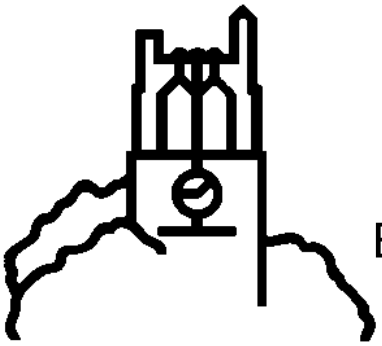
Staff Paper

Characteristics of Farmland Leasing in the North Central United States

Brian Patterson, Steven D. Hanson and
Lindon J. Robison

Staff Paper 98-31



Department of Agricultural Economics
MICHIGAN STATE UNIVERSITY
East Lansing, Michigan 48824

CHARACTERISTICS OF FARMLAND LEASING IN THE NORTH CENTRAL UNITED STATES

by

Brian J. Patterson, Steven D. Hanson, and Lindon J. Robinson*
[hansons@pilot.msu.edu and robison@pilot.msu.edu]

(28 total pages)

---

*Brian J. Patterson is a financial advisor to a financial institution in Ecuador. This work was completed in partial fulfilment of his graduate degree requirements.

Steven D. Hanson is an associate professor in the Department of Agricultural Economics at Michigan State University. His primary responsibilities include teaching and research in the areas of agricultural finance and risk management.

Lindon J. Robison is a professor in the Department of Agricultural Economics at Michigan State University. His primary responsibilities include teaching and research in the areas of risk management and social capital.

Acknowledgment is made to the Michigan Agricultural Experiment Station for its support of this research.

CHARACTERISTICS OF FARMLAND LEASING IN THE NORTH CENTRAL UNITED STATES

ABSTRACT

Leasing behavior differs across the North Central United States. Survey data is used to characterize leasing activity in the region. Data is collected on the amount of leased farmland, amount of cash and share leased land, and common output share levels. Factors influencing leasing and arrangements are also identified.

Key Words: farmland leasing, cash lease, share lease, contract design

Introduction

A lease contract is an important alternative to direct ownership of an asset. The lease contract transfers some control of an asset from the owner (lessor) to the user (lessee) for a specified period of time. Leasing has been an important conceptual and applied problem for financial economists. There is a large body of literature examining the economics of lease/buy decisions for long-term leases, short-term leases, cancellable leases, and leveraged leases (Copeland and Weston). Most of this work has focused on determining the appropriate discount rates to use for the various cash flows in a lease contract (Myers, Dill, and Bautista); examining the tax implications of leasing (Lewellen, Long, and McConnell); and more recently valuing the flexibility present in certain types of operating leases (Copeland and Weston).

In some cases taxes provide an important incentive to lease rather than own an asset. However, tax laws cannot explain which types of assets will be leased or what type of leasing design will be preferred. Smith and Wakeman identify a number of factors that will determine an asset's likelihood to be leased including the sensitivity of an asset's value to use and maintenance decisions, the degree of use specialization, transaction costs, and the length of desired use.

Lease contracts are used to control significant amounts of farmland in the United States. In 1992, 266.2 million acres (42.8%) of all farmland were controlled through leasing arrangements. An interesting characteristic of farmland leasing is the simultaneous existence of both cash and share leases. In a cash lease the lessor (landlord) transfers control of the land to the tenant, in exchange for a fixed payment due usually at the beginning of the production period. In a share lease the landlord and tenant agree to provide certain inputs into the production process and to share the output in some predetermined proportion.

Numerous studies have focused on economic benefits of cash and share leases (Issawi; Adam and Rask). Other studies have shown that cash and share lease contracts could be structured to provide equivalent benefits (Chueng). Another important group of studies have tried to explain contract choice. Sutinen, Hiebert, and Robison and Barry demonstrated that risk preferences and risk characteristics of different contract types may influence lease contract selection. Datta, O'Hara, and Nugent and Allen and Lueck suggest that differences in transaction costs influence the type of contract used to control farmland. Hallagen; Kloppenburg and Geisler suggest management skills have an important influence on contract choice. Ip and Stahl suggest landlords' off-farm income opportunities have an important influence on the selection of a lease contract. Finally, Carlston and Dillman and Gwilliams argue that the relationship between the landlord and tenant influence the decision to lease and also influence the terms of the lease.

