers incentive for each resource owner to maximize the return from his own resources, even though the share of cost is equal to the share of return in each product. There are a number of cases in which this incentive condition does not apply and is not necessary to encourage operation at the highest profit combination. These limitations are discussed below after the illustration of why equal shares of products are a necessary condition if decisions as to level of output are made by either the landlord or the tenant alone.

The reason why all shares of product must be the same may be demonstrated by examples. In the simplest case, suppose that a farm is producing two crops that are competitive and the per unit costs and product prices for these two are the same. The landlord or the tenant with opportunity to make the choice would have income incentive to produce all of the crop of which he received the larger share. If the shares were the same, however, that combination of the two at which the final unit returns were equal would be chosen, because that combination would provide the highest profit. Whether resources were limited or unlimited, production of some quantity of each of the two crops would result in a higher income than if all resources were devoted to production of one.

The more usual case is that of producing two or more crops with different unit costs, different yields and different prices with a given quantity of resources. But the incentive effect of differences in shares of the crops is exactly the same as that above. Because of the opportunity to obtain a higher income, the operator will want to shift resources into production of that crop which gives the highest income on the factors he contributes. This will not necessarily be the one on which the lower share rental is paid because differences in unit costs may more than compensate differences in shares, and some minimum acreage of a crop like clover may be essential in the rotation to maintain the yield and income from corn. The inclination usually will be to shift more resources into production of the crop with the lower rental share.⁷

⁷In the multiple product firm, the quantities of any two products to be produced for the highest profit combination are indicated by equating of ratios of marginal products and product prices. Profit is a maximum when the ratio of marginal products is inversely equal to the ratio of the product prices. Under differential shares, the operator inversely equates the ratios of marginal products of his resources to the ratio of product prices, at a level which is different from that of the total resources. In short, differential shares, with decision by the tenant, changes the opportunity line for choice between products and thereby changes the point at which the ratio of marginal products will equal the ratio of product prices. The same situation will apply if decision is made by the landlord; then the landlord will want to operate at that combination which maximizes profit on the resources he contributes. See Earl O. Heady, *op. cit.*, Ch. 20.

In the case of joint decisions and equal bargaining powers of landlord and tenant, differential shares will have no effect if the share of cost equals the share of return in all products and decision is made to operate at the highest profit combination for the combined resources of landlord and tenant. In the case of joint decisions and unequal bargaining powers of the two parties, the effect of differential shares is indeterminate. The result may be either a change in resource allocation among products, a shift in income from one party to the other or both.

Any analysis of differential shares must therefore take into account the question of who makes the decision as to the amounts of variable resources and the quantities of the different products to be produced.

If decision to operate at the optimum product quantities has already been made, obviously the objective of the incentive condition has already been achieved, and then only the income transfer is a debatable issue. Also, it follows that if shares of products are the same throughout the firm, the shares of costs are likewise equal when incentive condition 1 is met. Even though decisions are made jointly by landlord and tenant, the making of them might be easier and less debatable if incentive conditions 1 and 2 are both met.⁸

Share leases are examined in the following section by comparing shares of products. Again, as in the tests for equal shares of costs and returns, these comparisons show only whether the incentive condition is present in the lease. The data are not in sufficient detail to determine whether the firm uses resources inefficiently or whether income is transferred from one party to the other.

Incentive 3. Share of product earned by each resource. This incentive condition applies to fixed and variable resources of both parties, and to all leases. If the resource owner does not have opportunity to receive the full share of return from the resource contributed, he has incentive to move away from the highest profit combination. If, through joint decisions, the firm is operated at the highest profit combination and one or the other party receives less than his full share of the product earned, there is an income transfer. Although the logic is simple and the necessity for the incentive is obvious, in practice the problems are complex. The chief limitation of incentive condition 3 is the problem of calculation in the multiple product firm.

The import of incentive condition 3 is that any living facilities on the rented farm need to be separated from the production facilities and a separate payment be specified for them. Otherwise, the landlord has no method of making decisions as to how much to invest in housing and the tenant cannot calculate how much he is pay-

⁸The case of complementary products does not complicate the problem of choice under differential shares, because even with decisions made by either party, it is to the advantage of the decision maker to operate outside the complementary range. In the case of supplementary products, differential shares might encourage product substitution to the extent that the products became competitive.

ing for housing, which to him is a consumption good.

Likewise, if the landlord is to receive the full return on his investments in fixed improvements used in production under any type of lease, he needs to receive a direct and specific payment for such items as barns, sheds and fences either in a cash payment or in a share of the return from the factor. The requirement is the same for fixed resources supplied by the renter.

Only partial tests can be made in this study to determine whether incentive condition 3 is present in leases. The data are not in sufficient detail to test whether owners of fixed resources receive the full return from them. The main test is a comparison of shares of costs with shares of returns on selected variables, because the condition cannot be fulfilled unless the resource owner receives the same share of return as he pays in costs of variables.⁹

Incentive 4. Opportunity to receive return on investment. This incentive condition applies to both fixed and variable resources used in production, and applies likewise to investments made by the landlord in housing facilities. In brief, it means that the terms of the lease cannot increase the uncertainty of the firm, be the cause of shift in use of resources between time periods or change the selection of products within a production period.

Tenant and other farms encounter the same set of risks and uncertainties as business organizations. Future prices and yields are unknown. Floods, grasshopper infestations, hail, windstorms and similar risks pay not the least attention to the incidence of land ownership.

A lease is for a given time period. It may contain no provisions for renewal, no compensations for the value of unexhausted improvements at the time of termination and no specific agreement as to form and length of termination notice. These and similar characteristics are forms of uncertainty peculiar to leasing. If the tenant has no assurance that his 1-year lease will be renewed, the tendency will be to choose products that can be finished within the lease period. This might mean, for example, the choice of a hog enterprise rather than a dairy enterprise that under a longer and certain tenure would be more profitable. Thus, uncertainties within the lease may result in less than the maximum income that would be possible without them.

Uncertainty and the lack of technical knowledge are two different phenomena. The difference between them sometimes confuses the analysis of leasing practices. An individual operator may have no knowledge of yield response to fertilizer, the effects of spraying, the income effects of rotation grazing or any similar technology; this lack of knowledge cannot be classified as an uncertainty. Nor should uncertainty be confused with lack of opportunity, lack of capital resources or the strength of the bargaining position of either

the landlord or the tenant. A tenant may take a farm which is smaller than one his machinery and equipment could handle, and take it on a 1-year lease with no promise of renewal, because that is the best opportunity available to him. The only characteristic of such situation that can properly be classed as an uncertainty in leasing is the lack of provision for renewal of the lease.

Particular practices and characteristics of leasing arrangements are examined in the following pages. The method of analysis is a comparison of selected characteristics to see how they would likely affect the outlook or actions of the operator in the use of resources.

OTHER ECONOMIC IMPLICATIONS OF LEASING PRACTICES

Numerous other characteristics of leases, of landlords and of renters influence both resource use and distribution of income within the firm. Also, leasing practices affect the allocation of resources among firms. For example, the fact of an income transfer from landlord to tenant may be sufficient reason in itself to encourage operation of a farm by a tenant whereas he would otherwise seek another and larger farm or seek non-agricultural employment. Content of the individual agreement depends upon what the parties are able to do—because of the amount and kinds of resources at their command—as well as upon what they want to do. The type of landlord, such as the governmental agency that controls a significant portion of the land in an area, may influence the form and content of leases offered by other landowners in that area.

Need for the various types of leases, such as cash, crop-share, crop-share-cash, livestock-share, labor-share and special, arises because of differences among renters and among landlords as to what and how much they are willing and able to contribute to the firm. The cash lease and the labor-share are opposites with each adapted to given sets of characteristics of the tenant and landlord. A renter with sufficient capital resources in the form of machinery, equipment, livestock and operating funds—one willing and able to assume the full risks of the firm—finds the cash lease best suited to his purposes. A renter with only the value of his labor to contribute may find that a labor-share lease offers the best opportunity.

The effects of characteristics of leasing practices are many and diverse. Awareness of the nature, extent and distribution of them has particular significance to programs for improvement of leasing arrangements. The usual channels of information in adult education may not reach the parties concerned, particularly nonresident and nonfarm landlords.

Comparisons and counts of frequencies of associations or relations between type of lease and characteristics of landlords and of renters may thus indicate need for changes in types of leases. Likewise, comparing selected characteristics of landlords or of renters with other characteristics

⁹This condition requires that the resource owner receive the marginal value product of the resources he contributes.

or with selected practices should disclose both the need for and the kinds of changes to make leasing practices more effective in accomplishing their purposes.

Data for each of the items or characteristics such as type of lease, age of renter or type of landlord were calculated as percentage distributions within economic areas. In each instance, the given item or category was calculated as a percent of the total number of respondents replying to the two questions. The cases of non-applicable and no response were excluded. For example, in the comparison of type of lease and length of lease, the leases were sorted into types and then each type was sorted by length of lease; the percent of leases of each length was then calculated for each lease type using the number of cases replying to both items. Tests of statistical significance were then made on the differences between proportions within areas. No tests were made between areas.

Significance of differences between proportions depends upon and varies with the size of the samples involved. Because of the volume of calculations to be made in these tests, a set of prepared tables showing significance of differences was used. The difference between the two proportions being tested was checked against the difference required for significance at the 5-percent level for the given sizes of samples.¹⁰

ANALYSIS OF INCENTIVE CONDITIONS IN LEASES

Economic areas are the geographic units used in this study. Data are presented for selected areas to illustrate the findings and demonstrate the content of leasing practices.¹¹ The results apply only within areas. No inference can be drawn from the findings in any one area about the situation for a whole state because there are variations between areas. Data for economic areas must be weighted to obtain state totals or averages. Likewise, no summaries have been prepared for broad regional totals or averages because of the weighting problems involved, and because such averages would cover up some of the wide variations from area to area throughout the Midwest on many characteristics of leasing practices.

SHARE OF COST AND SHARE OF RETURN

Under a cash lease, the rental is a fixed cost to the tenant and a fixed return to the landlord. The landlord's income is the same regardless of the level of operation, and his interest in the intensity of operation would be that of insuring that the land is not depleted by the tenant. Cash leases meet this condition in that the tenant applies all the variables and receives all the return from them.

¹⁰Vernon Davies. Table showing significance of differences between percentages. Wash. Agr. Exp. Sta. Circular 102. September 1950.

¹¹Data for all 46 economic areas are included in supplementary tables, prepared in multilith form for limited distribution and available at the state agricultural experiment stations participating in the study: Indiana, Iowa, Kansas, Minnesota, Nebraska, South Dakota and Wisconsin.

Under any form of share rental, the fractional share of the product paid to the landlord is a variable cost to the tenant, because the amount of rental varies with the level of production. The fractional share retained by the tenant is his return from the variable inputs he furnishes. Thus, share of cost may be compared with share of return for a given factor by comparing the share of the cost of the factor with the share of the product. In the following examples, this is done by counting the number of share leases in which the shares are the same.

No test of statistical significance of variation within areas is needed. The incentive condition is either present in or absent from the lease. Although the amount of difference between share of cost and share of return would influence the incidence of the incentive, any departure from equal shares is taken as a departure from the necessary condition.

SHARES IN LIVESTOCK-SHARE LEASES

With few exceptions, the number of cases of equal shares exceeds the number of cases of unequal shares of livestock owned compared to livestock or product sold in each economic area (table 1). Differing shares appear to be the exception rather than the rule; few areas have less than 60 percent of leases reporting the same share for the given type of livestock owned.

On those farms with a constant number of dairy cows for the year, share of cows owned actually would be a fixed cost, and in those cases this type of comparison would not apply as a test of equality of share of variable cost and return. The case would be the same for farms with a cow-calf, beef enterprise; the breeding cows would be a fixed cost. Feeder cattle and feeder hogs would be a variable cost on most farms. If livestock owned are a fixed cost, and the two parties to the lease share all income and variable costs in the same proportion that they furnish total value of fixed resources, obviously the share of livestock owned can differ from the share of livestock or product sold. The difference would not be an incentive for either party to change the level of output because livestock as a fixed cost can be balanced against some other fixed cost.

The percentages of leases with the same shares in table 1 are no indication of the frequency of

TABLE 1. NUMBER OF LIVESTOCK-SHARE LEASES AND PERCENT WITH SAME SHARE OF LIVESTOCK OWNED AS OF PRODUCT SOLD.

State and area†	Dairy cattle and products sold		Beef cattle and beef sold		Hogs owned and hogs sold	
	No. cases	Percent same	No. cases	Percent same	No. cases	Percent same
Ind. 2b.	63	81	82	100	130	100
Iowa 4.	89	91	51	96	105	96
Kan. 6.	31	71	42	98	38	97
Minn. 6.	84	79	19	89	80	98
Neb. 4.	14	57	23	70	17	94
S. D. 1.	4	50	23	78	14	78
Wis. 3.	242	86	49	88	241	92

†Area with largest number of livestock-share leases in each state.

equal shares of variable costs and returns in livestock-share leases, because there is no evidence whether the livestock owned are a fixed or a variable cost in the individual lease. However, the comparison of variable costs and returns in livestock enterprises is one that can be made by the landlord and tenant in making an agreement. Difference between share of cost and share of return might be the determining criterion in deciding whether to sell grain or feed it to livestock.

Difference in shares can be used purposely as a method of achieving an income transfer. For example, a son renting from a widowed mother might own all the dairy cattle but share the milk check with his mother as a means of supporting her. A father might own a larger share of the livestock as a method of helping to finance the farming operations of his son. Also, in terms of harmonious relations between the parties, the landlord might purposely provide the tenant's family with milk, meat or eggs for family consumption while maintaining equality of share of ownership and share of product sold. Such perquisites might have no effect upon the choice of enterprises or the combination of factors in the firm, but would stimulate a willingness and satisfaction in day-to-day associations.

In practical application under share rentals, the effect of a difference between share of variable cost and share of returns upon use of resources may be nominal or unimportant. Shares of breeding fees and of veterinary expenses are examples (table 2). Although these expenses are variable in the sense that the totals depend upon the number of animals or frequency of treatment, they are not costs that cause the operator to change the amount of production. Breeding fees will be paid whether the landlord or the tenant pays them, or whether the costs are shared in one or another proportion. There is no effect upon the volume of production if \$100 of breeding fees paid by the landlord are matched by \$100 of veterinary expense paid by the tenant. But there may not be an opportunity for specific matching of expense items so that the matching produces the same result as would a sharing of both. Furthermore, if one party pays all the veterinary expenses, he might be more hesitant in deciding that there is sufficient need for the services of a veterinary to examine a sick cow.

The percent of livestock-share leases with the same share of cost as of return on selected items varies from area to area. In Wisconsin area 3, in which livestock-share leases are numerous, nearly all leases have equal sharing on all the selected items compared. In other areas, particularly if there are few livestock-share leases, unequal shares are more frequent than equal shares, as in Nebraska area 4 and South Dakota area 1. As a general practice, the major items of variable expenses and returns are shared the same in livestock-share leases.

SHARES IN CROP-SHARE AND CROP-SHARE-CASH LEASES

The frequency of unequal sharing of costs and returns in crop-share and crop-share-cash leases suggests that two or more methods are being used in determining the shares. One is a strong reliance upon customary practice, with the tenant paying all variable expenses commonly accepted as a tenant's responsibility; costs of picking corn are seldom shared. Another is to reduce the share of the return going to the landlord if the tenant pays all or a larger share of the variable expenses; the modal share of crop is one-third or one-fourth in western South Dakota, and sharing of variable expenses is infrequent (tables 3a-3c).

Practice varies widely among economic areas on sharing of a given expense, and there is wide variation as to sharing of different expenses within an area (tables 3a-3c). Fertilizer is more frequently shared in the same proportion as the crop than is seed or harvesting expenses.

The continuing difficulty of making adjustment in leasing practice to allow for changes that take place in technology is shown by the variations in sharing of expenses of crop production within areas. The differences in practices of sharing costs of fertilizer, seed, spraying and corn picking illustrate the problem of adjustment (table 3a). Each of these expenses is a variable cost and each affects the level of production and the combination of factors in production.

The cost of fertilizer tends to be shared in the same proportion as the return on corn in the economic areas in which fertilizer is regularly used on corn. In these same areas, corn picking is usually paid by the tenant or is shared in a different proportion than is the corn. Apparently the differences in practice for these two expense

TABLE 2. NUMBER OF LIVESTOCK-SHARE LEASES AND PERCENT WITH SAME SHARE OF SELECTED SALES AS OF SELECTED EXPENSE.

State and area†	Dairy products sold						Hogs sold						Beef calves sold			
	Feed bought		Breeding fees		Vet. exp.		Feed bought		Breeding fees		Vet. exp.		Feed bought		Vet. exp.	
	No. cases	Percent same	No. cases	Percent same	No. cases	Percent same	No. cases	Percent same	No. cases	Percent same	No. cases	Percent same	No. cases	Percent same	No. cases	Percent same
Ind. 2b.....	66	62	52	71	66	62	130	97	98	89	129	97	75	93	75	93
Iowa 4.....	86	98	72	99	86	98	101	99	80	98	101	99	45	93	45	93
Kan. 6.....	33	64	21	48	33	61	36	94	23	83	36	83	37	92	37	81
Minn. 6.....	83	95	68	90	83	89	79	99	65	91	79	95	19	100	19	100
Neb. 4.....	12	25	7	0	13	23	18	83	11	73	19	74	18	89	18	78
S. D. 1.....	5	0	4	0	3	0	13	77	13	62	11	73	18	67	15	60
Wis. 3.....	249	97	220	95	248	94	250	98	224	92	250	94	44	89	43	93

†Area with largest number of livestock-share leases in each state.

TABLE 3A. NUMBER OF CROP-SHARE AND CROP-SHARE-CASH LEASES AND PERCENT WITH SAME SHARE OF CORN AS OF SELECTED EXPENSE.

State and area†	Fertilizer		Seed		Spray material		Corn picking	
	No. cases	Percent same	No. cases	Percent same	No. cases	Percent same	No. cases	Percent same
Ind. 2b. . . .	125	97	123	90	67	49	121	6
Iowa 2b. . . .	200	88	243	88	199	40	210	2
Kan. 3b. . . .	114	68	115	6	56	30	71	3
Minn. 1-4. . .	46	50	57	42	38	34	50	56
Neb. 4.	107	45	212	3	128	8	196	2
S. D. 2b. . . .	29	10	81	11	55	16	78	15

†Area with largest number of leases of both types in each state. Wisconsin excluded because of small number of leases.

TABLE 3B. NUMBER OF CROP-SHARE AND CROP-SHARE-CASH LEASES AND PERCENT WITH SAME SHARE OF OATS AS OF SELECTED EXPENSE

State and area†	Fertilizer		Small grain seed		Lime		Combining	
	No. cases	Percent same	No. cases	Percent same	No. cases	Percent same	No. cases	Percent same
Ind. 2b. . . .	75	89	73	75	66	29	74	53
Iowa 2b. . . .	192	48	202	30	115	35	205	14
Kan. 3b. . . .	96	83	93	8	30	50	88	3
Minn. 1-4. . .	90	48	121	6	15	20	109	49
Neb. 4.	56	57	81	2	30	13	90	1
S. D. 2b. . . .	26	19	83	1	10	0	78	22

†Area with largest number of leases of both types in each state. Wisconsin excluded because of small number of leases.