While the current leasing and contract choice of literature provide important insights on lease/buy decision and contract design issues, it falls short of developing a comprehensive model of leasing and contract choice. Additional data are needed to develop hypotheses that can be used to explain leasing behavior. This paper presents empirical information on the farmland leasing market in the North Central region of the United States. The objective is to characterize farmland leasing in the region and collect data on factors that influence the cash/share lease decision. The intent of this paper is not to test hypotheses, but to provide information on current leasing activity as well as a foundation for later studies to build and test models explaining leasing behavior. In addition to characterizing the leasing market in the North Central United States, the results provide a set of empirically supported factors believed to influence leasing behavior. This is important information for future studies that attempt to measure which factors have a significant impact on leasing decisions and contract design.

The next section outlines the survey method. The characteristics of the leasing market in the North Central region is then summarized. Next, the factors that influence leasing decisions and contract design are discussed. The final section of the paper summarizes the results and implications for future research.

Data Collection

Given the objectives of this study, it was decided to interview agricultural extension agents in the North Central region and ask for their perspective about the factors that influence leasing behavior. While many extension agents didn't participate directly in leasing arrangements, they did have significant knowledge of the leasing activities in their area from both lessee and leassors' point of view.

The USDA North Central region consists of 12 states: North Dakota, South Dakato, Nebraska, Kansas, Missouri, Iowa, Minnesota, Wisconsin, Illinois, Indiana, Michigan, and Ohio. The survey population consists of four types of extension agents: county agents responsible for an individual county; cluster agents responsible for multiple counties; district agents responsible for a district; and regional agents responsible for a region. Because each state organizes its extension service differently, the number and type of agents in the population differed by state. The total population consisted of 437 agents of whom 211 (48%) agreed to be interviewed. The survey respondents included 151 county agents, 32 cluster agents, 14 district agents, and 14 regional agents. The responding agents provided information on 68 of the 69 extension regions in the North Central region (the missing region being located in the northeast region in Minnesota). The survey of agents was conducted by phone during the summer of 1996. Agents were asked for

information about characteristics of the leasing market and about factors that influence leasing behavior in the area.[1]

Characteristics of the Leasing Market

Leasing behavior differs widely across the North Central region. Figures 1-4 illustrate the characteristics of the leasing market in the region.[2] Figure 1 shows the primary crops grown by tenants in the region. Corn and soybeans are the primary tenant crops in the region stretching from eastern Nebraska to western Ohio. The western portion of the region is dominated by wheat, barley, and sorghum production. Tenants also produce significant amounts of hay in parts of South Dakota, Wisconsin, Michigan, Missouri, and Ohio. Production of sugar beets by tenants is limited to Thumb region in Michigan and the Red River valley in Minnesota. Outside the primary corn belt and wheat producing regions, tenants tend to produce a mix of crops.

Figure 2 shows the percentage of farmland acres leased for any production purpose across the region. The largest proportion of leased land occurs in the major wheat producing regions of North Dakota and Kansas, and the corn belt region stretching from Iowa to Ohio. Leasing is less frequent in areas with lower production capabilities such as western South Dakota and Nebraska, northern Minnesota, Wisconsin, northern Michigan, and southern Missouri. Figure 4.2 suggests a strong correlation between soil productivity and the proportion of farmland leases.

The proportion of leased land that is controlled with cash contracts is shown in Figure 3. In general cash leasing predominates in the northern part of the region while share leasing occurs more frequently in the southern part of the region. The primary exceptions are several areas in southern Missouri that tend to exhibit large amounts of cash leasing and a strip running down the

Red River valley in Minnesota and North Dakota that tends to have relatively more share leasing than surrounding areas.