TABLE 3C. NUMBER OF CROP-SHARE AND CROP-SHARE-CASH LEASES AND PERCENT WITH SAME SHARE OF WHEAT AS OF SELECTED EXPENSE

State and area†	Fertilizer		Small grain seed		Combining		Hail Insurance	
	No. cases	Percent same	No. cases	Percent same	No. cases	Percent same	No. cases	Percent same
Ind. 2b. . . .	78	97	76	86	78	58	17	82
Iowa 2b. . . .	3	67	3	67	4	25	2	100
Kan. 3b. . . .	157	80	141	5	138	4	100	70
Minn. 1-4. . .	77	52	87	47	87	47	49	57
Neb. 4.	104	50	185	2	199	1	150	41
S. D. 2b. . . .	34	15	115	3	112	28	59	31

†Area with largest number of leases of both types in each state. Wisconsin excluded because of small number of leases.

items are the result of using custom rather than careful analysis of the problem as the guide in making agreements.

Corn picking has historically been a cost paid by the tenant. Before the introduction of mechanical equipment, this was mainly a labor cost. Under the crop-share lease, labor of the tenant was one of the inputs to match the annual use-value of land and buildings provided by the landlord. When the cornpicker came into use the cost of picking continued to be the tenant's responsibility. The capital investment in mechanical equipment was looked upon as merely a substitution of machinery for hand labor, and the additional machinery supplied by the tenant may not have been evaluated specifically in the process of equalizing the contributions of fixed resources by landlord and tenant.

In contrast, application of commercial fertilizer came about as an addition to the expenses of production. There was no substitution of capital for labor as in the case of the mechanical picker. There was no historical experience to guide the

making of agreements on cost of fertilizer. Consequently, when fertilizer application became a necessary practice, the general tendency was to share the expense. Both parties to the agreement realized that benefit would accrue to both if fertilizer were used.

A specific example from the experience of recent years will illustrate the fact that not solving one problem satisfactorily and completely at the time it arises often causes further and more complicated problems later. Use of mechanical pickers on the higher than average corn yields in years of heavy damage from corn borers and wind resulted in more than the usual amount of corn being left on the ground after picking. Suppose that in a specific case the amount of corn left in the field was estimated as 10 bushels per acre. The leasing agreement called for a 50-50 sharing of the corn with the tenant paying all picking costs. Only by additional hand labor could be corn on the ground be saved. The tenant realized that for every dollar of labor he spent in harvesting corn on the ground he received only half the value of corn. The landlord insisted on receiving his full 50 percent share of total yield.

This problem was further aggravated by the fact that on those farms on which the tenant paid all costs of corn picking or paid a larger percent of picking than his share of the crop he usually paid all expenses of spraying for corn borer. Spraying for borer would have increased the yield and decreased the amount of corn on the ground, but with all spraying paid by the tenant there was tendency for some to refuse to spray. The lack of sharing of one expense contributed to corn loss and increased the number of instances of disagreement between landlord and tenant on what to do about corn on the ground. These disputes would not have arisen had both spraying and picking expenses been shared in the same proportion as was the corn crop. Thus, even though a given item of expense may appear to be of little importance as to the method of handling it, the nature of problems arising from it cannot always be seen in advance.

Sharing of all variable costs would require more careful bookkeeping and might also lead to more joint decisions. These changes in prospect might be unacceptable and looked upon as interfering with freedom of action. Viewed in terms of the function of the lease, the advantages of sharing variable expenses might be seen to outweigh any disadvantages involved—when the parties understand the problem.

EQUAL SHARES OF ALL PRODUCTS

The requirement that the shares of all products be the same applies to all types of leases. Cash leases fulfill this incentive condition because the share is the same for all products. Any form of share rental may fulfill the condition depending upon the details of the lease.

Equal shares of products do not imply that the landlord must share in livestock enterprises under any share lease. The requirement can be met in

the crop-share or the crop-share-cash lease for the farm with livestock as a major source of income by equal shares of the crops produced. In effect, the tenant's livestock enterprise is separate and apart from the crop enterprises in which he and the landlord combine resources. If the cash payment in a crop-share-cash lease is for use of crop, hay or pasture land, however, the incentive condition is not fulfilled.¹²

As with incentive condition number 1, departure from equal shares of products results in an income transfer from one to the other party or encourages shift in use of resources. The data are not in sufficient detail to ascertain which of these happens on the individual farm, and none but the parties concerned can judge if income transfer is an intended purpose.

SHARES OF LIVESTOCK SOLD IN LIVESTOCK-SHARE LEASES

Comparison is made upon the basis of number of cases in which both of the given types of livestock are reported. The farm with dairy cattle but no beef, or with beef but no dairy, drops out of the comparison of shares of these two enterprises. The main comparison is within economic areas, in one table at a time.¹³

The majority of livestock-share leases provide for the same shares for sales of different types of livestock in major livestock enterprises. If beef and hogs or dairy and hogs are produced, the shares of sales tend to be the same (tables 4a-4b).

Some of the cases of differing shares of sale of one type of livestock compared with another are instances in which one party owns all the livestock in a minor enterprise. In general, these minor enterprises are not of sufficient size to cause a shift in the kinds and amounts of production on the farm or to cause a shift in the use of capital. Instead, they are contributions to family living which may do far more to promote good will and satisfaction with the lease than their denial would accomplish in preventing small transfers of income. Yet, if allowed to go too far, the amount of income transferred could become sizable. A large flock of hens fed out of the undivided crops, for example, could take a load or more of the corn or wheat actually belonging to the other party.¹⁴

If two or more types of livestock are major

¹²This case is discussed in more detail under incentive condition 3, because crop-share and crop-share-cash leases on farms with livestock as a major source of income have a problem in working out the arrangement so that each resource owner will receive the full share of the return that his resources earn in the farm firm.

¹³Comparison of shares within areas between tables has limited meaning here because the individual cases reporting may not be the same ones in each table. That is, the case reporting dairy and beef cattle, dairy cattle and hogs, dairy and poultry, hogs and beef, and beef and sheep, may not be the same farm. Multiple cross comparisons were not made because of the small number of cases that would fall into sub-sorts, but more important so far as the test is concerned, the principle is illustrated by comparing only two types at a time. The amount of the share is unimportant in testing whether the shares of enterprises are the same or different.

¹⁴No particular problem need arise in the ownership of hens, cows, or pigs for home consumption, because a limit on numbers can be agreed upon in the lease or the tenant can pay all of the costs involved. Data supplied by respondents were not in sufficient detail to describe the particulars of the arrangements under which the tenant or the landlord owned all of one type of stock under a livestock-share lease.

TABLE 4A. NUMBER OF LIVESTOCK-SHARE LEASES AND PERCENT WITH SAME SHARE OF DAIRY PRODUCTS SOLD AS OF OTHER PRODUCTS OR LIVESTOCK SOLD.

State and area†	Beef sold		Hogs sold		Poultry sold		Eggs sold	
	No. cases	Percent same	No. cases	Percent same	No. cases	Percent same	No. cases	Percent same
Ind. 2b.....	40	48	62	66	49	53	49	59
Iowa 4.....	35	91	88	97	72	71	72	69
Kan. 5.....	17	35	19	37	20	45	20	50
Minn. 6.....	15	93	75	96	75	37	76	42
Neb. 4.....	11	27	11	91	5	80	5	80
S. D. 1.....	5	20	5	20	5	60	5	80
Wis. 3.....	44	82	235	96	210	39	212	41

†Area with largest number of livestock-share leases in each state.

TABLE 4B. NUMBER OF LIVESTOCK-SHARE LEASES AND PERCENT WITH SAME SHARE OF HOGS SOLD AS OF OTHER LIVESTOCK SOLD.

State and area†	Beef sold		Sheep sold		Poultry sold	
	No. cases	Percent same	No. cases	Percent same	No. cases	Percent same
Ind. 2b.....	77	92	19	95	78	32
Iowa 4.....	51	96	16	88	80	69
Kan. 5.....	22	73	6	50	25	48
Minn. 6.....	17	88	16	94	69	40
Neb. 4.....	16	88	3	34	6	0
S. D. 1.....	14	79	4	75	6	17
Wis. 3.....	51	88	37	92	207	40

†Area with largest number of livestock-share leases in each state.

sources of income and the shares of sales differ, then the task of figuring out arrangements for sharing of variable expenses is indeed complicated. Especially in the case of joint costs, such as that of pasture for a dairy herd and a beef herd, differences in shares call for compensating adjustments which in general are complicated and cumbersome in operation. Equal shares throughout all enterprises provide a general rule for solving problems of sharing two products. The problem of determining whether the share of both should be one-half or some other amount can be solved only by careful calculation in the individual case.

SHARES OF CROPS IN CROP-SHARE AND CROP-SHARE-CASH LEASES

The frequency of differing shares in crop-share and crop-share-cash leases suggests that differing shares is a compensating adjustment to deal with particular problems in share leases. One example is the common difference between share of corn and share of oats. The explanation is often offered that a lower share is paid on oats than on corn to adjust for the differences in expenses of the two crops and differences between expenses paid by each party on each of the crops. The cost of seed is more frequently shared for corn than for oats (tables 3a and 3b). Thus, differential shares may result from differences in sharing of variable expenses or because some variable expenses are not usually shared.

The necessity that shares be the same on all crops to encourage efficient use of resources is apparently more widely recognized in some economic areas than in others judging by the proportions of the same and of differing shares reported from area to area (table 5). But, as in the com-

TABLE 5. NUMBER OF CROP-SHARE AND CROP-SHARE-CASH LEASES AND PERCENT WITH SAME SHARES OF SELECTED CROPS.

State and area†	Corn and						Oats and			
	Oats		Soybeans		Wheat		Soybeans		Wheat	
	No. cases	Per-cent same	No. cases	Per-cent same	No. cases	Per-cent same	No. cases	Per-cent same	No. cases	Per-cent same
Ind. 2b.....	8	100	77	97	73	90	7	100	7	100
Iowa 2b.....	239	57	208	82	4	100	194	74	4	100
Kan. 3b.....	127	87	3	67	186	84	6	83	159	97
Minn. 1-4.....	66	48	12	75	39	41	13	85	93	97
Neb. 4.....	113	92	6	17	243	94	6	33	106	98
S. D. 4a.....	142	79	19	63	73	74	20	95	78	100
Wis. 5.....	34	85	2	50	9	89	1	100	6	100

†Area with largest number of leases of both types.

parisons of livestock shares, differences in proportions among areas are less important than are differences within the lease. The comparisons in table 5 indicate that there are income transfers or incentive for inefficient use of resources in one-third or more of the crop-share and crop-share-cash leases in several economic areas.

SHARE OF PRODUCT EARNED BY EACH UNIT OF RESOURCE

Actual determination of whether the resource owner receives a return on a final unit of input equal to the cost of the input is difficult. Determination can be made only by careful calculation, allocating the returns to each factor used in the firm. Yet, in practice, farm operators are aware that too much fertilizer does not pay; that cultivation of corn beyond some number of times to control weeds gives no additional yield; that more money invested in brood sows will give a higher return than will more money invested in feeder cattle. In other words, farm operators apply marginal analysis.

Only partial tests can be made in this study to determine whether there is opportunity under the lease to receive the full share of the product earned by the resource contributed. Specifically, the resource owner must receive the same share of the product as he pays in share of the cost of the variable factor. Namely, incentive condition 1 must be met.

Even if incentive condition 1 is met, however, incentive condition 3 is not automatically met. But condition 3 cannot be met unless condition 1 is met. Additional information is needed to test whether condition 3 is met when number 1 is fulfilled.

If the annual use value of the fixed resources supplied by the landlord is equal to the annual use value of those supplied by the tenant, then the two parties can share 50-50 in all variable expenses and in all income. This arrangement meets the requirement of both incentive conditions 1 and 3. Likewise, any other proportion between fixed resources supplied by the two parties will serve. If the value of the fixed resources supplied by the landlord is twice that of the tenant, then a $\frac{2}{3}$ - $\frac{1}{3}$ sharing of variables and

income will meet both incentive conditions.¹⁵

The comparisons of costs and returns indicate that shares of variable costs differ from shares of returns in some leases in all economic areas (tables 2 and 3). Resource owners do not have an opportunity to receive the full return on resources contributed if the shares of cost and return differ. Furthermore, incentive condition 3 applies to fixed resources the same as it does to variable resources. Obviously, if the annual use value of the fixed resources of a tenant exceeds that of the landlord and the share rental is 50-50, there can be both inefficiency in resource use and an income transfer.

INCENTIVE CONDITION 3 AND THE CASH LEASE

The cash lease as a type meets the requirement that the resource owner receive the full share of the return earned by the resources he contributes only if the cash rental rate for the land (and that for any other fixed factor such as buildings) equals the rate at which the unit of land (or other factor) contributes to the earning, and only at the highest profit combination for all resources used in production.¹⁶ If the cash rental is above or below the actual earnings of the fixed factors, there is an income transfer and the incentive condition is not fulfilled. This calculation and comparison can be made only farm by farm. There is no general test.

INCENTIVE CONDITION 3 AND THE SHARE LEASE

Crop-share leases fulfill condition 3 if conditions 1 and 2 are met, and if land is the only fixed resource supplied by the landlord. It is highly improbable that the costs of housing, buildings, fences and other such fixed factors will be truly rewarded in any simple crop-share rental. The probability is even smaller if livestock are a major source of income and the landlord also furnishes fixed resources which contribute to the tenant's livestock enterprises. There is no direct method of relating costs and earnings of a combination of fixed resources supplied by the landlord in a single share of crops without sharing variable expenses. The best that can be done is that the average annual value of the rental share approximates the sum of the earnings of the resources the landlord supplies.

Crop-share-cash and livestock-share leases offer opportunity for incentive condition 3 to be fulfilled. There is nothing inherent in either form of lease as such to prevent the condition from being met. There are, however, at least two requirements or details needed in the individual agreement to encourage decisions which will give to the resource owner the full share of the product earned by the resources he furnishes. One is a separate and distinct payment for the use of any housing facilities that the landlord furnishes.

¹⁵Both incentive conditions can be met without achieving the highest profit combination for the farm as a firm. It still must follow that inputs of variables must be applied to the fixed resources until marginal costs equal marginal returns, in each enterprise.

¹⁶Technically, the condition is met if the marginal value product of land equals the cash rental. This equality can be achieved at several levels of production, but land income is an optimum only at one level.

This separate and distinct payment enables the landlord to decide how much to invest in housing facilities and to choose between investments in housing and other investments in or outside the firm. At the same time, a separate payment for housing gives the tenant a basis for choosing between investments in consumption goods and investments in production. The second requirement, particularly in the crop-share-cash lease, is that a separate and distinct payment be made for the use of the fixed factors the landlord furnishes for use in the production processes of the farm business. These factors must earn and receive their return the same as do variable factors in the business. In the livestock-share lease, the landlord has opportunity to receive a return on the factors contributing to production through his share of income from both crops and livestock.

The explanation is made here in terms of fixed resources furnished by the landlord, because, in practice, renters do not supply fixed resources in the farm firm without sharing (or receiving all) the returns from them. Fixed resources of landlord and renter alike must receive their reward if incentive condition 3 is to be fulfilled.

The crop-share-cash lease in which payment is made on a per acre basis for use of pasture and hay is a common departure from equal sharing of all products (namely, from the second incentive condition). The practice of paying a cash rental for pasture and hay plus a share of other crops meets the third incentive condition only if the payment per acre equals the return to land in this and in other uses of land of the same productivity on the farm. Otherwise, there would be incentive to shift acreage to the crop offering an income advantage.¹⁷

Building rentals are paid on few farms (table 51). It follows that the cash rental in the great majority of crop-share-cash leases is for pasture or hay. Cash rental rates are known to change slowly.¹⁸ Thus, it appears that few cash-crop-share leases fulfill condition 3.

Further evidence that leases do not include incentive condition 3 is provided in a simple count of all leases as to whether the landlord shares in the cash operating expenses. The practice varies, by type of lease and from area to area, with sharing in crop-share and crop-share-cash much more frequent in the eastern than in the western economic areas (table 6). In central South Dakota, for example, expenses are shared in 10 percent of all leases; whereas in Indiana area 2b expenses are shared in 99 percent of all leases. Sharing of variable expenses is essential for the resource owner to receive the marginal value product of his resource, except in a cash lease.

Another indication of the need for revisions in

¹⁷Heady and Kehrberg discuss the lump sum payment, particularly as a means of avoiding the effects of premium rates on pasture and hay in distorting the cost structure. The same idea would apply to any per acre rate in which the tenant could see an advantage in either increasing or decreasing the acreage of hay. See Earl O. Heady and Earl W. Kehrberg. Relationship of crop-share and cash leasing systems to farming efficiency. Iowa Agr. Exp. Sta. Res. Bul. 386. 1952. pp. 667-668.

¹⁸Walter E. Chryst. Adjusting farm rents to changes in prices, costs and production. Unpublished Ph.D. Thesis. p. 79. Iowa State College Library, Ames. 1952.

TABLE 6. PERCENT OF LEASES WITH LANDLORD SHARING CASH OPERATING EXPENSES BY TYPE OF LEASE.

State and area†	All leases			Percent sharing by type of lease					
	No. of leases	No. sharing	Percent sharing	Cash	Crop-share	Crop-share-cash	Livestock-share	Labor-share	Other
Ind. 2b.....	275	274	99	0	100	100	100	100	100
6.....	186	175	94	18	100	90	100	.....	.....
Iowa 2b.....	333	322	97	56	98	99	100	.....	.....
6.....	242	203	84	58	89	98	100	.....	67
Kan. 1.....	269	130	48	50	41	55	100	.....	100
6.....	333	310	93	13	94	98	100	.....	.....
Minn. 1-4 ..	324	209	65	26	75	78	97	.....	.....
7-8 ..	347	278	80	37	91	89	98	.....	.....
Neb. 1.....	256	129	50	17	46	59	100	.....	85
3b.....	311	242	78	.....	74	81	100	.....	100
S. D. 1.....	155	63	41	8	42	22	88	.....	73
3b.....	199	20	10	.....	10	7	50	.....	.....
Wis. 1.....	171	62	36	22	75	100	90	.....	38
3.....	331	315	95	74	100	71	99	.....	100

†Areas with the high and low proportions for each state.

current leasing practices concerning sharing of expenses is provided by comparing the share of crop paid as rental when expenses are shared with that when expenses are not shared. For this comparison, the distributions of shares of corn were calculated for each economic area in which there were 20 or more cases of sharing and 20 or more of non-sharing of cash expenses for crop-share and crop-share-cash leases combined. The distribution of shares of the crop with arrangement for sharing of expenses is compared with the distribution of shares in the leases with no arrangement for sharing cash expenses (table 7).¹⁹ In 7 of the 13 economic areas, there is a significant difference in shares of corn; the share is higher for leases with landlords sharing operating expenses (table 7). In the other six areas, the distribution of shares of corn is the same whether or not expenses are shared.

¹⁹A selection of areas on some such basis is essential because in some economic areas the number of cases of non-sharing is too small to allow meaningful comparison.

TABLE 7. PERCENT OF CROP-SHARE AND CROP-SHARE-CASH LEASES WITH SELECTED SHARE OF CORN UNDER AGREEMENTS IN WHICH LANDLORDS SHARE OPERATING EXPENSES COMPARED WITH THOSE IN WHICH LANDLORDS DO NOT SHARE OPERATING EXPENSES.

State and area	No. leases	Landlords share operating expenses			Landlords do not share operating expenses			
		Percent of leases with share			No. leases	Percent of leases with share		
		1/3	2/3	1/2		1/3	2/3	1/2
Kan. 3b* ..	132	60	26	14	34	47	53	0
4*.....	155	23	60	16	29	55	38	7
Minn. 7-8*.	181	7	57	34	20	35	55	10
Neb. 1.....	54	90	6	4	50	80	8	8
2.....	90	61	4	3	30	70	0	0
3a.....	143	78	18	4	45	87	11	0
3b.....	218	19	76	5	52	27	65	6
4.....	150	89	7	3	115	95	3	2
5*.....	209	29	71	0	68	51	46	0
6*.....	185	3	81	16	34	0	94	6
7.....	156	4	65	31	58	3	76	19
S. D. 4a* ..	54	65	6	26	93	83	10	2
4b* ..	30	10	37	53	202	17	78	5

*Significantly larger share of corn in leases with landlord sharing operating expenses.

SHARES IN DIFFERENT TYPES OF SHARE LEASES

Within economic areas, the shares of corn are the same in crop-share and crop-share-cash leases. In half of the (46) areas, livestock-share leases have significantly greater proportions of the 50-50 share (table 8a). Resource owners in all leases could not receive full returns on their contributions if the shares of crops were the same in all leases. The fact that shares are the same in many leases of different types in all areas suggests that condition 3 is not met in some leases.

The similarity of shares among types of leases in half the economic areas covered by this study suggests that it is not common practice to depart from some customary share regardless of type of lease. Adjustments in earnings of resources furnished by the parties to the agreement are apparently made by adjusting the share of expenses.²⁰

Shares of fertilizer are the same in crop-share and crop-share-cash leases (table 9a). Livestock-share leases have a higher landlord's share with a greater frequency of the half share. The difference between livestock-share and crop-share leases is significant in 20 of the 46 economic areas.²¹

Although the landlord's share in livestock-share leases is higher than in crop-share leases, in all areas there are many leases of the two types with the same shares of expenses. As in the case of shares of corn, condition 3 cannot be fulfilled in some leases if the shares of expenses are the same in different types.

²⁰Comparisons were also made for wheat; see supplementary table 8b. Findings were similar enough that illustration with the share of corn suffices for the purpose here.

²¹See supplementary table 9b for landlord's share of lime, and table 9c for landlord's share of small grain seed.

FORM OF RENTAL PAYMENT AND THE SOURCE OF INCOME

The source of income on a farm rented for cash is of no consequence in the lease. The crop-share or crop-share-cash lease is another matter. If livestock or livestock products are the major product sold and the landlord receives only a share of the crop, the operator has incentive to decrease the number of acres and production of cash grain crops in order to increase production of forage crops. This may move away from the highest profit combination for the combined resources of landlord and tenant. Also, the landlord does not have an opportunity to receive the full return on some of the fixed resources he contributes.

Crop-share and crop-share-cash leases are the most frequent type of lease for farms with hogs as a major source of income. As high as 75 percent of the leases are crop-share-cash (table 10a). The comparison is made for full-tenants renting from one landlord, and the lease applies to a whole farm rather than a tract or part of a farm. Much the same situation exists with other major sources of income.²²

OPPORTUNITY TO RECEIVE RETURN ON INVESTMENT

Lack of agreement as to conditions under which the lease will be renewed and the fact that the lease is for a given time period are two outstanding characteristics of leasing practice that create problems concerning the flow of income. If resources are to be used efficiently within a given time period and between time periods, both parties to an agreement need some assurance that they

²²See supplementary tables 10b and 10c.

TABLE 8A. LANDLORD'S SHARE OF CORN BY TYPE OF LEASE.

State and area†	Crop-share leases						Crop-share-cash leases						Livestock-share leases					
	Percent with share						Percent with share						Percent with share					
	0	¼-½	⅓	½	⅔-⅘	all	0	¼-½	⅓	½	⅔-⅘	all	0	¼-½	⅓	½	⅔-⅘	all
Ind. 2b...	1	1	98				2	2	2	96			3	1	98	1		
Iowa 4...		6	94				2	4	94				3	93	4			
Kan. 6*	15	35	50				5	24	69	2			7	89	4			
Minn. 6*	28	8	60	4			23	38	12	27			1	1	95	3		
Neb. 4*	94	3	2	1			1	89	8	2			31	10	56	3		
S. D. 1*	88		8		4		14	86					18	18	9	37	18	
Wis. 5*	48	2	50				25	25		50			1	7	2	89	1	

*One or more significant difference in proportions between lease types.

†Area in each state with largest number of cases.

TABLE 9A. LANDLORD'S SHARE OF FERTILIZER BY TYPE OF LEASE.

State and area†	Crop-share leases						Crop-share-cash leases						Livestock-share leases					
	Percent with share						Percent with share						Percent with share					
	0	¼-½	⅓	½	⅔-⅘	all	0	¼-½	⅓	½	⅔-⅘	all	0	¼-½	⅓	½	⅔-⅘	all
Ind. 2b...			3	94		3	2		2	96			1			97		2
Iowa 4...				67		33			2	98				1		91		3
Kan. 6*	4	18	28	41		9	5	17	13	56	9		2	4	72	4	18	
Minn. 6*	25		12	44		19	30	22	9	39			1	1	91	4	2	
Neb. 4*	42	43	4		2	9	36	46	3	15			12		53	6	17	
S. D. 6	50	6		25		19	100						20		50		30	
Wis. 5*	12	18		47	3	20				50			4	3	2	77	3	11

*One or more significant difference in proportions between lease types.

†Area in each state with largest number of cases.

TABLE 10A. PERCENT DISTRIBUTION OF TYPES OF LEASE FOR FARMS WITH HOGS AS A MAJOR SOURCE OF INCOME.

State and area†	No. of cases	Type of lease			
		Cash	Crop-share	Crop-share-cash	Livestock-share
Ind. 2b*	44	0	2	14	82
Iowa 2a	109	10	2	66	21
Kan. 6	11	9	9	45	36
Minn. 7-8*	87	29	2	39	30
Neb. 6*	50	12	12	62	14
S. D. 4b*	64	5	3	78	11
Wis. 3	52	19	2	0	79

*One or more significant difference in proportions when tested against percent distribution of all leases.

†Area with largest number of cases reporting.

will receive those returns which are forthcoming only over a period of time. Use of lime is an example. Benefits accrue over a period of years, but the costs are usually paid in 1 year. If the tenant is to be interested in applying lime, and he shares in the cost of application, he must either stay on that farm long enough to receive the full benefit or be compensated in case the lease is terminated. In other instances, there may be need for the landlord to receive compensation.

Tenants cannot expect to continue on the same tract indefinitely. Not only changes in ownership of the farm or tract, but also changes in opinion of the landlord result in uncertainty of tenure.

Uncertainty of continuity at the expiration of a given lease period may offer opportunity to make adjustments wanted by both landlord and tenant. The advantages and disadvantages by no means act for one party alone. The landlord may have another tenant to whom he wishes to rent the farm. The tenant may be looking for another and larger farm, or one with improvements more to his needs and tastes. In this respect, tenant operation may offer fewer obstacles to change and possibly lower costs of changing operating units than does owner-operatorship.

In general, the mere fact that operating decisions are subject to the will of two parties leaves less room for choice by either party. Under some leasing arrangements, the operator has complete freedom of choice as to crop rotations, selection of enterprises and farming practices. Nevertheless, uncertainty as to renewal at the expiration of the current lease may cause him to choose those combinations that will maximize his income in the period covered by the lease rather than over a longer time period. Uncertainty may also be involved in the frequency of contacts of the two parties and in their opinions of each other. Unless there is mutuality of understanding, one party may not know what to expect in reaction from the other concerning use of a new practice.

If the land is in a temporary or unstable ownership status, the tenant has additional uncertainty of tenure. Land in estates being probated, that owned by speculators, some of that managed by government agencies, and that held by landlords of advanced years sets up a condition under which the tenant is inclined to operate in the short run. In any situation in which ownership is subject to change at a near but unknown date, chances are

greater that the given tenant will not be able to renew his lease.

Uncertainty is an attribute of the outlook for many landlords, too. Although the land has been rented for 10 years or more, it was not necessarily known by the landlord that the tenant would stay for another year. Uncertainty as to the continuity of the tenant on the given unit increases the problems of making and maintaining improvements. The new tenant may not be interested in the kind of improvements requested by the previous one.

If numerous changes in tenants or in farms result from the conditions of uncertainty as to renewal, nature of future operations or quality of performance that will be accepted, the fault is in the terms and conditions of the lease as such. In the following paragraphs, selected characteristics of leases are discussed to show some of the implications for resource use and income distribution through time.

MAJOR PRODUCT SOLD AND LENGTH OF LEASE

With no understanding on renewal, the tendency would be to select products that could be finished within the term of the lease. Tenants would have reason to select enterprises which would not necessarily maximize the income for the farm over a period of years. There would be a tendency to stay away from enterprises such as dairy products or beef cattle because of the disruption costs if the lease is not renewed.

Current leasing practices demonstrate the tendency for length of lease to be the same regardless of type of product (table 11). The comparison between major product and type of lease is for tenants renting all the land they operate from one landlord. Each farm may have more than one major source of income. But, on any farm operated under a 1-year lease there would need to be some specific arrangement for the operator to receive a return on investments in any enterprise extending beyond the length of the lease. Dairy and beef cattle require more than 1 year for production. Even though the landlord does not share in livestock enterprises, difference between length of lease and time required to produce the product increases the uncertainty of operation and decreases the opportunity for the resource owner to maximize returns on his investments between production periods.

TABLE 11. NUMBER OF LEASES AND PERCENT WITH 1-YEAR TERM BY MAJOR PRODUCT SOLD; FULL TENANTS, ONE LANDLORD.

State and area†	Cash grain		Dairy		Beef		Hog	
	No. leases	Percent 1-year	No. leases	Percent 1-year	No. leases	Percent 1-year	No. leases	Percent 1-year
Ind. 2b	37	57	4	75	5	20	37	51
Iowa 4	13	69	29	59	13	46	85	64
Kan. 6	29	76	10	40	14	64	10	70
Minn. 7-8	47	62	23	43	17	41	84	60
Neb. 6	36	83	2	50	30	87	46	76
S. D. 4b	45	78	7	29	24	71	59	78
Wis. 3	2	100	191	61	12	50	47	64

†Area with largest number of cases reporting.

MAJOR PRODUCT SOLD AND LENGTH OF TERMINATION NOTICE

Whether the major product sold is a grain crop or livestock, short notices of termination are more frequent in practice than are notices of 11 or more months, and length of notice is the same among different products (table 12). A notice of 4 months or less supposedly would be sufficient to bring the farm business to settlement if cash grain is the product. A longer period would be needed to settle accounts and for both landlord and tenant to make arrangements for another year if the livestock enterprise is dairy or beef cattle. Apparently, the length of termination notice is not adjusted to fit the type of product sold. Furthermore, short notices increase uncertainties of operation for both parties.

MAJOR PRODUCT SOLD AND MONTH LEASE BEGINS

The first 4 months of the year are the beginning dates for the great majority of leases (table 13). Had the specific day been asked in the questionnaire, undoubtedly that date would have been March 1. Again, the comparison in table 13 is for full tenants renting from one landlord.

A date early in the year would allow the tenant to get settled before the beginning of spring work. Also, a date before planting time in the fall would be suitable in winter-grain areas and for farms on which the major livestock enterprise is fattening of beef cattle.²³ A March 1 moving date may be too late for early farrowing of spring pigs. Lack of differences between beginning dates regardless of the major product sold suggests that beginning date is not adjusted to type of product. This might influence choice of products as well as allocation of resources between production periods.

²³July or August is the most frequent beginning month for the distribution of all leases in several economic areas in Kansas, as shown in supplementary table 59.

TYPE OF LEASE AND LENGTH OF LEASE

One-year leases are the most frequent length of lease for all types of leases (table 14). Although both length of lease and type of lease are the result of many related forces, significant differences would be expected in proportions of 1-year leases. In view of the longer production period involved in livestock enterprises, the percentages of 1-year leases in livestock-share arrangements should be smaller than the proportions of 1-year agreements in cash, crop-share or crop-share-cash leases. This would be the case especially in dairying or in raising beef in which more than 1 year is essential for efficient planning of production.

The small differences in percentages of 1-year leases among types of leases suggest that in practice length of lease is the same regardless of type. The differences are statistically significant in 16 of the 46 economic areas; in each of these areas, the proportion for livestock-share leases is significantly smaller than the proportion for one or more other type of lease.

Distribution of 1-year leases among types of leases (table 15) varies among economic areas mainly because of differences in proportions of lease types among areas (table 17). One-year leases exceed those of any other length in all economic areas (table 16).

The purpose in fitting type of lease and length of lease to the needs of the individual case is to provide the incentive for resources of both landlord and tenant to be used efficiently. These are points for agreement between individual landlords and tenants. There are many reasons for the existence of 1-year leases. It is one device landlords can use to encourage husbandry on the part of a tenant. Likewise, the 1-year lease may be to the advantage of the tenant when he may want to change farms.

TABLE 12. NUMBER OF LEASES AND PERCENT WITH 1 TO 4 AND 11 OR MORE MONTHS TERMINATION NOTICE BY MAJOR PRODUCT SOLD; FULL TENANTS, ONE LANDLORD.

State and area†	Cash grain			Dairy products			Beef			Hogs		
	No. leases	Percent 1-4 mo.	Percent 11 or over	No. leases	Percent 1-4 mo.	Percent 11 or over	No. leases	Percent 1-4 mo.	Percent 11 or over	No. leases	Percent 1-4 mo.	Percent 11 or over
Ind. 2b.....	26	35	15	2	56	0	4	50	0	25	40	4
Iowa 4.....	10	50	0	23	17	0	8	25	0	65	32	2
Kan. 6.....	20	40	0	7	43	14	11	9	27	10	30	0
Minn. 7-8.....	29	24	10	15	20	13	13	15	15	60	18	8
Neb. 6.....	22	14	14	1	0	0	19	16	0	33	21	6
S. D. 4b.....	25	24	8	2	50	0	15	40	0	33	27	9
Wis. 3.....	2	0	0	159	34	3	10	70	0	34	38	6

†Area with largest number of cases.

TABLE 13. PERCENT OF LEASES BEGINNING IN GIVEN MONTHS BY MAJOR PRODUCT SOLD; FULL TENANTS, ONE LANDLORD.

State and area†	Cash grains			Dairy products			Beef			Hogs		
	Jan.-Apr.	May-Aug.	Sept.-Dec.	Jan.-Apr.	May-Aug.	Sept.-Dec.	Jan.-Apr.	May-Aug.	Sept.-Dec.	Jan.-Apr.	May-Aug.	Sept.-Dec.
Ind. 2b.....	77	5	8	100	0	0	100	0	0	82	0	8
Iowa 4.....	92	0	8	96	0	4	92	0	0	93	2	4
Kan. 6.....	93	3	0	90	10	0	100	0	0	91	0	9
Minn. 7-8.....	76	9	11	78	4	13	83	0	6	83	5	8
Neb. 6.....	100	0	0	100	0	0	93	0	7	92	4	2
S. D. 4b.....	93	2	2	100	0	0	96	0	4	91	0	2
Wis. 3.....	100	0	0	96	1	2	92	0	8	96	0	4

†Area with largest number of cases reporting.

TABLE 14. NUMBER OF LEASES AND PERCENT WITH 1-YEAR TERM BY TYPE OF LEASE.

State and area†	Cash		Crop-share		Crop-share-cash		Livestock-share	
	No. leases	Percent 1-year	No. leases	Percent 1-year	No. leases	Percent 1-year	No. leases	Percent 1-year
Ind. 2b.....	1	0	59	68	52	69	120	53
6.....	11	73	103	68	19	63	38	50
Iowa 3a.....	14	93	25	68	83	76	57	56
5*.....	49	80	26	65	86	69	76	43
Kan. 2a*.....	1	0	157	52	114	51	23	13
7a*.....	19	90	82	77	92	87	12	58
Minn. 1-4.....	84	70	130	55	61	67	23	52
7-8.....	71	59	65	66	133	54	61	48
Neb. 1*.....	84	42	56	75	84	73	21	48
3b.....	9	100	83	75	187	82	14	86
S. D. 1.....	35	37	66	52	27	56	22	50
3b.....	2	50	51	76	134	81	8	87
Wis. 2ab.....	74	76	15	80	9	78	131	57
6-7.....	100	56	7	86	3	33	85	42

*One or more significant difference in proportions between lease types.

†Areas with lowest and highest proportions of 1-year leases, each state.

TABLE 15. PERCENT DISTRIBUTION OF 1-YEAR LEASES BY TYPE OF LEASE.

State and area†	Cash	Crop-share	Crop-share-cash	Livestock-share
Ind. 2b.....	0	28	26	45
6.....	7	64	11	17
Iowa 3a.....	10	14	50	26
5*.....	26	11	40	22
Kan. 2a.....	0	57	41	2
7a.....	10	38	48	4
Minn. 1-4.....	32	39	22	7
7-8.....	23	23	39	15
Neb. 1.....	23	27	39	6
3b.....	4	26	65	5
S. D. 1.....	17	44	19	14
3b.....	1	25	69	4
Wis. 2ab.....	36	8	4	49
6-7.....	54	6	1	35

*One significant difference in proportions when tested against percent distribution of all leases by type.

†Areas with lowest and highest proportions of 1-year leases, each state.

TABLE 16. PERCENT DISTRIBUTION OF LEASES BY LENGTH OF LEASE.

State and area†	None named	1 year	2 or 3 years	4 or 5 years	Indefinite	Other
Ind. 2b.....		60	2	4	16	18
6.....	1	64	2	5	10	19
Iowa 3a.....		70	4	7	6	13
5.....		62	6	3	11	18
Kan. 2a.....		48	5	2	29	16
7a.....	2	81	1	3	8	5
Minn. 1-4.....	1	62	15	8	8	6
7-8.....	1	56	15	9	11	8
Neb. 1.....	1	59	15	8	2	15
3b.....	3	81	4	3	4	5
S. D. 1.....		48	25	5	12	10
3b.....		79	4	3	10	4
Wis. 2ab.....	1	65	9	5	4	16
6-7.....		50	19	8	10	13

†Areas with lowest and highest proportions of 1-year leases, each state.

Nonetheless, adjustments in type and length of leases might benefit both landlord and tenant. Among other things to be considered is the effect of uncertainty about length of the agreement. Small percentages of tenants in several economic areas reported that length of lease was not covered in the agreement. A contract is not binding legally unless a specific period of time is named. Also, 2 to 29 percent of tenants in all areas reported the length of the lease as "indefinite." Probably in most of these "indefinite" instances the lease was initiated as a 1-year agreement and then continued on from year to year without specific discussion between the parties.

THE FOUR INCENTIVE CONDITIONS TAKEN TOGETHER

All four of the incentive conditions must be met in each lease to encourage efficiency in the use of resources and prevent transfers of income from one to the other party. Absence of any one of them creates a motivation for the resource owner to move away from the highest profit combination in use of the combined resources of landlord and tenant or results in an income transfer. The conditions apply whether the given lease is for a

TABLE 17. PERCENT DISTRIBUTION OF LEASES BY TYPE OF LEASE.

State and area	No. leases	Cash	Crop-share	Crop-share-cash	Livestock-share	Labor-share	Other
Ind. 2b.....	275		27	20	52		1
6.....	186	6	62	11	21		
Iowa 1a.....	297	20	7	48	24		1
1b.....	272	5	21	44	29		1
2a.....	339	7	11	64	17		1
2b.....	342	5	14	62	19		
3a.....	189	8	14	45	33		
3b.....	167	6	17	45	31		1
4.....	221	19	7	22	51	1	
5.....	252	21	11	36	32		
6.....	245	34	11	25	29		1
Kan. 1.....	314	1	71	23	4		1
2a.....	344		56	36	8		
2b.....	303	1	48	46	5		
3a.....	303	1	53	42	2	1	1
3b.....	352	4	39	50	6		1
4.....	314	1	35	51	13		
5.....	277	13	26	51	10		
6.....	343	6	32	45	17		
7a.....	223	9	40	45	6		
7b.....	361	6	53	35	5		1
Minn. 1-4.....	329	26	45	20	9		
6.....	275	45	11	11	33		
7-8.....	352	21	20	40	19		
Neb. 1.....	284	31	22	31	9		7
2.....	362	2	73	18	5		2
3a.....	269	4	41	44	11		
3b.....	328	3	29	62	5		1
4.....	360	2	42	46	9		1
5.....	334		37	55	6		2
6.....	315	13	32	45	8		2
7.....	271	4	29	55	6		6
S. D. 1.....	172	21	42	16	15		6
2a.....	222	2	37	50	6		5
2b.....	203	4	40	46	7	1	2
3a.....	183	6	31	55	4		4
3b.....	219	1	26	67	5		1
4a.....	193	1	27	63	5		4
4b.....	296	4	19	67	8		2
Wis. 1.....	179	68	5	1	12		14
2ab.....	254	31	7	3	54		5
3.....	332	13	1	2	83		1
4.....	263	49	2	2	42		5
5.....	230	25	21	2	44		8
6-7.....	227	47	3	1	44		5
8-9.....	278	29	4	2	64		1

whole farm or a tract of land and whether the operator is a part-owner or a full tenant.