Figure 4 shows the average cash rent level per acre in the region. The highest cash rent levels occur in the corn belt region stretching from southern Minnesota and Iowa eastward to western Ohio. The sugar beet region in the "thumb" of Michigan also commanded rents that fell into high rent classification. Moderate rents were generally found on the fringe of the high rent regions. Lower rents were typical in North Dakota, South Dakota, western Nebraska, Kansas, northern Wisconsin, northern Michigan, eastern Ohio, and southern Missouri. The level of rents is highly correlated with an area's ability to produce high yields of corn and soybean crops.

Table 1 shows the most common types of share arrangements by state. In areas where the tenant grows corn and soybeans, the dominant contract arrangement is for the landlord and tenant to equally share the output and equally split the fertilizer, seed, and chemical costs (a 50/50 arrangement). This arrangement is used almost exclusively throughout the major corn belt region across Iowa, Illinois, and Indiana. The landlord's output share and input shares both drop in the areas surrounding the central corn belt region where the next most common arrangement is for the landlord to receive 40 percent of the output and share in 40 percent of the fertilizer, seed, and chemical costs (a 40/40 arrangement). A number of regions have arrangements where the landlord receives 33 percent of the output and shares in 33 percent of the fertilizer, seed, and/or chemical costs.

The share arrangements in areas used to produce hay crops in most cases are 50/0 arrangements where the landlord receives 50 percent of the output and pays for none of the fertilizer, seed, and/or chemical costs. Sugar beet share contracts are typically 20/0 arrangements allowing the landlord 20 percent of the output without any contribution to the variable input

costs. Share contracts on land used to produce wheat and barley or sorghum generally provide the landlord with 33 percent of the output and require the landlord to share 33 percent of the fertilizer, seed, and/or chemical costs.

Factors Influencing Contract Design

Financial economists have suggested a variety of factors that influence leasing behavior and contract choice. However, additional data and testing are needed to validate and/or operationalize the competing theories. To contribute to the literature seeking to explain lease types, this survey asked respondents to help identify factors that influence landlord and tenant decisions to lease and which contract design to choose.

Factors Influencing Landlord's Decision to Lease

Survey respondents were asked to explain why landowners elect to lease land instead of farm it themselves. The factors most commonly reported were: age; farming experience and distance to farm; investment motive; off-farm opportunity cost; cost structure; and recreation motive. Table 2 shows the percentage of respondents who reported each factor by state. The landowners' age was the most commonly reported factor to influence the decision to lease. The perception is that landlords are more likely to lease as they age due to physical limitations, loss of a spouse, or a desire to retire. Farming experience and distance from the farm to urban centers were also frequently cited as factors influencing the decision to lease. Landlords who have little farming experience or who live significant distances from the farm are also believed likely to lease.

The remaining factors were believed to influence the decision to lease but were reported less frequently. Landowners were believed more likely to lease than farm if they: purchase land

strictly for investment purposes; have strong off-farm income earning opportunities; have high cost structures; or purchased the land for recreation or hobby.

Factors Influencing Landlord's Decision to Cash Lease

Next, the respondents were asked to identify factors that influence landowners' decision to cash lease as opposed to share lease. The most common responses were: risk aversion and income variations; farming experience; high and low land quality; relationship with tenant; and financial security. Table 3 shows the proportion of respondents reporting each factors by State.

Most respondents felt a common factor influencing the landlord's decision to cash lease was his/her level of risk aversion. Landlords with high levels of risk aversion are believed to prefer cash leases over share leases. Equally common, respondents cited farming experience as having an important impact on the decision to cash lease. Landlords who are inexperienced are believed to prefer cash lease arrangements with tenants. Similarly, if the tenant is inexperienced, landlords are believed to have a preference for cash leases as opposed to share arrangements.