That some farms may not maximize income and use all resources efficiently even though the necessary conditions are present and even though the lease is perfect as a contract does not deny the importance of the incentive conditions. Rather, it is to be emphasized that one leasing problem *per se* is solved as soon as there are arrangements in the lease to motivate efficient use of resources and prevent unintended income transfers. This does not necessarily solve the economic problem common to all farms—namely the problem of combining and using resources efficiently.

Adjustments in content and detail of leases apparently are made slowly as the need becomes recognized. The process seems to be that provisions are added to the previous agreement without disturbing the general content. One type of adjustment is that of making a change in the share of cost of one item to take care of a change that has arisen in another. For example, a tenant needs new brooder houses for the hogs he is raising on a farm he rents under a crop-share lease. He and the landlord agree that the landlord will furnish the brooder houses, and to match that cost the tenant will apply a given amount of fertilizer. The adjustment may be satisfactory to both parties, but often the expediency merely postpones the solving of the economic problem involved. Usually the need for compensating adjustments arises because one or more of the incentive conditions is absent.

As illustration, suppose a tenant on a crop-share lease desires to shift to dairy farming. The change in enterprises requires additional buildings and fences and a change in crop rotation. The proposed solution is for the landlord to provide the buildings and fences, receive the old share of cash crops and receive a cash rental per acre of hay and pasture. The common argument in favor of this type of adjustment is that the landlord can afford to make expenditures to help shift to a livestock type of farming, because crop yields will be increased. His income from higher yields of crops on a smaller number of acres and from the cash payment for use of hay and pasture will be higher. Supposedly the tenant's income is increased. If both are satisfied, what is the fault in this type of practice?

More direct methods of adjustment are available to handle shifts in type of farming and changes in methods and costs of operating. For example, a flat annual payment for the use of buildings will give the landlord direct return on his investment and at the same time show the tenant how much additional income from livestock is needed to cover the cash payment. Compensating adjustments tend to increase the opportunity and the incentive for each party to try to maximize the return on the resources he contributes instead of causing both to try to maximize the return to the combined resources. Apparently, one or more adjustment has been made in many

leases in all economic areas to compensate for the absence of the incentive conditions.

Several types of compensating adjustments amount to reasonable approximations of the incentive conditions. Specific balancing of variable costs is an example. Under a high level performance in management and a mutuality of interest between landlord and tenant, the same result is obtained if each party pays one of two equal expenses or each pays half of both expenses. Furthermore, it is extremely difficult in practice to calculate the ratio of costs to returns along a scale of intensity. Even with only one item of variable cost for one type of input (for example, the amount of concentrates to feed to hogs), the answer at best may be only an approximation because the exact results from units of additional input are not known. This is even more the case when there are multiple variables involved. But lack of detailed knowledge does not deny the necessity of experimenting to find the combination that results in the highest income.

An arrangement for the tenant to pay all costs of fertilizer to balance all of another expense paid by the landlord might run into difficulty only in an occasional year. Suppose an agreement specified that 500 pounds of a given kind of fertilizer would be applied at the proper time and place in the rotation. An unusual season occurs; rainfall is heavier than usual; the crop prospects are better than usual; and there is possibility of higher yield by an additional application of nitrogen fertilizer. Both parties will benefit by the additional yield. Who pays the cost of the additional fertilizer? The compensating cost arrangement cannot take care of this type of case in advance.

Compensating adjustments as worked out in practice, with definite agreement as to form and amount, suggest that landlords and tenants have fairly specific ideas about the items or inputs being adjusted. They know that a given arrangement of different shares works to the advantage of one or the other and how much it is doing so. Otherwise, they would have no idea as to how much of an allowance to make in some other item. The adjustment would fit all cases if the four incentive conditions were met.

Compensating adjustments sometimes take the form of one party assuming more than his proportionate share of a given expense to raise the level of farming practice and thereby increase the total income of the farm. Use of lime and fertilizer is an example. Landlords may pay all of the costs to get the tenant to adopt the practice. This type of incentive may be useful in accomplishing desired results, but if continued indefinitely after its utility has been demonstrated the result is an annual income transfer. There are instances of tenants being the leaders in technology with the landlord being reluctant or refusing to allow a practice that will increase production on the farm. Contouring and terracing for water control and soil conservation are examples.

The tenant may pay all costs of contouring and terracing merely to demonstrate the effects. In such cases, whether one or the other party bears more than his proportionate share of cost, the result is a lack of return for the specific contribution. The fact of income transfer may be less important to the two parties to the agreement (and to society, because of the production obtained) than would be the lack of use of the practice—in the short run; but the practice could remain as a source of dissatisfaction in the long run.

OTHER ECONOMIC IMPLICATIONS OF LEASING PRACTICES

The primary purpose in comparing selected characteristics of leases, renters and landlords is to examine the possible effects upon resource use. Although some of the relations between given characteristics may have no direct implications upon resource use and may serve only to describe current leasing practice, the indirect implications may indicate need of adjustments in lease content. Some comparisons may illustrate the nature of advantages of one group of renters or of landlords, the significance of written versus oral leases, or demonstrate the effects of variations in practices, and thus show the need for changes in educational programs. Furthermore, methodical examination of selected characteristics or practices may help in the solution of leasing problems by demonstrating that some associations commonly believed to be important are of little economic consequence.

To facilitate discussion, the same economic areas are used for all comparisons. The area used as example for each state is one with a sufficient number of leases of each type to test variation in proportions. These areas are not representative of whole states because economic areas within states vary in the proportions of numerous characteristics. The areas used as examples only characterize leasing practices in those areas and illustrate conditions in the seven states.

CHARACTERISTICS OF LEASES

TYPE OF LEASE

The general form of the type of lease apparently is established by customary practice, and then variations are made within it to fit some of the needs of the individual case. This is shown by the tendency for comparability among types of leases within areas as to length of term, length of termination, shares of expenses and of returns, and the lack of differences on numerous items such as age of operator, age of landlord, type of owner and sex of landlord.

Comparability between leases suggests the need for more careful study on the part of parties to the individual contract as to the content and terms of the agreement. Each lease is a contract fitting a particular situation. Although some of the practices that are common in an area will fit the individual case, the agreement can serve its full purpose only if it is tailored to the needs of the individual landlord, the individual tenant and the specific property in question.

The distribution of types of leases in all economic areas is given in table 17 for all respondents to facilitate discussion of the relation between given characteristics for selected areas. The distribution in following tables is shown only for cash, crop-share, crop-share-cash and livestock-share leases, because the small numbers of labor-share and special leases were not sufficient for tests of significance.

The crop-share-cash lease is the most frequent type in 25 economic areas, the crop-share in 9 areas, the livestock-share in 6 areas and the cash lease in 5 areas. Labor-share leases are as much as 1 percent of all leases in only three areas. The proportion of other leases is also small in all areas.²⁴

TYPE OF LEASE AND SIZE OF TRACT RENTED

Within economic areas, the number of acres rented from this landlord (the landlord in the lease reported in detail) are distributed differently among types of leases (table 18). In crop-

²⁴The distribution of types of leases among individuals as owners was also calculated and was the same as for all owners, because individuals are 85 percent or more of all owners in all areas.

TABLE 18. DISTRIBUTION OF SIZE OF TRACTS RENTED BY TYPE OF LEASE.

State and area	Percent of cash leases with acres						Percent crop-share leases with acres					
	Under 50	50-99	100-179	180-259	260-499	Over 500	Under 50	50-99	100-179	180-259	260-499	Over 500
Ind. 6*	64	18	9	9	.....	.....	27	30	27	8	8	.....
Iowa 3a	0	46	27	20	7	.....	24	38	26	12	.....	.....
Kan. 6*	22	6	28	33	11	.....	26	31	28	14	1	.....
Minn. 7-8*	2	24	48	19	7	.....	4	45	36	9	6	.....
Neb. 1*	2	4	8	2	24	60	7	19	32	25	13	4
S. D. 1*	6	9	23	3	14	45	2	9	51	4	22	12
Wis. 5*	26	27	29	9	9	.....	30	37	19	12	2	.....

State and area	Percent crop-share-cash leases with acres						Percent livestock-share leases with acres					
	Under 50	50-99	100-179	180-259	260-499	Over 500	Under 50	50-99	100-179	180-259	260-499	Over 500
Ind. 6*	5	10	45	25	10	5	.....	23	36	10	26	5
Iowa 3a	.....	16	46	20	18	.....	.....	5	27	36	21	11
Kan. 6*	7	15	43	16	19	.....	.....	35	24	35	6	6
Minn. 7-8*	1	5	52	24	17	1	.....	1	44	33	16	6
Neb. 1*	.....	4	21	4	29	42	.....	.....	5	.....	24	71
S. D. 1*	3	.....	19	19	26	33	.....	4	4	.....	16	76
Wis. 5*	50	.....	.....	25	.....	25	1	17	49	26	6	1

*One or more significant difference in proportions between lease types.

TABLE 19. PERCENT MALE LANDLORDS BY TYPE OF LEASE.

State and area	All leases	Cash	Crop-share	Crop-share-cash	Livestock-share
Ind. 6	72	73	71	68	74
Iowa 3a	74	53	77	70	82
Kan. 6*	75	78	80	68	85
Minn. 7-8	79	87	75	75	82
Neb. 1	75	68	81	79	67
S. D. 1	79	64	80	75	87
Wis. 5	74	71	76	75	78

*One or more significant difference in proportions when tested against percent for all leases.

share leases, there are higher proportions of small tracts than in other types of leases. Few tracts of less than 100 acres are rented under livestock-share leases. Although the proportion of leases of one type in a size group is frequently larger than that of another in the same area, few are higher than all others in the same area. There is no consistent pattern of differences within areas. The average size of tract rented conforms with the differences in size of farm between areas; there are more of the larger tracts in the wheat and range-livestock type farming areas (Nebraska, Kansas, South Dakota) than in corn-hog, dairy and general farming areas (Iowa, Minnesota, Indiana, Wisconsin) for all types of leases.²⁵

The absence of small tracts under livestock-share leases is explainable in that the renter usually has only one landlord and the size of tract needs to be large enough for an economic unit. Any operator renting from more than one landlord might purposely rent an additional small tract to enlarge his operating unit even though the terms were unfavorable.

Full tenants renting all the land they operate from one owner and renting a complete economic unit would have no reason to select one type of lease over another because of any peculiar relations between type of lease and size of tract as such. However, the tenant with limited resources would likely select a large tract on share rent rather than a smaller one under a cash rental. The cash renter would need to be able to assume the risk and to furnish all machinery, livestock and operating expenses. Cash renters of a given size of tract would need a higher net worth (for the same type of farming) than would share renters in the same size of business.

TYPE OF LEASE AND SEX OF THE LANDLORD

There is no consistent pattern of differences in the proportions of male landlords among types of leases (table 19). The percent of livestock-share leases with male landlords is significantly higher than one other type of lease in 9 of the 46 economic areas, but is larger than all other types in only 2 areas. There is no significant difference in the proportions between other types of leases.

Sex and type of landlord may have impact upon the content of leasing agreements and thereby become important in programs to improve leases. The problem is partly one of reaching and im-

²⁵The comparison here is on size of tract rented from this landlord. It must be remembered that in numerous cases the tenant rents land from more than one landlord. For comparison of number of acres rented and farmed, see supplementary tables 79 and 80.

TABLE 20. PERCENT WRITTEN LEASES BY TYPE OF LEASE.

State and area	Cash	Crop-share	Crop-share-cash	Livestock-share
Ind. 6*	18	13	37	46
Iowa 3a*	33	4	55	46
Kan. 6*	5	5	24	14
Minn. 7-8*	50	25	47	42
Neb. 1*	64	30	55	48
S. D. 1*	72	41	52	33
Wis. 5	33	13	25	40

*One or more significant difference in proportions when tested against percent for all leases.

pressing all landlords and all tenants. Tenants can be found. They live on or near the farms operated and can be contacted through usual informational channels such as extension programs. But nonresident landlords, nonfarm landlords, corporations and government agencies may or may not be reached by usual educational programs. Also, beliefs, mores and preferences of renters may make it more difficult for an agreement to be satisfactory if the landlord is a woman.²⁶

TYPE OF LEASE AND PERCENT WRITTEN AGREEMENTS

Smaller proportions of crop-share leases than of all leases are written; the difference in proportions is significant in 33 of the 46 economic areas. Livestock-share leases are written more frequently than are all leases in 4 areas, but are written less frequently in 4 areas. The proportion of written cash leases is significantly larger than that for all leases in 8 areas. Crop-share-cash leases tend to be written more frequently than any other type of lease (table 20).

It is the other factors involved in making the agreement rather than type of lease alone that determines whether the lease is written. Confusion of the tenant in replying to the question would be the same among types of leases. If the tenant had rented the same land a number of years from the one landlord, there may have been doubt in his mind, particularly if it had been written the first year but had never been specifically extended in writing.

TYPE OF LEASE AND NUMBER OF YEARS RENTED

The number of years rented is the same for leases of different types (table 21). Although the percent of leases of one type that has been in effect for a given number of years (for example, 38 percent of the crop-share leases in Minn. 7-8) may be larger than the similar percent for another type of lease, there is no consistent pattern of significant differences in proportions.

TYPE OF LEASE AND LANDLORD OWN MACHINERY

Tenants usually own the farm machinery under cash, crop-share and crop-share-cash leases (table 22). Ownership of machinery by the landlord is significantly more frequent under livestock-share leases. However, in some areas, the tenant owns the machinery in as high as 50 percent of the livestock-share leases.

Ownership of machinery by the landlord under

²⁶Comparisons were also made between sex of landlord and length of lease; size of tract rented; and age of landlords. See supplementary tables 60, 63 and 74.

TABLE 21. PERCENT DISTRIBUTION OF NUMBER OF YEARS RENTED THIS LAND BY TYPE OF LEASE.

State and area	Number of years rented															
	Cash				Crop-share				Crop-share-cash				Livestock-share			
	1	2-4	5-9	10+	1	2-4	5-9	10+	1	2-4	5-9	10+	1	2-4	5-9	10+
Ind. 6*	18	46	9	27	9	30	29	32	10	5	25	60	5	45	27	13
Iowa 3a	13	20	27	40	8	50	23	19	18	34	26	22	12	34	34	20
Kan. 6*	5	15	30	50	1	33	38	28	1	42	33	24	4	40	33	23
Minn. 7-8*	9	29	40	22	17	38	28	17	9	22	44	25	4	31	44	21
Neb. 1	6	25	28	41	11	35	33	21	7	30	32	31	5	43	38	14
S. D. 1*	9	20	17	54	6	41	32	21	4	55	26	15	8	46	38	8
Wis. 5*	21	26	34	19	22	50	15	13	.....	75	25	.....	12	34	28	26

*One or more significant difference in proportions between lease types.

TABLE 22. PERCENT OF LEASES WITH LANDLORD SHARING OWNERSHIP OF MACHINERY BY TYPE OF LEASE.

State and area	All types	Cash	Crop-share	Crop-share-cash	Livestock-share
Ind. 6*	15	0	3	5	62
Iowa 3a*	42	8	23	28	76
Kan. 6*	28	33	18	19	67
Minn. 7-8*	19	3	16	15	50
Neb. 1*	16	3	6	12	58
S. D. 1*	19	6	12	9	52
Wis. 5*	30	7	11	25	53

*One or more significant difference in proportions between lease types.

any type of lease should be determined by the amount each is able to supply and what each does in respect to other contributions. Ownership of machinery has been the traditional function of the tenant. Sharing arrangements have developed with the increased amount of investment in machinery and the use of costly items of special equipment.

TYPE OF LEASE AND LENGTH OF TERMINATION NOTICE

There is no consistent pattern of significant differences in termination notices between types of leases (table 23). There are significant differences, but the type of lease with a higher proportion varies from area to area. The 1 to 4 month termination notice tends to be the most frequent length. Length of termination notice apparently is not fitted to type of lease.²⁷

Other provisions in the lease influence and are influenced by the agreement on termination notice. Among others are the length of lease, and with 1-year leases predominating it is to be expected that there would be few notices of more than 1 year. Likewise, any form of automatic renewal

²⁷A similar comparison by type of landlord shows that there is no significant difference between types in length of termination notice; supplementary table 69.

clause and any provision to pay for unexhausted improvements might easily negate the importance of termination notice as such.

TYPE OF LEASE AND AGE OF RENTER

The age of renters is much the same for crop-share and crop-share-cash leases (table 24). The percent of renters in the 25-34 age group is significantly larger under livestock-share leases than under one or more other type of lease in 20 economic areas. Also, there are more areas with no renters under 25 for cash leases than for other types of leases. In general, the tendency is for cash renters to be older than others and for livestock-share renters to be younger than others. But the age distributions are the same for all types of lease in one-third of the areas.

In interpreting the distribution of ages among types of lease in table 24, it must be remembered that the leases reported are for tracts of land and that only part of the leases are for whole farm units. Thus, some of the farming operations involved may include leases of other types.

NUMBER OF YEARS RENTED THIS LAND

As shown in table 21, there are few significant differences in number of years land is rented by type of lease. Other characteristics of leases, of renters and of landlords do vary by length of time land has been rented. A few of these are given below.²⁸

NUMBER OF YEARS RENTED THIS LAND AND AGE OF RENTER

In general, the proportions of older renters increase as the number of years rented increases. Larger percentages of the tenancies of 10 or more

²⁸Comparisons were also made for shares of fertilizer, shares of corn, and size of tract rented. There were few areas with significant differences; see supplementary tables 62 and 64.

TABLE 23. PERCENT DISTRIBUTION OF LENGTH OF TERMINATION NOTICES BY TYPE OF LEASE.†

State and area	Number of months of notice											
	Cash			Crop-share			Crop-share-cash			Livestock-share		
	1-4	5-8	9-12	1-4	5-8	9-12	1-4	5-8	9-12	1-4	5-8	9-12
Ind. 6	25	0	13	47	12	12	47	20	13	52	23	3
Iowa 3a*	43	14	14	44	6	0	54	25	3	42	38	2
Kan. 6*	50	12	12	19	15	10	40	25	9	29	29	14
Minn. 7-8*	29	17	10	17	24	5	15	27	14	14	48	2
Neb. 1	16	40	7	15	55	3	15	48	8	0	47	7
S. D. 1	26	26	5	38	5	7	56	22	6	29	29	7
Wis. 5*	47	8	6	37	3	3	50	0	0	60	7	6

*One or more significant difference in proportions between lease types.

†Data excluded for notices over 1 year, instant, by agreement, and not in lease.

TABLE 24. PERCENT DISTRIBUTION OF AGE OF RENTERS BY TYPE OF LEASE.

State and area	Cash leases						Crop-share leases					
	Percent of renters, age						Percent of renters, age					
	Under 25	25-34	35-44	45-54	55-64	65+	Under 25	25-34	35-44	45-54	55-64	65+
Ind. 6*	0	37	18	18	9	18	6	26	23	26	15	4
Iowa 3a	0	38	31	8	15	8	4	36	28	32	0	0
Kan. 6*	0	40	15	25	0	20	5	22	41	17	12	3
Minn. 7-8	2	38	29	23	6	2	11	30	22	25	9	3
Neb. 1	0	26	35	16	16	7	5	30	21	33	11	0
S. D. 1*	0	11	23	35	20	11	3	32	33	21	10	1
Wis. 5*	7	13	45	20	10	5	0	22	26	31	17	4

State and area	Crop-share-cash leases						Livestock-share leases					
	Percent of renters, age						Percent of renters, age					
	Under 25	25-34	35-44	45-54	55-64	65+	Under 25	25-34	35-44	45-54	55-64	65+
Ind. 6*	5	5	45	20	20	5	10	46	31	10	0	3
Iowa 3a	8	46	23	18	5	0	3	49	35	10	3	0
Kan. 6*	4	33	29	22	9	3	18	39	26	14	3	0
Minn. 7-8	3	41	31	17	8	0	5	42	31	16	5	1
Neb. 1	4	32	34	14	11	5	0	42	46	8	4	0
S. D. 1*	7	41	22	22	7	0	12	64	8	12	4	0
Wis. 5*	0	0	25	25	25	25	8	49	20	15	8	0

*One or more significant difference in proportions between lease types.

years are of tenants between 45 and 64 years of age than is the case with tenancies of 1 year duration (table 25). Larger percentages of the tracts rented 1 year than of those rented longer are rented by operators under 25 years of age.

NUMBER OF YEARS RENTED AND LENGTH OF LEASE

Number of years rented is apparently influenced but little by the length of the lease. There is no consistent pattern of difference in proportions of 1-year leases (table 26). The proportion of 1-year leases in 1-year tenancies is larger than the proportion in another group in seven areas; the proportion in the 2- to 4-year tenancies is larger in eight economic areas, and that for the 5- to 9-year tenancies is larger in seven economic areas.

Distributions of number of years rented and proportions of 1-year leases cannot be interpreted to mean no problems exist for landlords and renters regarding length of lease, number of years rented or renewals. Within types and within

areas, many problems can exist because individuals have not made adaptations.

NUMBER OF YEARS RENTED AND PERCENT WRITTEN LEASES

Tracts rented 1 year are more frequently covered by written leases than are tracts rented 2 or more years (table 26). Apparently the practice is common for the lease to be written for the first period, and then it is extended orally. The proportion of written leases decreases as length of tenure increases. Smaller percentages of the tracts rented 10 or more years are covered by written leases.

WRITTEN AND ORAL LEASES

Whether the lease is written or oral may have important consequences in settling disputes when disputes arise. Content of the lease is more likely to be specific on details when written. The majority of leases are oral in nearly all economic areas (table 27).

TABLE 25. PERCENT DISTRIBUTION OF AGE OF RENTERS BY NUMBER OF YEARS RENTED THIS LAND.

State and area	Tracts rented 1 year						Tracts rented 2-4 years					
	Percent of renters, age						Percent of renters, age					
	Under 25	25-34	35-44	45-54	55-64	65+	Under 25	25-34	35-44	45-54	55-64	65+
Ind. 6*	31	38	19	.....	12	.....	9	40	28	16	5	2
Iowa 3a	16	52	32	.....	.....	.....	8	55	18	17	2	.....
Kan. 6*	.....	40	20	20	20	.....	16	37	26	18	3	.....
Minn. 7-8*	17	40	23	17	3	.....	10	50	25	11	2	2
Neb. 1*	13	52	17	9	9	.....	4	51	17	20	7	1
S. D. 1*	17	50	17	8	.....	8	4	49	18	22	7	.....
Wis. 5*	12	41	20	18	6	3	12	36	26	16	7	3

State and area	Tracts rented 5-9 years						Tracts rented 10 or more years					
	Percent of renters, age						Percent of renters, age					
	Under 25	25-34	35-44	45-54	55-64	65+	Under 25	25-34	35-44	45-54	55-64	65+
Ind. 6*	4	36	26	15	11	8	.....	5	30	39	19	7
Iowa 3a	.....	53	35	8	4	.....	.....	14	36	36	12	2
Kan. 6*	3	38	37	10	8	4	.....	.....	13	28	34	25
Minn. 7-8*	1	44	34	15	6	.....	.....	12	30	37	18	3
Neb. 1*	.....	30	48	13	7	2	.....	.....	11	34	25	7
S. D. 1*	2	37	46	11	4	.....	.....	8	20	40	22	10
Wis. 5*	2	34	37	16	9	2	.....	.....	7	32	30	18

*One or more significant difference in proportions when tested against distribution of age of all renters.

TABLE 26. PERCENT WRITTEN LEASES AND 1-YEAR LEASES BY NUMBER OF YEARS RENTED THIS LAND.

State and area	Number years rented				Number years rented			
	Percent written				Percent 1-year			
	1	2-4	5-9	10+	1	2-4	5-9	10+
Ind. 6	*63	27	17	14	*69	68	73	52
Iowa 3a	*77	47	34	29	81	76	60	65
Kan. 6	*60	22	11	9	*80	79	58	64
Minn. 7-8	*68	47	39	33	*76	55	56	49
Neb. 1	*57	54	50	44	*77	63	63	46
S. D. 1	75	47	38	58	33	52	44	49
Wis. 5	*50	33	24	16	72	65	63	50

*One or more significant difference in proportions between classes.

TABLE 27. PERCENT WRITTEN LEASES BY SEX OF LANDLORD AND BY SELECTED PRACTICES IN SHARING.

State and area	All leases	Landlords		Does landlord share					
		Male	Female	Ownership livestock		Ownership machinery		Cash expenses	
				Yes	No	Yes	No	Yes	No
Ind. 6	23	24	17	*46	17	*48	19	23	20
Iowa 3a	43	42	44	46	42	41	44	44	17
Kan. 6	15	12	17	14	16	9	18	16	4
Minn. 7-8	42	41	39	40	43	35	44	43	40
Neb. 1	50	47	46	41	52	43	50	52	52
S. D. 1	49	46	34	42	52	*32	55	*41	57
Wis. 5	30	33	20	*38	24	*49	23	34	25

*Significant difference between proportions.

The general content of written leases is the same as that of oral leases. The differences between them are in details.

There is no significant difference between male and female landlords in frequency of written leases. Likewise, the percent of written leases is the same whether or not the landlord shares in ownership of livestock, machinery or payment of cash expenses (table 27).

If the length of lease is for more than 1 year, it is more likely to be written (table 28). A higher percentage of the 2- to 5-year than of the 1-year leases are written. Leases in which the length of term is indefinite or at will of the two parties are seldom written.

Larger percentages of the oral than of the written leases have instant notice for termination and termination notice "not in lease." Written leases have higher proportions of notices of 1 to 6 months (table 29). Written leases tend to be more specific concerning termination.²⁹

CONTENT OF LEASES ON LANDLORD AND AGENT MANAGED TRACTS

Renters who dealt with an agent of the landlord in making the agreement usually also dealt with his agent in the operating decisions under the lease. Likewise, the renter dealing directly with the landlord in making the agreement also dealt with him in making the operating decisions.³⁰ This suggests that renters deal with agents mainly in cases in which the land-owner is nonfarmer and nonresident.

Significantly higher proportions of the leases made with the agent of the landlord are written

²⁹The percent of written leases does not vary with age of landlord; supplementary table 77.

³⁰See supplementary table 76.

(table 30). Whether this extends after the first year of the contracts is unknown. The agent acting for the landlord gets the contract in writing. It would appear that the agreements would continue to be in writing after the first year, because renters who deal with the agent in developing the lease also deal with him in operations under the lease and presumably during the life of the agreement.

In most economic areas, a slightly higher percent of the leases are for 1 year when the tenant deals with an agent of the landlord, but the difference is significant in only nine areas. In only 1 of the 46 areas is there a significant difference in the proportion of leases with payment of a cash rental on buildings. Cash rentals for use of buildings are paid in as many as 25 percent of the leases (crop-share-cash, and livestock-share, and cash) in only five economic areas.³¹

³¹Comparisons were also made for percent of renters dealing with landlord by type of lease, and by age of landlord. There were few significant differences; supplementary tables 57 and 75. In a comparison of percent of renters dealing with agent of landlord by type of landlord, there were no consistent differences between individuals as landlords; but, other landlords—i.e. including estates, corporations, and the government—were significantly higher in use of agents; supplementary table 70.

TABLE 28. PERCENT WRITTEN LEASES BY LENGTH OF LEASE.

State and area	1 year	2-3 years	4-5 years	Indefinite	Other
Ind. 6	24	75	75		19
Iowa 3a*	48	86	83		17
Kan. 6*	18	56	36	5	
Minn. 7-8*	44	86	59	12	12
Neb. 1*	44	85	89	14	37
S. D. 1*	40	85	56	21	47
Wis. 5	32	67	64		20

*One or more significant difference in proportions between lease lengths.

TABLE 29. PERCENT DISTRIBUTION OF LENGTH OF TERMINATION NOTICES IN WRITTEN AND ORAL LEASES.

State and area	Written leases					Oral leases				
	In-stant	1-6 mos.	7 mo.-1 yr.	By agree-ment	Not in lease	In-stant	1-6 mos.	7 mo.-1 yr.	By agree-ment	Not in lease
Ind. 6*	89	11				24	53	9	9	5
Iowa 3a*	6	86	6		2	19	46	17		18
Kan. 6*	75	11	3		11	23	46	14	1	16
Minn. 7-8*	16	57	11	5	11	30	32	15	6	17
Neb. 1	19	60	7		14	13	66	4	1	16
S. D. 1	31	49	8	6	6	25	53	12	2	8
Wis. 5*	19	73	6		2	48	44	5		3

*One or more significant difference in proportions between written and oral leases.

TABLE 30. PERCENT WRITTEN LEASES, PERCENT 1-YEAR LEASES AND PERCENT OF LEASES WITH CASH RENTAL FOR BUILDINGS, RENTERS DEALING WITH LANDLORD AND THOSE DEALING WITH AGENT.

State and area	With landlord			With agent		
	Written leases	1-year leases	Cash bldg. rental	Written leases	1-year leases	Cash bldg. rental
Ind. 6	*21	63	6	83	80	
Iowa 3a	*40	*67	3	78	100	
Kan. 6	*11	*66	12	46	89	8
Minn. 7-8	*40	56	4	65	56	9
Neb. 1	*46	61	8	82	44	
S. D. 1	*42	50	4	92	30	
Wis. 5	29	61	11	50	64	

*Significant difference in proportions between groups.

COMPARISON OF LEASES BY RELATION OF LANDLORD

Parent-son tenancies would be expected to have income advantages to one or the other party not found in nonrelated tenancies. It is the purpose in many related tenancies to shift part of the income from given resources to the other party; it should follow that in related tenancies there would be a larger proportion of leases with differences between share of cost and share of return, larger shares of given expenses and larger shares of ownership of livestock and equipment by the landlord.

Leases between nonrelatives are compared with those between a father (or a mother) and a son in the following tables. The questionnaire asked each respondent to indicate the relationship of the landlord. In the analysis of data, these replies were grouped into categories of: none; father; mother; father-in-law; mother-in-law; grandparent; brother or sister; son or daughter; uncle or aunt; and other. Summary is given here only for the nonrelated as compared with tenants renting from a parent.

RELATION OF LANDLORD AND TYPE OF LEASE

Parent-son leases have a significantly higher proportion of livestock-share leases and a lower proportion of crop-share than do nonrelated ones (table 31). There are larger proportions of younger renters among leases between related parties than among nonrelated (table 36). The implication is that young tenants renting from parents have opportunity to share in a larger business. This is an income advantage that results from the fact of relationship alone. The content or terms of livestock-share leases might be the same among related and nonrelated cases with no shift in income in the firm; but the fact of more livestock-share leases among related tenancies indicates greater opportunity to get established earlier in a larger business.

RELATION OF LANDLORD AND TYPE OF RENTER

There is no significant difference in the distribution of types of renters in nonrelated compared with parent-son tenancies in 25 of the 46 economic areas. In 19 of the other 21 areas, the proportion of full tenants with one landlord is larger, or that of part-owners with more than one landlord is

TABLE 31. PERCENT DISTRIBUTION OF TYPES OF LEASES BY RELATION OF LANDLORD.

State and area	Nonrelative					Parent				
	Percent with type lease					Percent with type lease				
	No. of leases	Cash	Crop-share	Crop-share-cash	Livestock-share	No. of leases	Cash	Crop-share	Crop-share-cash	Livestock-share
Ind. 6	122	4	66	10	20	18	55	6	39	
Iowa 3a	110	6	15	52	27	35	11	3	34	51
Kan. 6*	187	5	40	44	11	63	11	6	46	37
Minn. 7-8*	181	22	21	46	11	94	19	17	30	34
Neb. 1*	158	31	27	35	4	61	23	10	21	26
S. D. 1*	110	24	46	20	6	25	8	32	4	36
Wis. 5*	104	28	29	4	37	75	17	5	68	

*One or more significant difference in proportions between relation types.

TABLE 32. PERCENT OF FULL TENANTS AND PART-OWNERS BY RELATION OF LANDLORD.

State and area	Nonrelative				Parent			
	Full tenant		Part-owner		Full tenant		Part-owner	
	1 landlord	2 or + landlords	1 landlord	2 or + landlords	1 landlord	2 or + landlords	1 landlord	2 or + landlords
Ind. 6	19	25	20	36	22	33	22	22
Iowa 3a	62	22	12	4	68	17	6	9
Kan. 6	22	34	14	30	14	41	14	30
Minn. 7-8*	50	21	22	7	66	20	7	6
Neb. 1	39	27	18	16	46	21	16	16
S. D. 1*	23	16	29	32	44	12	28	16
Wis. 5*	38	12	31	19	57	12	28	3

*One or more significant difference in proportions between types.

TABLE 33. PERCENT DISTRIBUTION OF SIZE OF TRACTS RENTED BY RELATION OF LANDLORD.

State and area	Nonrelatives, with acreage					Parents, with acreage				
	Under 100	100-179	180-259	260-499	500 +	Under 100	100-179	180-259	260-499	500 +
Ind. 6*	47	27	11	14	1	33	49	6	6	6
Iowa 3a*	23	36	18	18	5	11	34	46	9	9
Kan. 6*	33	37	15	14	1	11	34	32	19	4
Minn. 7-8*	22	47	15	15	1	7	51	30	11	1
Neb. 1*	13	17	9	23	38	6	10	4	27	53
S. D. 1*	11	34	6	20	29	8	12	21	21	59
Wis. 5*	47	35	13	4	1	25	38	27	9	1

*One or more significant difference in proportions between types.

smaller for relatives (table 32). In general, part-ownership is less frequent and full tenancy with only one landlord is more frequent among relatives. In other words, the typical case for the son renting from a parent is that the son owns or rents no other land. One possible advantage is that relatives deal with fewer landlords and thus have fewer persons to satisfy in organizing resources into an efficiently operated firm.

RELATION OF LANDLORD AND ACRES RENTED THIS LANDLORD

There are significant differences between one or more of the size groups in 29 of the 46 economic areas. More nonrelatives rent tracts of less than 100 acres; more relatives rent tracts of 180 to 259 acres or larger (table 33).

The larger size of tract rented by relatives is an indication but not a proof of advantage resulting from kinship. The difference shown here may be more than compensated by tracts rented from other landlords.

RELATION OF LANDLORD AND DEAL WITH LANDLORD

Larger proportions of the tenants renting from parents than those renting from nonrelatives deal directly with the landlord (table 34). Nonrelatives deal with an agent more frequently than do relatives; but the general practice for both is to deal with the landlord.

Agents familiar with leasing problems and trained in farm management could offer useful service to the development of leasing arrangements among both relatives and nonrelatives by acting as consultants. The leasing arrangement used may not always be the one best adapted to the property and to the parties. Opportunity for the two parties to discuss the terms with an expert

TABLE 34. PERCENT COMPARISON OF SELECTED CHARACTERISTICS OF LEASES BY RELATION OF LANDLORD.

State and area	Nonrelative				Parent			
	Deal with landlord	Written leases	1-6 mos. notice	1-year leases	Deal with landlord	Written leases	1-6 mos. notice	1-year leases
Ind. 6.....	96	*32	*66	*70	100	6	40	43
Iowa 3a.....	87	*56	*75	77	94	26	45	67
Kan. 6.....	92	*18	*55	*74	100	0	29	61
Minn. 7-8.....	*88	*51	*46	61	99	25	29	49
Neb. 1.....	*92	*56	*65	*68	100	34	52	46
S. D. 1.....	*84	*56	*51	52	100	24	36	38
Wis. 5.....	98	*39	*64	*73	100	25	49	41

State and area	Nonrelative			Parent		
	Share livestock	Share cash expense	Share machinery	Share livestock	Share cash expense	Share machinery
Ind. 6.....	*20	96	15	39	100	33
Iowa 3a.....	*27	99	*33	51	97	66
Kan. 6.....	*11	92	*25	38	93	52
Minn. 7-8.....	*11	81	*15	38	79	29
Neb. 1.....	*7	50	*11	47	63	35
S. D. 1.....	*12	*32	*9	54	71	55
Wis. 5.....	*38	70	*22	69	77	48

*Significant difference between proportions.

could lead to solution of some of the problems peculiar to related tenancies.

RELATION OF LANDLORD AND FREQUENCY OF WRITTEN LEASES

Written leases are significantly more frequent in nonrelated than in closely related tenancies (table 34). In general, less than one in three or four leases between parent and son are written, whereas half or more of the leases between nonrelatives are written.

This difference between related and nonrelated tenancies is not indicative of difference in resource use or frequency of income shifts between parties. Instead, the difference only reflects the relatively greater intimacy of contact and dealings among relatives and the tendency for relatives to deal orally.

RELATION OF LANDLORD AND LENGTH OF TERMINATION NOTICE

The proportion of leases with 1 to 6 months termination notice is significantly higher among nonrelatives than among relatives (table 34). The proportions of leases with no agreement on termination and the proportions of leases with instant notice are higher for relatives than for nonrelatives. Thus, leases between nonrelatives tend to be more specific about termination notice. Notices of more than 1 year are infrequent in all leases (tables 23, 29, 34).

RELATION OF LANDLORD AND LENGTH OF LEASE

Significantly higher percentages of leases are for 1 year among nonrelatives (table 34). The proportions of agreements for 2 to 5 years are the same for nonrelatives and relatives. Higher proportions of the parent-son leases are in terms of "so long as we both agree" or for a period longer than 5 years.³²

Differences in length of lease between the two

³²This detail is not shown in the table but is available at each participating state agricultural experiment station.

groups indicate an advantage to tenants renting from relatives. The longer term lease facilitates planning of farm operation for a longer period of time.

Problems of selecting the length of lease should be exactly the same whether there is or is not kinship between parties. Length of lease would need to be fitted to the kinds of products, and that choice should be unaffected by kinship. Undoubtedly, part of the difference in distribution of length of lease between the two groups is explainable by the greater frequency of livestock-share leases in related tenancies.

RELATION OF LANDLORD AND OWNERSHIP OF LIVESTOCK

Ownership of part or all of the livestock by the landlord is much more frequent in parent-son than in nonrelated tenancies (table 34). The differences in proportions are significant in all but seven economic areas. Ownership of livestock by the landlord is one of the methods of increasing the size of the farm business. In such case, the tenant has the opportunity of operating on a larger scale and sharing in a greater total farm income. This type of leasing arrangement is less frequent among nonrelatives except in areas in which livestock-share leases predominate. In economic area 3 of Wisconsin, for example, ownership of livestock by landlords is as frequent among nonrelatives as among relatives.