Both high and low land quality were both reported to influence the decision to cash lease. In some areas it was felt cash leasing would be preferred on high quality land and other areas on low quality land. In a number of areas, the respondents indicated that the relationship between the landlord and tenants would influence the decision to cash lease. In these areas the landlord was believed to prefer a cash lease if the landlord was unrelated, unfamiliar, or unfriendly with the tenant. Finally, the landlords in some areas were believed to prefer cash lease arrangements if they were not financially secure.

Factors Influencing Landlord's Decision to Share Lease

The respondents were also asked to report factors that influence landlords to prefer a share lease to a cash lease. As expected, these factors were similar to those reported to influence the decision to cash lease. The most frequently reported factors were: relationship with the tenant; farming experience; risk aversion; financial security; and land quality. Table 4 shows the frequency each factor was reported by state. While the factors believed to influence the decision to share lease were essentially the same factors believed to influence the decision to cash lease, the number of respondents reporting each factor differed significantly in some cases. Most notably, the relationship between the landlord and tenant was the most frequently cited factor influencing the decision to share lease but was not the most common factor influencing the landlord's choice to cash lease.

Factors Influencing Tenant's Decision to Cash Lease

The survey respondents were also asked to indicate which factors influence tenants' choice to cash lease. The most common factors thought to influence tenants choice to cash lease were: farming experience; high quality land; risk aversion; and financial security. Table 5 shows the frequency each factor was reported by state. Farming experience and high land quality were the most frequently reported factors believed to influence the decision to cash lease. Tenants with more farming experience are believed to prefer the cash lease arrangements and tenants farming high quality land are also believed to prefer cash leases in many areas.

The tenants's level of risk aversion and financial security were also frequently reported to influence the decision to cash lease in a number of areas. In these areas the general belief is that lower risk aversion and higher financial security lead many tenants to prefer the cash lease

arrangement. In a few areas low land quality and relationship with the landlord were reported to impact the decision to cash lease.

Factors Influencing Tenant's Decision to Share Lease

Next the respondents were asked which factors influence tenants' decisions to enter into a share lease. The most frequently reported factors influencing the decision to share lease are similar to those influencing the decision to cash lease and were: financial security; risk aversion; low land quality; relationship with the landlord; and farming experience. Table 6 shows the frequency each factor was reported by state. As in the landlord case, the frequency of each factor was reported differs from the factors influencing tenant's decision to prefer a cash lease. The most frequently reported factor influencing the share lease decision is the tenant's financial security. In most areas, tenants with weak financial strength are believed to prefer share leasing arrangements. Also, in contrast to the decision to cash lease, the level of farming experience is rarely reported to impact the decision to enter into a share lease.

Factors Influencing Output and Input Shares in a Share Arrangement

The survey respondents were also asked to identify factors that were important in determining the input and output shares used in share contracts in their areas. The four most common factors that influence share proportions were: participants' input contributions; tradition; land productivity; and separate arrangements. Table 7 shows the frequency each factor is reported by state.

Participant's input contributions and tradition are the most frequently reported factors believed to impact share proportions in the region. The output share is thought to be related to

the value of the inputs contributed by each participant in the arrangement. It is generally standard for the landlord to provide the land and the tenant to provide machinery and labor. [It is also standard for the output shares to be set at common or "traditional" fractions used the area.] The variable input costs associated with fertilizer, seed, and chemicals are then often split up so that the value of inputs provided by each participant is in proportion to the value of their output shares.

Output share is also believed to be impacted by land productivity in many areas. Higher land productivity is usually associated with higher output shares to the landlord. Finally, separate arrangements such as mending fences or paying an additional cash payment are stated to impact share terms in some areas.

Conclusions and Future Research

Leasing behavior differs widely across the north central region. The amount of land leased, the proportion of cash and share leasing, the cash lease payments, and the share arrangements vary by commodity and extension area. Previous research has provided important insights into the role leasing and contract choice. However, the previous work in this area has not yet provided a satisfactory explanation of the variation in leasing contract choice and design.