RELATION OF LANDLORD AND PAYMENT OF CASH EXPENSES

There is no significant difference between relatives and nonrelatives in the practice of payment of cash expenses in 34 economic areas. The general practice is for the landlord to share some of the expenses whether or not related to the tenant (table 34).

The extent of sharing of expenses, the shares paid by the landlord on given items and the practice of sharing variable expenses in the same proportion as returns are shared are quite another question. It is in these details of arrangement that shifting of income from one party to the other can take place.

RELATION OF LANDLORD AND OWNERSHIP OF MACHINERY

Ownership of machinery by the landlord is more frequent in parent-son tenancies than in nonrelated ones (table 34). This again is one of the practices used by parents in helping to finance the operations of a son. The same type of arrangement would be applicable among nonrelatives.

Ownership or lack of ownership of machinery by the landlord is no cause in itself for a shifting of income. Investment in machinery and equipment is merely one of the essential fixed expenses that must be handled the same as other fixed expenses in evaluating the contributions of the parties to the agreement.

RELATION OF LANDLORD AND CASH PAYMENT FOR HAYLAND

Relatives and nonrelatives pay the same rates per acre for the use of hayland under crop-share-

TABLE 35. COMPARISON OF SELECTED CHARACTERISTICS OF CROP-SHARE-CASH LEASES BY RELATION OF LANDLORD.

State and area†	Nonrelative					Parent				
	Percent with hayland rental per acre in \$				Percent with cash rental for buildings	Percent with hayland rental per acre in \$				Percent with cash rental for buildings
	1	2-4	5-9	10-14		1	2-4	5-9	10-14	
Ind. 6					42					
Iowa 3a	5	56			2	9	45	9		
Kan. 6	19			4	10	11				
Minn. 7-8	10	59	21		5	4	75	11		
Neb. 1	33	7			7	50			10	
S. D. 1	50				5					

†Wisconsin area deleted; too few cases.

cash leases (table 35). The differences in the percentage distributions of rates per acre within areas are explainable by differences in quality alone.³³

RELATION OF LANDLORD AND CASH RENTAL FOR USE OF BUILDINGS

There is no significant difference between relatives and nonrelatives in the frequency of the practice of paying a cash rental for use of buildings (table 35). Relatives and nonrelatives follow the same general practice regarding this type of cash payment by the tenant. Payment of a cash rental for use of buildings is the exception rather than the rule.

RELATION OF LANDLORD AND AGE OF RENTER

There are significantly higher proportions of renters 25 to 34 years of age and significantly

³³A significant difference between related and nonrelated tenancies might exist in the number of acres for which the payment is made. Even though the number of acres used for hay could be the same, relatives may arbitrarily decrease the number of acres for which charge is made. The data are not in sufficient detail to test this difference.

lower proportions 45 or older renting from parents than renting from nonrelatives (table 36). The proportions of renters over 55 years of age who rent from parents are smaller than the proportions of nonrelatives over 55.³⁴

This type of difference between related and non-related tenancies results from the institutional arrangements within which tenancy functions rather than from peculiarities within leasing systems. The parent or other relative may purposely choose to give the tenant such advantage. The young tenant gains in experience, capital accumulation and in the opportunity for continuity of operation on the same land. Resources may be used more efficiently because of the interest in future ownership.

RELATION OF LANDLORD AND TYPE OF LANDLORD

Significantly greater proportions of landlords are retired farmers and farm widows in related than in nonrelated tenancies. Landlords are business or professional men more frequently in non-related tenancies (table 37).

RELATION OF LANDLORD AND AGE OF LANDLORD

Parents are older than nonrelated landlords (table 38). Less than 15 percent of the parents are under 54 years of age, but 20 to nearly 40 percent of nonrelatives are under 54 years of age. The proportions of parents between 55 and 74 are significantly larger in 17 economic areas. Non-relatives are distributed more evenly among all age groups than are parents.

³⁴The difference between related and nonrelated disappears as the degree of relationship changes. Operators renting from an uncle or cousin have the same age distribution as do those renting from non-relatives. Additional data are available at each participating state agricultural experiment station.

TABLE 36. PERCENT DISTRIBUTION OF AGE OF RENTERS BY RELATION OF LANDLORD.

State and area	Nonrelative						Parent					
	Percent of renters, age						Percent of renters, age					
	Under 25	25-34	35-44	45-54	55-64	65+	Under 25	25-34	35-44	45-54	55-64	65+
Ind. 6*	5	27	30	18	16	4	5	56	22	17		
Iowa 3a	5	44	28	17	5		6	50	29	12	3	
Kan. 6*	7	23	29	24	12	5	3	46	34	12	3	2
Minn. 7-8*	4	34	28	22	10	2	6	48	31	15		
Neb. 1*	2	35	25	20	12	6	3	36	48	5	7	
S. D. 1*	4	29	25	28	10	4	8	52	36		4	
Wis. 5*	5	30	29	18	12	6	10	41	25	20	4	

*One or more significant difference in proportions between types.

TABLE 37. PERCENT DISTRIBUTION OF TYPES OF LANDLORD BY RELATION OF LANDLORD.

State and area	Nonrelative						Parent					
	Percent landlords						Percent landlords					
	Active farmer	Retired farmer	Bus. or prof.	Farm widow	Nonfarm widow	Other	Active farmer	Retired farmer	Bus. or prof.	Farm widow	Nonfarm widow	Other
Ind. 6*	7	19	48	12	7	7	18	24	12	35	0	12
Iowa 3a	11	22	43	9	5	10	9	57	6	20	0	9
Kan. 6*	13	32	34	7	6	8	25	44	0	27	0	3
Minn. 7-8*	15	28	27	7	9	14	12	67	0	19	1	7
Neb. 1*	22	19	27	12	7	13	25	44	0	23	2	7
S. D. 1*	22	18	31	5	7	16	17	63	4	17	0	0
Wis. 5*	15	24	34	13	3	12	12	45	9	24	3	7

*One or more significant difference in proportions between types.

TABLE 38. PERCENT DISTRIBUTION OF AGE OF LANDLORDS BY RELATION OF LANDLORD.

State and area	Nonrelative							
	Percent of landlords, age							
	Under 25	25-34	35-44	45-54	55-64	65-74	75-84	85+
Ind. 6		1	5	20	27	28	15	4
Iowa 3a*	1	2	13	13	28	26	14	3
Kan. 6*			5	15	37	26	16	1
Minn. 7-8*		1	11	20	29	25	10	4
Neb. 1*		2	8	24	29	22	14	
S. D. 1		4	10	23	21	31	10	1
Wis. 5*		2	10	15	33	26	14	

State and area	Parent							
	Percent of landlords, age							
	Under 25	25-34	35-44	45-54	55-64	65-74	75-84	85+
Ind. 6			5	11	39	33	11	
Iowa 3a*				15	35	21	23	6
Kan. 6*				25	16	38	17	3
Minn. 7-8*			1	7	35	34	17	5
Neb. 1*			2	12	15	45	25	2
S. D. 1				4	36	52	8	
Wis. 5*				7	31	30	23	9

*One or more significant difference in proportions between types.

RELATION OF LANDLORD AND NUMBER OF YEARS RENTED

There are significant differences between parents and nonrelatives in the number of years tracts have been rented (table 39). More of the parent tenancies have been in effect 5 years or longer. This indicates that tenure is longer for the son renting from his father than for a tenant renting from a nonrelative.

CHARACTERISTICS OF THE RENTER

Several characteristics of renters have been discussed in the preceding section. Age, size of tract, proportion of written agreements, number of years rented, termination notice, relation of landlord and type of landlord apply to renters as well as to leases. The particular items may be used to characterize either the lease or the renter depending upon the point of emphasis.

AGE OF RENTER

Age is directly related to the accumulation of capital; tenants who have acquired their livestock and equipment through their own earnings are usually older ones. Young tenants generally would have sufficient capital to operate farms that are smaller than those operated by tenants nearing the retirement age. Few renters under 25 years of age have cash leases (table 24). Younger ones have rented the same land fewer years than have older renters (table 25). Those renting from parents are younger than those renting from nonrelatives (table 36).

AGE OF RENTER AND TYPE OF RENTER

Larger proportions of renters in the younger age group than of those in older age groups are full tenants (table 40). The percent of renters under 35 who are full tenants is significantly larger than the percent of part-owners in all but two of the 46 economic areas. At 55 and over, the

proportion of part-owners is significantly larger than that of full tenants in more than half of the economic areas.

AGE OF RENTER AND SIZE OF TRACT RENTED FROM THIS LANDLORD

There is no consistent pattern of relation between age of operator and size of tract (table 41). In 18 economic areas, there are no significant differences. In the other 28 areas, one or more proportion is larger (or smaller) than the comparable proportion for all leases, but there is no single age group with all proportions differing from the average. There are too few cases in the 65 to 74 group for reliable tests of difference. In general, renters of all ages rent the same size of tract. But this does not mean that they operate the same size farm because many of them rent from more than one landlord and only one tract is reported here.

AGE OF RENTER AND PROPORTION OF WRITTEN LEASES

There is no significant difference in the frequency of written leases among renters of different ages compared with the percent of all leases written in 29 of the 46 areas. In practice, the age of the renter apparently has little effect upon whether the lease is written (table 42). The class interval itself could account for the differences shown in table 42. A few operators just past 25 and a few more not quite 35 would be enough to make the 25- to 34-year age group larger than the corresponding proportion for all renters in a given area.

TYPE OF RENTER

Full tenants renting from one landlord are somewhat more frequent in related than in non-

TABLE 39. PERCENT DISTRIBUTION OF NUMBER OF YEARS RENTED THIS LAND BY RELATION OF LANDLORD.

State and area	Nonrelative				Parent			
	Percent of tracts rented				Percent of tracts rented			
	1 year	2-4 years	5-9 years	10+ years	1 year	2-4 years	5-9 years	10+ years
Ind. 6	11	30	31	28	12	12	41	35
Iowa 3a*	20	39	25	16		26	41	33
Kan. 6*	2	43	33	22		26	35	39
Minn. 7-8*	14	23	42	21	1	32	44	23
Neb. 1*	8	37	30	25	9	21	43	27
S. D. 1*	9	40	22	29	4	36	56	4
Wis. 5*	24	41	24	11	9	31	27	33

*One or more significant difference in proportions between groups.

TABLE 40. PERCENT DISTRIBUTION OF FULL TENANTS AND PART-OWNERS BY AGE OF RENTER.

State and area	Under 25		25-34		35-44		45-54		55-64		65+	
	F.T.	P.O.	F.T.	P.O.	F.T.	P.O.	F.T.	P.O.	F.T.	P.O.	F.T.	P.O.
Ind. 6*	84	16	53	47	40	60	35	65	32	68	33	67
Iowa 3a*	90	10	91	9	68	32	67	33	75	25	0	100
Kan. 6*	91	9	76	24	48	52	54	46	38	62	20	80
Minn. 7-8*	100	0	91	9	76	24	63	37	48	52	33	67
Neb. 1*	100	0	90	10	61	39	44	56	32	68	50	50
S. D. 1*	72	28	57	43	40	60	32	68	0	100	20	80
Wis. 5*	57	43	78	22	48	52	51	49	38	62	33	67

*Significant difference between proportions within two or more age groups.

TABLE 41. PERCENT DISTRIBUTION OF SIZE OF TRACTS RENTED BY AGE OF RENTER.

State and area	Under 25 years				25-34 years				35-44 years			
	Percent of tracts with acres				Percent of tracts with acres				Percent of tracts with acres			
	0-99	100-259	260-499	500+	0-99	100-259	260-499	500+	0-99	100-259	260-499	500+
Ind. 6	58	33	8	0	45	47	6	2	42	40	16	2
Iowa 3a*	10	70	10	10	11	68	19	2	25	51	17	7
Kan. 6*	5	56	39	0	18	70	11	1	36	52	12	0
Minn. 7-8	13	73	13	0	17	67	15	1	18	72	9	1
Neb. 1*	17	17	33	33	12	29	30	29	7	13	23	57
S. D. 1*	0	57	0	43	7	19	22	52	9	40	23	28
Wis. 5*	43	50	7	0	29	67	3	1	53	42	5	0

State and area	45-54 years				55-64 years				65-74 years			
	Percent of tracts with acres				Percent of tracts with acres				Percent of tracts with acres			
	0-99	100-259	260-499	500+	0-99	100-259	260-499	500+	0-99	100-259	260-499	500+
Ind. 6	50	35	13	2	46	36	18	0	56	44	0	0
Iowa 3a*	40	60	0	0	25	37	37	0	100	0	0	0
Kan. 6*	32	47	18	3	64	20	16	0	30	70	0	0
Minn. 7-8	24	61	13	2	9	78	9	4	0	67	0	33
Neb. 1*	17	37	17	29	4	32	14	50	12	38	25	25
S. D. 1*	6	50	14	30	24	35	24	17	20	60	0	20
Wis. 5*	32	61	7	0	62	28	5	5	50	50	0	0

*One or more significant difference in proportions when tested against distribution of all tracts by size groups.

TABLE 42. PERCENT WRITTEN LEASES BY AGE OF RENTERS.

State and area	Under 25	25-34	35-44	45-54	55-64	65-74
Ind. 6	45	21	31	15	18	11
Iowa 3a	50	49	43	30	50	0
Kan. 6	9	18	10	25	14	0
Minn. 7-8	60	44	36	44	39	33
Neb. 1	50	53	50	38	58	60
S. D. 1	33	46	48	56	56	60
Wis. 5*	21	52	18	23	24	12

*One or more significant difference between proportion for age groups and proportion for all leases.

related tenancies (table 32). Full tenants tend to be younger than part-owners (table 40). In general, however, there is no consistent pattern of differences between full tenants and part-owners or between tenants renting from one or more than one landlord.

TYPE OF RENTER AND SHARE OF CORN

There are few significant differences between the proportions of leases with a 50-50 share of corn for full tenants and part-owners (table 43). Share of crop paid as rental varies between areas; the 50-50 share predominates throughout the Corn Belt and the 1/3 or 2/5 share predominates in the wheat and grazing areas for both full tenants and part-owners.³⁵

TYPE OF RENTER AND SHARE OF EXPENSE

There is no significant difference between the proportions of leases with a 50-50 share of lime or of hired labor for full tenants and part-owners. The prevailing practice is for the tenant to pay

³⁵This same situation appears when further breakdown is made between full tenants with one landlord and full tenants who rent from more than one landlord; the shares are the same. Likewise, there is no significant difference between shares for part-owners renting from one landlord and part-owners renting from more than one landlord.

the costs of hired labor (table 43). Full tenants and part-owners pay the same share of expenses.

CHARACTERISTICS OF LANDLORDS

In all economic areas, 80 percent or more of the owners of rented land are individuals (table 44). An estate is the owner of as much as 10 percent of the tracts in only five economic areas. Partnerships account for ownership of not more than 5 percent, and a corporation is owner of 1 to 3 percent of the tracts in half the economic areas. The government is owner of 1 to 4 percent of the tracts in nine areas, and of 8 percent of the tracts in one economic area.

TYPE OF LANDLORD

Individual owners were classed as: active farmers; retired farmers; business or professional men; farm widows; nonfarm widows; and others, to include other individuals, estates, corporations and government. The distribution of types of landlords is very much the same in all economic areas, as illustrated by the examples in table 45.

TYPE OF LANDLORD AND TYPE OF LEASE

There is no consistent difference between type of lease and type of landlord within areas (table 46). In general, the distribution for each type of landlord follows closely the distribution of all leases by type (see table 17). The proportion of one type of lease for one type of landlord is small-

TABLE 43. PERCENT OF LEASES WITH 50-50 SHARE: CORN; LIME; HIRED LABOR; FULL TENANTS AND PART-OWNERS.

State and area	Corn		Lime		Hired labor	
	Full tenant	Part-owner	Full tenant	Part-owner	Full tenant	Part-owner
Ind. 6	53	39	12	6	8	2
Iowa 3a	97	97	24	23	7	7
Kan. 6	*74	57	36	31	7	7
Minn. 7-8	*50	31	37	29	5	0
Neb. 1	16	5	9	0	12	0
S. D. 1	*26	4	11	8	8	6
Wis. 5	83	64	35	25	21	20

*Significant difference between proportions.

TABLE 44. PERCENT DISTRIBUTION OF TYPES OF OWNER.

State and area	No. of leases	Individual	Estate	Partnership	Corporation	Government	Other
Ind. 6	185	91	5	2	1	0	1
Iowa 3a	189	88	7	5	0	0	11
Kan. 6	341	93	5	1	1	0	0
Minn. 7-8	352	87	10	2	0	0	1
Neb. 1	281	85	5	2	3	4	0
S. D. 1	171	81	6	2	2	8	0
Wis. 5	230	95	2	1	2	0	0

TABLE 45. PERCENT DISTRIBUTION OF TYPES OF LANDLORDS.

State and area	Active farmer	Retired farmer	Bus. or professional	Farm widow	Nonfarm widow	Other
Ind. 6	10	22	36	14	7	11
Iowa 3a	13	30	28	13	5	11
Kan. 6	12	29	24	16	4	15
Minn. 7-8	14	41	16	10	5	14
Neb. 1	23	26	17	13	5	16
S. D. 1	19	26	24	8	5	18
Wis. 5	11	29	23	17	4	16

TABLE 46. PERCENT DISTRIBUTION OF TYPES OF LEASE BY TYPE OF LANDLORD.

State and area	Active farmer†				Retired farmer†				Business or professional†			
	1	2	3	4	1	2	3	4	1	2	3	4
Ind. 6	11	61	6	22	2	71	12	15	6	60	9	25
Iowa 3a*	4	24	36	36	5	14	43	38	6	10	46	38
Kan. 6*	0	39	37	24	5	29	47	19	12	41	28	19
Minn. 7-8*	16	24	42	18	25	20	31	23	18	14	55	12
Neb. 1*	27	13	44	8	21	30	23	14	19	36	38	0
S. D. 1*	16	47	22	16	9	36	13	29	15	56	12	7
Wis. 5	28	20	0	52	20	23	2	53	30	16	4	40

*One or more significant difference in proportions between types of landlord.
 †Type of lease: 1—cash; 2—crop-share; 3—crop-share-cash; 4—live-stock-share.

er (or larger) than that for another type of landlord in half the areas; but the pattern of difference varies from area to area.³⁶

The significance of the association between type of lease and type of landlord is in the effect of the capital position of the individual landlord upon the kind of lease he wants and the extent of his interest in the day to day operations of the farm. An active farmer who plans to lease his farm as a part of his retirement plan would likely be interested in a livestock-share lease. In contrast, a farm widow would likely be interested in a cash lease, particularly if entirely dependent upon the rented farm as a source of living expenses, because of the certainty of the given income from year to year.

TYPE OF LANDLORD AND LENGTH OF LEASE

The proportion of 1-year leases is much the same for landlords of different types and for landlords of different ages (tables 47 and 48). The smaller number of landlords under 25 years of age (table 48) explains the higher proportion of 1-year leases in that age group. Although the proportion of 1-year leases for one type of landlord (or one age of landlord) differs significantly

³⁶A similar comparison was made by age of landlord with the same result; lease types do not vary consistently with age of landlord; see supplementary table 72. Nor does size of tract vary consistently with type of landlord; see supplementary table 67.

TABLE 47. PERCENT 1-YEAR LEASES BY TYPE OF LANDLORD.

State and area	All leases	Active farmer	Retired farmer	Bus. or prof.	Farm widow	Non-farm widow	Other
Ind. 6*	64	67	72	70	46	42	60
Iowa 3a	70	67	70	67	81	67	75
Kan. 6*	69	88	68	72	60	100	58
Minn. 7-8	56	65	56	58	50	47	54
Neb. 1*	59	58	63	72	57	77	45
S. D. 1*	48	48	52	60	50	57	21
Wis. 5	62	65	54	63	57	60	76

*One or more significant difference in proportions between types.

from that of another in the same area, there are no consistent differences from area to area.

Type of landlord and age of landlord, separately and together, are matters of importance to the tenant because of the need of opportunity for the two parties to pool their resources over a period of years. Any tenant renting from a landlord of advanced years knows that a change in landlords is certain in the near future.

TYPE OF LANDLORD AND AGE OF LANDLORD

The proportions of landlords of different types change with age of landlord (table 49). There are few landlords of any type under 35 or over 85. The proportion of active farmers decreases and that of retired farmers increases with the increase in age. The change takes place gradually. There are few significant differences between the proportions of retired farmers 45 to 54 compared with those 55 to 64; but in most economic areas the proportion of retired farmers 65 to 74 is greater than that of retired farmers 45 to 54. The proportion of farm widows also increases with age of landlord; but the number of cases in the younger age groups is so small that the differences in proportions are not statistically significant. The proportion of landlords who are business or professional men remains the same with change in age, as does that of nonfarm widows.³⁷

TYPE OF LANDLORD AND FREQUENCY OF WRITTEN LEASES

Written leases occur with the same frequency among all types of landlords in one-third of the economic areas. In half the areas, the proportion of written leases is significantly higher for landlords who are business or professional men than for those who are farmers or farm widows. The proportion of nonfarm widows with written leases is significantly larger than that of all others in two areas and is larger than the proportions of farm widows, active farmers and retired farmers in seven areas. Thus, written leases are more frequent for business men and nonfarm widows (table 50).

The same need for written leases is present among all types of landlords. Agreements between father and son can involve such close working relationships in the day to day operations that whether the lease is written or oral is of no consequence. However, planning the content of the

³⁷Comparison was also made between age of landlord and age of renter; the distribution of age of tenants is the same for all ages of landlord; see supplementary table 73.

TABLE 48. PERCENT 1-YEAR LEASES BY AGE OF LANDLORD.

State and area	Under 25	25-34	35-44	45-54	55-64	65-74	75-84	85+
Ind. 6		50	75	63	64	64	63	67
Iowa 3a*		83	83	50	55	76	81	88
Kan. 6*		100	80	80	59	73	71	100
Minn. 7-8		50	52	62	48	61	53	75
Neb. 1*		60	29	70	67	53	59	100
S. D. 1	100	75	80	67	41	40	47	100
Wis. 5	100	67	82	69	58	67	45	40

*One or more significant difference in proportions between age groups.

TABLE 49. PERCENT DISTRIBUTION OF TYPES OF LANDLORD BY AGE OF LANDLORD.

State and area	Percent of landlords 25-34†						Percent of landlords 35-44†						Percent of landlords 45-54†					
	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
Ind. 6*			25			75	12	0	50	12	12	12	12	3	59	3	3	19
Iowa 3a*	33		17			50	25		50			25	25	11	29	4	14	18
Kan. 6*			100				33		47	7		13	27	20	24	20	4	4
Minn. 7-8*			50			50	42	4	21	8		25	31	18	35	6	4	6
Neb. 1*	60		40				50		21			29	44	15	37		2	2
S. D. 1			75			25	40		50			10	38	15	31	4		12
Wis. 5*						100	9	9	36	27	9	9	9	3	53	3	9	22

State and area	Percent of landlords 55-64†						Percent of landlords 65-74†						Percent of landlords 75-84†					
	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
Ind. 6*	10	14	47	12	2	14	10	37	23	17	12	2	4	36	24	20	12	4
Iowa 3a*	20	29	29	8	6	8	3	46	26	23		3	4	57	14	21		4
Kan. 6*	11	28	38	10	4	10	12	37	18	18	5	11	9	60	9	21	2	
Minn. 7-8*	18	48	15	10	4	6	4	58	8	11	10	9	3	56	18	21	3	
Neb. 1*	24	24	17	16	3	16	17	48	3	23	5	5	3	45	16	11	13	13
S. D. 1	21	39	15	9	6	9	12	49	22	12	2	2	7	40	7	20		27
Wis. 5*	19	24	36	8	2	12	12	45	8	27		8	3	50	3	33	6	6

*One or more significant difference in proportions between age groups.

†Type of landlord: 1—active farmer; 2—retired farmer; 3—business or professional; 4—farm widow; 5—nonfarm widow; 6—other.

lease and making it specific on the important details should result in fewer misunderstandings between parties and also encourage the reaching of agreements on matters that are often present and continuing sources of dissatisfaction but upon which decision fully acceptable to both is never made. The question of improvements on buildings, for example, might be raised under an oral lease without action being taken. Spelling out the details under a written lease would tend to encourage action and actual solution of the problem.

TYPE OF LANDLORD AND CASH PAYMENT FOR BUILDINGS

There is no significant difference between types of landlords in the proportions of leases with cash payments on buildings (table 51). The proportions are for only those leases in which a definite answer was given by the tenant. Respondents who did not reply are excluded. Therefore, the percent of all landlords receiving a cash payment for buildings is smaller than the data in the table indicate. In practice, specific cash payment for use of buildings is the exception rather than the rule.

TENANT SUGGESTIONS TO IMPROVE LEASING PRACTICES

Respondents were asked to express their ideas on changes needed in rental agreements in their community to: (1) increase the income received by both renters and landlords; (2) increase soil conserving practices on rented farms; (3) encourage keeping more livestock on rented farms; and (4) encourage making improvements in buildings and land on rented farms. Roughly a third of all respondents gave one or more specific suggestions.

The content of suggestions made by tenants for improvement of rental practices indicates that many tenants in their own thinking draw a clear distinction between terms of the lease as such and problems of organization and management on the leased farm. Apparently, there is a tendency

to think of a lease as merely a contract or agreement which specifies dates and rates of payment. Organization and management of the leased farm after the lease terms are specified are another and separate problem. The relation between the two, and especially the effect of the terms and content of the lease upon the level of farm income, apparently does not appear to be viewed as a specific problem in leasing.

The suggestions are summarized by states because of the small number of replies per area. Percentages were calculated by taking the number of tenants replying with the given or classified answer as a percentage of those who gave any answer. Some tenants gave more than one suggestion, and therefore the sum of the percentages may exceed 100. It is the percent making the given reply rather than the distribution between different replies that is important.

TABLE 50. PERCENT WRITTEN LEASES BY TYPE OF LANDLORD.

State and area	Active farmer	Retired farmer	Business or prof.	Farm widow	Nonfarm widow	Other
Ind. 6	17	20	31	21	8	19
Iowa 3a	40	41	48	29	67	48
Kan. 6*	7	9	21	6	50	27
Minn. 7-8*	28	35	61	34	50	60
Neb. 1*	44	44	51	50	77	53
S. D. 1*	42	40	55	23	38	74
Wis. 5	42	30	35	19	30	35

*One or more significant difference in proportions between types.

TABLE 51. PERCENT OF LANDLORDS RECEIVING A CASH PAYMENT FOR USE OF BUILDINGS BY TYPE OF LANDLORD.

State and area	Active farmer	Retired farmer	Business or prof.	Farm widow	Nonfarm widow	Other
Ind. 6		6	7	9		5
Iowa 3a			4			8
Kan. 6		5	8	31	12	12
Minn. 7-8	9		10			9
Neb. 1	11	20		25		
S. D. 1	14					
Wis. 5			17			

TABLE 52. PERCENT OF TENANTS MAKING SPECIFIC SUGGESTION, AMONG TENANTS OFFERING SUGGESTIONS TO INCREASE INCOME.

State	Share expense	Increase length of lease	Increase termination notice	Improve practices	Landlord furnish more facilities
Ind.....	25	12	1	30	12
Iowa.....	22	17	1	37	10
Kan.....	27	19	1	52	3
Minn.....	25	16	.....	34	12
Neb.....	25	11	1	55	7
S. D.....	21	12	.....	53	4
Wis.....	23	10	.....	24	10

SUGGESTIONS TO INCREASE INCOME

Less than 20 percent of those who offered suggestions on methods to increase income on rented farms proposed an increase in the length of lease as one way to do it (table 52). By inference, the cause-effect relation between length of lease and level of income does not appear as a problem important to a majority of tenants. One percent of those offering suggestions mentioned termination notice.

Improvement of management practices was the most frequent suggestion. There is no way of telling whether the respondent was thinking of changes in rotation, adding legumes or increased use of fertilizer as management decisions separate and distinct from the lease as such or whether some of the practices were to be brought about by changes in provisions of the lease.

Those suggesting that changes be made in sharing of expenses usually also suggested that the landlord either share a part of an expense not now shared or assume a larger share of a given expense—most often of lime and fertilizer. The majority of those offering suggestions saw the problem of increasing farm income as a joint responsibility of tenants and landlords working together. Few specifically stated that the contribution of more production facilities should be by the landlord alone.

SUGGESTIONS TO INCREASE SOIL CONSERVING PRACTICES

The most frequent suggestion to increase conservation was some form of land-management practices—a change in rotation, use of manure and commercial fertilizer or keeping more livestock. These suggestions were often posed as management problems alone, and few respondents expressed any ideas about particulars of relations between terms of the lease and conservation (table 53).

One exception to the apparent distinction between leasing and conservation problems was expressed by respondents who saw the main conservation problem as one of getting landlords to appreciate the needs for conservation on their own farms. Five to 19 percent mentioned need to “educate the landlord,” and this education applied to conservation on rented farms. Obviously, there is a problem in landlord-tenant relations whether it is the landlord who wants to conserve

and the tenant who is unwilling or whether it is the tenant who wants to conserve but is held back by refusal of the landlord.

Sharing the costs of conservation practices was the second most frequent suggestion offered by respondents (table 53). Often this suggestion took the form of recommending that more landlords furnish materials and tenants do the work, thus indicating a willingness on the part of tenants to bear some of the costs of conservation. Less than 1 percent of those making suggestions proposed an increase in government payments for conservation practices.

SUGGESTIONS TO ENCOURAGE MORE LIVESTOCK

The most frequent suggestion to encourage greater numbers of livestock on rented farms was for the landlord to provide more facilities for livestock (table 54). There is no indication in the replies as to how the payment would be made to the landlord for these facilities. The information supplied by respondents only indicates that, in the tenant's opinion, provision of livestock facilities by the landlord is the most important method of increasing livestock numbers.

The most frequent suggestion in the economic areas in which cash grain is the major product sold was that changes are needed in the type of lease and type of farming. Usually this suggestion proposed a decrease in numbers of cash and of crop-share rentals or a revision in the cash-crop system of farming. There were no details of suggestion on substitutions, except that some respondents suggested the use of more stock-share leases.

Few respondents mentioned need for longer leases to encourage greater numbers of livestock.

TABLE 53. PERCENT OF TENANTS MAKING SPECIFIC SUGGESTION, AMONG TENANTS OFFERING SUGGESTIONS TO INCREASE CONSERVATION.

State	Increase length of lease	Share costs	Change rotation, improve practices	Educate landlord	Increase government payments
Ind.....	10	26	29	11	.....
Iowa.....	15	14	55	7	2
Kan.....	14	25	64	19	.....
Minn.....	11	22	53	4	1
Neb.....	10	22	57	10	1
S. D.....	13	22	53	10	1
Wis.....	9	26	57	5	.....

TABLE 54. PERCENT OF TENANTS MAKING SPECIFIC SUGGESTION, AMONG TENANTS OFFERING SUGGESTIONS TO INCREASE NUMBER OF LIVESTOCK.

State	More live-stock-share leases	Increase length of lease	Eliminate cash-crop system of farming	Landlord provide more facilities	Decrease cash rent on hay and pasture
Ind.....	15	5	8	51	2
Iowa.....	13	5	1	45	14
Kan.....	15	4	59	20	6
Minn.....	8	2	6	38	12
Neb.....	12	4	15	51	11
S. D.....	7	4	36	24	5
Wis.....	6	3	.....	20	.....

SUGGESTIONS TO ENCOURAGE IMPROVEMENTS

In conformity with the ideas on how to increase farm income, how to encourage conservation and how to increase livestock numbers, the most frequent suggestion to obtain additional improvements on rented farms was for the landlord to do more of it (table 55). There were a few explanations of how this might be done or particularly of the kinds and amounts of payments that tenants might make to give the landlords a return on the investments. Much the same idea is involved in the suggestion that the way to obtain improvements is for the landlord to furnish the materials and for the tenant to do the work. Approximately the same percent of respondents, though not necessarily the same ones, suggested that longer leases are needed to encourage farm improvements as suggested that same solution to increase income, conservation and livestock numbers.

REASONS FOR DISSATISFACTION WITH LEASE

All respondents were asked the question, "Are you satisfied with your rental agreement?" The reasons for dissatisfaction were summarized in the same manner as were the suggestions to improve leasing practices. These reasons substantiate the suggestions offered to improve leases in the community. Three of the more detailed comments are quoted below as an illustration that individual tenants are aware of the incentive conditions and of some of the needs for changes in leases:

"... As far as shares, cash rent (I am satisfied), however, I do think I would like a better agreement on fertilizers, grass seed, soil conservation and an agreement of some sort that would enable the landlord to improve buildings and yards...."

"I think that if we could have longer lease, say 5 years, it would pay me to help pay on fertilizer and lime and it would help both of us out. Where (we have a lease for) 1 year we might have to move next year and leave what we have done."

"I have almost as much money invested in machinery as the landlord has invested in the farm and my upkeep and taxes amount to almost as much as the landlord's upkeep and taxes. Now, when this ½ and ½ rental agreement started it was to be the landlord's capital investment or farm against the renter's labor. So either I am not getting much for my labor or nothing for my investment in machinery. True, I can get the farm work done faster with modern machinery than without it, but I feed much more stock than what the farm will produce feed for which would be impossible without the machinery. Since I feed more stock over and beyond the amount the farm will produce feed for and the landlord doesn't provide capital for livestock and feed and yet dividing the net profit half and half, it seems to me that I do not receive full benefits for my efforts and labor put forth. Maybe I am wrong in my thinking but I am interested in what others do. In this day and age I know it is hard to know what is fair for both the renter and landlord."

Whether or not respondents were aware of cause-effect relations between length of lease and level of farm income, length of lease was one of the main reasons for dissatisfaction with the rental agreement (table 56). Likewise, present practices in sharing of expenses, lack of improvements or the condition of improvements, and lack

TABLE 55. PERCENT OF TENANTS MAKING SPECIFIC SUGGESTION, AMONG TENANTS OFFERING SUGGESTIONS TO ENCOURAGE FARM IMPROVEMENTS.

State	Increase length of lease	More livestock-share leases	Landlord provide more facilities	Landlord furnish materials and tenant do the work
Ind.....	11	7	46	6
Iowa.....	15	5	47	14
Kan.....	12	3	16	17
Minn.....	12	2	58	10
Neb.....	15	3	46	10
S. D.....	14	3	48	10
Wis.....	7	.....	64	8

TABLE 56. PERCENT OF TENANTS MAKING SPECIFIC SUGGESTION, AMONG TENANTS EXPRESSING DISSATISFACTION WITH THEIR LEASE.

State	Lease too short	No or poor improvements	Landlord not interested in conserving or improving	Expenses not shared fairly	Cash rent on hay or pasture too high	No opportunity for joint planning
Ind.....	7	12	21	31	3	.....
Iowa.....	10	24	16	45	6	5
Kan.....	22	21	39	27	3	4
Minn.....	14	16	14	31	4	1
Neb.....	13	23	32	24	5	3
S. D.....	12	16	23	33	7	4
Wis.....	6	18	13	44	.....	2

of interest on the part of the landlord in improving or conserving the farm were mentioned as reasons for dissatisfaction. Few respondents stated that cash rent for hay or pasture was too high (but the proportion here would be greater if expressed for those actually paying a cash rent for hay or pasture).

Some respondents gave one or more reasons for dissatisfaction even though they made no suggestions for improving rental practices. By inference, removing the source or cause of the dissatisfaction would be an improvement in leasing arrangement.

One outstanding feature of the reasons listed by tenants for dissatisfaction with their leases is that these dissatisfactions are expressed against customary practices. Possibly the source of the dissatisfactions is that practices of the community have been applied without sufficient adaptation to the details of the particular case.

Suggestions to improve leases involve no outstanding departure from custom. Relatively small percentages of tenants propose change in the length of lease; and length of lease does vary in practice. The changes most frequently proposed are made up of changes in management practices that affect the income of the farm. Seemingly, the change is proposed at an operational level only rather than in terms of provisions in leases to encourage or bring about the result desired.

SOLVING LEASING PROBLEMS

NEED FOR METHOD OF ANALYZING LEASING PROBLEMS

This study developed from the continuing requests by landlords and tenants for information

and advice on how to handle problems in farm tenancy. The variety of requests received by the state agricultural experiment stations, extension services and federal agencies prompted a survey of current leasing practices. Even in the beginning stages of the study, it became evident that an inventory of practices would not be sufficient; practices would need to be subjected to systematic analysis to be of assistance in solving leasing problems.

Only part of the solutions to problems can be found in the experiences of landlord and tenants, because satisfactory solutions to some phases of the problems have not been developed in practice. The questions bothering some tenants or some landlords may be answered by pointing out to them the methods that others have used in handling similar difficulties. But custom also perpetuates error. It is only in departure from unsatisfactory customary practices that contribution is made to problem solution. Guides or norms of behavior for future action cannot be abstracted from history alone, because the past does not contain all the experiences of the future. Use of current practice as the only guide to future actions is the same as using custom as a perfect model.

Need for a systematic method of analyzing leasing problems arises from the existence of problems that landlords and tenants have been unable to solve for themselves. The great variety of questions raised by landlords and tenants demonstrate the necessity of reducing these questions to comparable types and applying principles of analysis to each type.

The great variety of details involved in current leasing practices throughout the areas covered by this study demands that the proposals for changes in practice to solve the problems be stated in broad perspective. Only the general patterns of change can be specified. Solution in the individual case is a matter for separate and detailed analysis.

There is no hope for solution to the economic problems of leasing, either in the individual case or in all cases together, without a workable framework of analysis for the problems involved. The tenant and the landlord need an economic rationale, a system of calculating, a method of determining what to do and how to do it in developing the terms of a lease and in operating the farm under the lease. This economic frame of thinking is the same for the two parties even though they contribute different resources to the agreement.

For purposes of this study, a lease is defined as an agreement within a farm firm, between a landlord and a tenant, concerning the use of resources for a given time period and at a named price. The purpose of the lease is two-fold: (1) to provide the basis for combining resources in production and (2) to distribute income to resource owners within the farm firm.

Efficiency in resource utilization is a test that can be applied to any farm, and the tests of efficiency are the same for all farms. A leasing

problem exists whenever characteristics or terms of the lease cause resources to be used inefficiently or cause unintended transfer of income from one party to the other. This distinction separates leasing problems as such from the problems of organization and management that are common to all farms.

CHANGES IN PRACTICES TO SOLVE LEASING PROBLEMS

Current leasing practices have been analyzed in the two preceding sections to determine whether leases contain four incentive conditions and to examine the economic implications of selected characteristics of leases, renters and landlords. From this analysis, it follows that several changes in practices are needed to solve the problems with which landlords and tenants are confronted. The analysis assumed specific functions for the lease and was directed toward lease oriented problems. The changes in practices are discussed below in broad perspective and in categories that individuals may apply to their own problems. In essence, the solution to lease oriented problems of the individual landlord and tenant rests in systematic analysis, applying economic principles to the particular set of conditions. The two parties together will need to work out the details that will accomplish the desired results, and adjustments will necessarily take the form of reasonable approximations because of the complexity of some of the problems.

SOURCES OF INFORMATION

The striking similarity of practice after practice, within and between economic areas, in itself prompts questions as to how well the terms of individual leases meet the requirements on the farms they cover. Lack of variation in practice and lack of difference between selected sets of terms or of characteristics of the lease, the renter or the landlord, suggest that these many and broad details which are the same cannot possibly match the variations in farms and the differences between desires and abilities of tenants and landlords. These details require further study.

Some of the comparisons of characteristics have no implications for use of resources or income distribution between landlords and tenants. Whether the lease is oral or written, for example, is of little consequence if the agreement is complete and serves to encourage good husbandry. The fact that shares of crops paid as rental are the same whether the tract has been rented for 1 year or 10 years or whether the renter is a part-owner or a full tenant mainly serves to describe existing situations.

Other comparisons of selected characteristics of leases do emphasize necessity for adjustments in leasing practices. In many instances, the lack of variation is the strongest evidence of the need for adjustments in practice. For example, the tendency for 1-year length of lease regardless of type of lease, provisions for termination notice or kinds of products that are the major source of income are indications that not enough adapta-

tions are made in individual cases. Of still more consequence, the fact that shares of crops paid as rental vary little within areas strongly implies that land rental and land productivity are out of line on many farms. These details require further study.

The lack of variation in rental practices within economic areas demonstrates the need for programs of education in which tenants and landlords will be encouraged to make adaptations to fit the particulars of their situations. Among the more important of these adjustments would be that of getting away from standardized fractional shares of crops and of expenses. The share to be paid as rental is a problem for solution on the individual farm, through careful analysis, and is not a "given" proposition to which other items are adjusted. As further illustration, the lack of differences between types of landlords as to length of termination notice indicates the need for a generalized program of education for all, pointing out the need for longer termination notice. This has many implications for use of resources on leased farms. A high proportion of 1-year leases with short notices means that both landlords and tenants operate in a short-run environment. The tendency would be for enterprises to be selected for completion within 1 year. The short-term outlook would tend to decrease investments by both parties in necessary or desirable improvements.

The above evidences demonstrate need for change in sources and kinds of information upon which decisions are made concerning terms of the lease. Especially, this means less use of custom and more analysis of the details of the individual case. Deciding that the share of corn should be one-half because one-half is the prevailing share in the area appears comparable to deciding that \$265 is the appropriate price for a specific dairy cow because the average price of all cows for the past year was \$265.

Customary practice may be used as a guide, a measure of alternative opportunity and as a point of departure for the individual case. No two farms are the same, produce the same or give the same return per unit of input. There is, therefore, no logical reason for the annual price for the use of land, namely the cash or share rental, to be the same on all farms in an area. Similar reasoning applies to other terms and provisions of the lease.

SELECTING THE TYPE OF LEASE

Lack of variation in numerous details between types of leases indicates need for changes in practice concerning choice of type of lease. Although the selecting process for two given parties might be looked upon as a special problem in source of information, selection of the general form of the agreement is important enough to be studied by itself.

The type of lease that will fit the particular case depends upon the characteristics of the farm, the financial position and interests of the landlord, and the abilities, interests and financial position of the tenant. The type of lease to be used

needs to be fitted to what the two parties are willing and able to do.

One or another type of lease is more common than others in most economic areas (table 17). If competition for farms is keen and tenants are bidding actively against each other to obtain the use of land, there may be little opportunity for a tenant to obtain the kind of lease he wants. The only opportunity may be to take a farm under a type of lease that the landlord prefers. But in any given case the two parties to a prospective arrangement stand to benefit by choosing that arrangement which best fits their purposes.

TERMS AND PROVISIONS OF THE LEASE

The main type of change in practice to solve leasing problems is in the process of selecting the terms and provisions of the agreement. There is need for more landlords and tenants to figure out and agree upon the detail of terms that fit their particular situations. Although there is evidence that much is already being done by adjustments in minor provisions of leases, the evidence also shows that numerous practices are standard from lease to lease. One-year terms, short termination notices, fixed shares of crops and of expenses, and contribution of selected factors by the tenant are illustrations (see tables 6-51). Because of the variations among farms, parts of farms, buildings, input-output ratios, and more important, in the financial abilities and interests of landlords and tenants, standardized practices cannot fit equally well in all cases.

If resources are to be used efficiently on rented farms and economic problems of leasing are to be solved to the satisfaction of both landlords and tenants, it follows that the planning process in the development of each leasing arrangement must be systematic and detailed. The first step in this planning process may well be for the landlord and the tenant together to determine a carefully devised program of operation for the farm. What does it require in inputs of all kinds to make the farm or tract efficient? Attention then can be given to terms in the lease that will bring this plan to fruition.

The rates of payment and the division of costs and expenses are the most important points of decision in any leasing arrangement. These terms determine the distribution of income to the parties. There is a dynamic cause-effect relation between them and the achievement of the goals or purposes held by the parties to the agreement. Actual calculation and determination of the rates of payment and the method of sharing costs and returns is a complex problem because of the many uncertainties as to future prices and costs. The principles to be followed in the calculation process and the guides to achieve maximum income for both landlord and tenant are fairly simple once they are fully understood. The further application of these principles is really the crux of the economics of farm leasing.

The conditions required for any farm firm to maximize profits from given quantities of re-

sources are the same. Four incentive conditions are needed to encourage efficient operations and prevent income transfers under a lease. Few leases contain all four incentive conditions (tables 2-16).

Absence of one or more of the four incentive conditions from many leases cannot be interpreted as justification for a rapid and wholesale revision in leasing practices and in provisions of all leases. These and other changes in practices are matters for individual landlords and tenants to study, understand and apply.

WRITTEN LEASES

Written leases may be used as a method of putting other changes in practices into effect, but change from oral to written leases is a change in practice. There are two main reasons why more written leases should be used. First, written leases are less subject to error. The written provision is specific and fewer disagreements should develop through time as to exact content of the agreement. Second, the process of writing out the details of an agreement may itself be cause for more careful discussion and analysis of provisions.

PERIODIC EXAMINATION

Leases are devised to cover given time periods. Changes in provisions are needed through time. The end of one period is a convenient time for revisions to be made for a subsequent period. Periodic examination of the provisions of the lease should give both parties to the agreement opportunity to remove causes of difficulties, and to make adjustments to changes in technology, costs and prices as those changes take place.

CONSEQUENCES AND IMPLICATIONS OF CHANGES IN LEASING PRACTICES

Changes in leasing practices will have many and far-reaching effects upon organization and operation of both rented and owner operated farms. Changes within farm firms will affect allocation of resources between farms.

Adjustments within leased farms will effect both the amount of income and its distribution—wherever terms of the lease as such are retarding efficient operations or changing income distributions in present practice. Detailed study is needed to point out where these are taking place; the present analysis stops short of such detail and evidences only that many leases do not contain incentives for efficient operation. These adjustments will need to be made slowly, as an evolutionary process rather than as a revolutionary one, subject to the understanding and will of both parties to the agreements.

The more important consequences of changes in leasing practices may be summarized as follows:

1. Income transfers between parties in leasing agreements have important policy implications, not only to farm tenancy, but also to the welfare of all persons employed in agriculture. Transfer

of a few hundred dollars of income may be sufficient to cause an operator to continue operation on one unit alone whereas otherwise he would be inclined to rent additional land, move to another farm or enter another occupation. In other words, income transfers may contribute directly to resource inefficiency and retard economic adjustments by holding people in agricultural employment or preventing the transfer of land resources between farms. Likewise, income transfers from tenants to landlords may influence the prices at which land is sold, and may retard the sale of less than economic units either to tenants or to persons who are already owner-operators and are attempting to enlarge their operating units. These problems and their implications require more study.

2. Greater sharing in the decisions of day-to-day operations and in the division of expenses would tend to move the share lease in the direction of a full partnership in the economic and legal meaning of partnership. To protect both parties and to satisfy their interests, concurrent developments in the agreements will have to be provided to get away from the full personal liability that characterizes the legal partnership. This calls for changes in legal practice to make economics and law work together.

3. The economic requirements of the lease need not interfere or change substantially the scope of decisions made by tenants or their freedom of action in making decisions in the operation of the leased farm. This, too, can be a matter of agreement between landlord and tenant when the lease is drafted.

4. Any greater detail of participation in decisions and sharing of all variable expense (in share leases) calls for more and better farm bookkeeping. But this in itself can contribute to the solution of some of the economic problems in leasing. The individual has little knowledge of specific changes to make in farming operations if there is no record of income and expenses.

5. The bargaining process between landlord and tenant can be strengthened. If both parties go through a careful economic analysis pointed toward the objectives of obtaining the highest possible returns for each, then differences of opinion on particular points can be matters of negotiation. The fact that shares of crop paid as rental seldom depart from a few standardized shares in broad economic areas clearly implies that there is little bargaining done on one of the basic phases of the lease.

Economic principles and economic analysis are the foundation upon which effective bargaining can be developed. This analysis provides a framework of thinking for either party to come to conclusions concerning his own resources or contributions and, at the same time, can give him an appreciation and understanding of those of the other party.

6. Separate and distinct payments for the main types of resources used in the rented farm give a

basis for arriving at workable arrangements. If specific rental payments are made for the housing facility and for fixed improvements that contribute directly to production, appropriate adjustments will also be needed in cash rental rates and in share rentals. The economic rationale behind these specific payments is only that of making it possible for each party to figure out what each type of resource contributes to the income of the firm and thereby allow the resource owner to obtain a return from each resource. Pricing the factors separately should also contribute to more effective bargaining between landlords and tenants.

7. Determining the rental is a problem common to all rental agreements. If this basic problem can be solved in practice so that tenants and landlords together can determine the appropriate charges, the minor details of what to do about particulars will largely disappear. Circumstances differ from farm to farm, tenant to tenant and landlord to landlord. A set of economic principles that can be applied to any given situation by the parties themselves is needed as the basis for decisions on the many details that are matters of judgment, opinion or outlook, and often also depend upon the alternative opportunities available to both parties.

FURTHER RESEARCH

This study examines leasing practices on a regional basis, using economic areas as the geographic unit of study and selected characteristics of leases, renters and landlords. Mail questionnaires were the primary source of information. The analysis has dealt with only some of the more important aspects of leasing practice at the intra-firm level.

Findings serve to demonstrate the need for additional research, especially upon details or problems that could not be encompassed in this one investigation. Several specific needs have been stated in previous discussion. The most important problems for further research are outlined briefly below in broad frameworks. Delimitation of research problems and details of research projects including procedures to be followed in analysis of selected problems are themselves matters for careful study.

ALTERNATIVE TENURE FORMS

Little is known about the relative efficiencies of alternative leasing arrangements and the specific influences of tenure upon the allocation and use of resources. Likewise, there is need for careful analyses of the factors and forces that explain the behavior patterns of landlords, tenants and owner-operators. The different environments under which operating decisions are made presumably have effect upon the kinds of decisions made; for

example, differences in planning horizons, purposes in land ownership and alternative income-earning opportunities affect resource allocation. More specifically, the purpose of inquiry is to find empirical evidence of mis-allocations of resources and of income transfers resulting from conditions of tenure. This would include analysis of the relations between intra-farm and inter-farm allocations of resources, analysis of operator reactions to incentive conditions and analysis of the effects of income transfers between resource owners.

DETERMINING THE RENTAL RATE

The present study takes as given the shares of crops or livestock and the cash rental. No analysis was made of the methods by which landlords and tenants arrived at the decisions about rental rates. In addition to the development of an economic rationale or system of analysis by which individuals can arrive at decisions concerning rental rates, there is need for study of factors affecting the bargaining powers of landlords and tenants. Also, there is need for study of the evaluation problems, particularly for land, buildings, labor and management.

AGENT MANAGED FARMS

Increasing numbers of tenant-operated farms are managed by agents of the landlord. Few empirical data are available to indicate the effect of agents upon the operation of the rental market, land prices, or terms and provisions of leases. The leasing practices and terms posed by professional farm managers, lawyers and attorneys, representatives of credit institutions, relatives of landowners and other types of agents will need to be directed to benefit both landlord and renter.

IMPACT OF GOVERNMENT PROGRAMS

Price support for agricultural products, conservation, credit and other government programs affect resource use and income distribution to resource owners. Careful studies of these influences over which parties to a leasing agreement have no control may be able to point out revisions in programs that can serve to make the programs more effective in purpose.

OTHER PROBLEMS

Tenants have difficulties in obtaining farms. Landlords have difficulties in obtaining tenants. Two types of problems are involved. One is in the lack of information about rental opportunities. The other is in the selection processes by which the two parties reach agreement with the landlord choosing among several possible tenants and the tenant making choice between farms and landlords. Research upon this type of weakness in the rental market has opportunity of benefiting both landlords and tenants.

APPENDIX

COOPERATIVE EXTENSION WORK in AGRICULTURE AND HOME ECONOMICS STATE OF IOWA REGIONAL FARM RENTAL PRACTICES STUDY

Iowa State College and U. S. Department of Agriculture
Cooperating

Dear Sir:

Those who rent farms ask many questions about rental arrangements. Who pays new expenses? How can agreements be made to cover changes in farming methods? How can farm and home improvements be added? How can livestock be handled? You can help answer these questions. By filling out the following questionnaire you will be helping yourself and other renters. Please take time to complete and send your reply in the enclosed self addressed envelope. It does not take a stamp. A copy of the report will be sent to you. Your reply will be appreciated and will be kept strictly confidential.

Sincerely yours,

MAURICE W. SOULTS
Assistant Director
Extension Service

A. ABOUT YOUR FARM OPERATIONS IN 1951

- How many acres did you farm in 1951? _____ Acres
- Of this, (a) how many did you own? _____ Acres (b) How many did you rent? _____ Acres
- What is your age? _____ Years
- What were the three main products sold from this farm in 1951? (name the specific crop, livestock or livestock product) (a) _____ (b) _____ (c) _____
- Number of livestock on hand on December 15, 1951 were: (a) Beef cows _____ (b) Other beef cattle _____ (c) Dairy cows and heifers _____ (d) Sows _____ (e) Other hogs and pigs _____ (f) Sheep and lambs _____ (g) Hens _____ (h) Broilers _____ (i) Other poultry _____
- From how many landlords did you rent in 1951? _____ Number
NOTE: Please answer the remaining questions for *only one* landlord and for the rental agreement with *that* landlord, if you rent from more than one. Answer for the one whose name is first in the alphabet. Example: If the names are Smith and Jones, answer for Jones.

B. ABOUT THE LANDLORD

- Check whether land is owned by: Individual _____ Estate _____ Partnership _____ Corporation _____ Government _____ Other _____
- How many acres did you rent from this landlord in 1951? _____ Acres
- Check whether landlord is: Active farmer _____ Retired farmer _____ Business or professional man _____ Widow of farmer _____ Nonfarm widow _____ Other _____
- What relation is landlord to you? _____ To your wife? _____
- What is landlord's age? _____ Years
- In making the rental agreement for this land, did you deal: (check) (a) Directly with the landlord? _____ (b) With his agent or manager? _____
- In discussing the operation of this land, do you deal: (check) (a) Directly with the landlord? _____ (b) With his agent or manager? _____

C. ABOUT THE RENTAL AGREEMENT WITH THIS LANDLORD

- Do you live on this rented land? Yes _____ No _____
- Was the rental agreement with this landlord in writing in 1951? Yes _____ No _____
- How many years have you rented this land? _____ Years
- What month of the year does the agreement begin? Month _____
- What period does agreement cover? One Year _____ Three Years _____ Five Years _____ Other _____
- How much notice is required to end the agreement? _____ Months
- Did you pay cash for the use of *all* or *any part* of this land in 1951? Yes _____ No _____
- If any cash was paid, how much was paid per acre for: Hay land? \$ _____ Pasture? \$ _____ Building lots? \$ _____ How much for: Buildings? \$ _____ Other? \$ _____ Total farm? \$ _____
- Crop shares: Indicate below the use of this land in 1951 and the landlord's share of the crops, such as: none, 1/3, 2/5, 1/2, or all.

Crop	Acres	Landlord Share
a. Corn	_____	_____
b. Oats	_____	_____
c. Soybeans	_____	_____
d. Wheat	_____	_____
e. Alfalfa seed	_____	_____
Crop	Acres	Landlord Share
m. Clover seed	_____	_____
q. Permanent pasture	_____	_____
r. Rotation pasture	_____	_____
u. Legume hay	_____	_____
v. Other hay	_____	_____
- Does your landlord own or receive income from any livestock covered by this rental agreement? Yes _____ No _____ If yes, indicate below the landlord's share of ownership and of sales, such as: none, 1/3, 2/5, 1/2, or all.

Kind of Livestock	Landlord's Share of Ownership	Landlord's Share of Sales
a. Dairy cattle	_____	_____
b. Dairy calves	_____	_____
c. Beef cattle	_____	_____
d. Beef calves	_____	_____
e. Hogs	_____	_____
f. Sheep	_____	_____
g. Poultry	_____	_____
Livestock Products	Landlord's Share of Product Sales	
h. Dairy products	_____	_____
i. Eggs	_____	_____
j. Wool	_____	_____

- Expenses. Indicate the shares of each *cash* expense on this land, for both you and the landlord such as: none, 1/3, 2/5, 1/2, or all.

Item of Expense	Renter	Share Paid By Landlord
a. Fertilizer	_____	_____
b. Lime	_____	_____
c. Seed, small grain	_____	_____
d. Seed, corn	_____	_____
e. Seed, grass	_____	_____
f. Seed, legume	_____	_____
g. Seed, soybean	_____	_____
i. Hired labor	_____	_____
j. Combining small grain	_____	_____
k. Combining soybeans	_____	_____
l. Hail insurance	_____	_____
m. Government crop insurance	_____	_____
p. Tractor fuel	_____	_____
q. Weed spray materials	_____	_____
r. Weed spraying, hired	_____	_____
s. Livestock feed purchased	_____	_____
t. Breeding fees	_____	_____
u. Veterinary expense	_____	_____
y. Hay bailing	_____	_____
aa. Silo filling	_____	_____
bb. Corn picking	_____	_____
dd. Machinery repair	_____	_____
ff. Building repair labor	_____	_____
gg. Building repair materials	_____	_____
jj. Fence repair labor	_____	_____
kk. Fence repair material	_____	_____
nn. Electricity	_____	_____
pp. Terracing	_____	_____

- Machinery and equipment. Indicate the shares of ownership of farm machinery and equipment used on this land, such as: none, 1/3, 2/5, 1/2, or all.

Kind of Equipment	Renter	Share Owned by Landlord
a. Tractor	_____	_____
b. Truck	_____	_____
c. Combine	_____	_____
d. Corn picker	_____	_____
e. Field chopper	_____	_____
f. Hay bailer	_____	_____
g. Weed sprayer	_____	_____
h. Manure spreader	_____	_____
i. Milk cooler	_____	_____
j. Milking machines	_____	_____
k. Milk house	_____	_____
m. Hay drier	_____	_____
n. Grain drier	_____	_____
o. Brooder houses	_____	_____
p. Movable poultry houses	_____	_____
q. Movable hog houses	_____	_____
r. Electric fence	_____	_____
s. Feed grinder	_____	_____
v. Terracing equipment	_____	_____
w. Fertilizer equipment	_____	_____

D. ABOUT IMPROVING RENTAL AGREEMENTS

- Are any changes in rental agreements needed to increase the income received by both renters and landlords in your community? Yes _____ No _____ Describe: _____
- Are any changes in rental agreements needed to increase soil conservation practices on rented farms in your community? Yes _____ No _____ Describe: _____
- Are any changes in rental agreements needed to encourage keeping more livestock on rented farms in your community? Yes _____ No _____ Describe: _____
- Are any changes in rental agreements needed to encourage making improvements in buildings and land on rented farms in your community? Yes _____ No _____ Describe: _____
- Are you satisfied with your rental agreement? Yes _____ No _____ Why or why not? _____ Describe: _____

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