The objective of the study is to characterize leasing arrangements in the north central United States and collect empirical data on factors that determine various leasing arrangements and designs. Data was collected through a survey of agricultural extension agents in the region.

The amount of leased farmland varied significantly across the region with more leasing activity in areas associated with high soil productivity. The largest proportion of leased land was found in the major wheat producing areas of North Dakota and Kansas, and the corn belt region

stretching from Iowa to Ohio. Cash contracts were the dominant method used to control leased land in the northern part of the region except in the Red River Valley along the border of Minnesota and North Dakota. Share leasing was more common in southern part of the region except for parts of southern Missouri. The average level of cash rent payments were highly correlated with an area's ability to produce high yields of corn and soybeans. Share leasing arrangements for inputs and outputs varied widely across the region by crop and geographic area.

A variety of factors were found to impact landlord and tenant leasing decisions. Landlord's decisions to lease were influenced by their age, farming experience, distance from farm, investment opportunities, off-farm employment opportunities, cost structure, and desire for recreation. Landlord's decisions to choose cash leases where impacted by their risk aversion, income availability, farming experience, land quality, relationship with tenant, and the need for financial security. The relationship with the tenant and farming experience were identified as common factors influencing landlords to prefer share leasing arrangements.

The factors influencing tenants' decisions to use cash or share lease arrangements also varied. Farming experience, quality of land, risk aversion, and financial security were all stated as factors impacting the choice of leasing arrangement. Farming experience was the most common factor cited to cause tenants to prefer cash leases but has little impact on farmers preferring share leasing arrangements. Financial security and risk aversion were common factors associated with tenants preferring to share lease.

A number of factors were also associated with the range of output share arrangements found across the region. The relative shares of inputs contributed, traditional share arrangements, land productivity, and special side arrangements between parties were commonly cited factors influencing the output share levels.

The results of the survey conducted in this study provide empirical evidence of different factors believed to impact various aspects of the leasing decision and contract design. The current study does not provide evidence on the relative importance of each factor or the impact of each factor on the leasing decision. Nor, does it describe the relationship between landlord and tenant. However these data provide information about leasing activity and behavior that can be used to develop theories and testable hypotheses in future empirical studies.

References

Adams, D.W. and N. Rask, "Economics of Cost Share Leases in Less Developed Countries," *American Journal of Agricultural Economics* 50:935-942, 1968.

Allen, D.W. and D. Lueck, "Contract Choice in Modern Agriculture: Crop-Share Versus Cash Rent," *Journal of Economics* 24(1), Spring 1993.

Carlston, J.E. and D.A. Dillman, "Influence of Kinship Arrangements on Farmer Innovativeness," *Rural Sociology* 48(2):183-200, 1983.

Chueng, S.N., "Private Property Rights and Sharecropping," *Journal of Political Economy* 76(6):1107-1122, 1968.

Copeland, T. and J.F. Weston, "A Note on the Evaluation of Cancellable Operating Leases," *Financial Management*, Summer, 1992 pp. 60-67.

Datta, S.K., D.J. O'Hara, and J.B. Nugent, "Choice of Agricultural Tenancy in the Presence of Transaction Costs," *Land Economics* 62(2):145-158, 1986.

Gwilliams, K.R., *Farmland Leasing and Contract Choice in Michigan: The Influence of Social Distance*, PhD dissertation, Michigan State University, East Lansing, MI, 1993.

Hallagen, W., "Self-Selection by Contractual Choice and the Theory of Sharecropping," *Bell Journal of Economics* 9:344-354, 1978.

Hiebert, L.D., "Uncertainty and Incentive Effects in Share Contracts," *American Journal of Agricultural Economics*, 60:536-539, 1978.

Ip, P.C. and C.W. Stahl, "Systems of Land Tenure, Allocative Efficiency and Economic Development, *American Journal of Agricultural Economics* 60:19-28, 1978.

Issawi, C., "Farm Output Under Fixed Rents and Share Tenancy," *Land Economics*, 33:74-77, 1957.

Kloppenburg, J.R. Jr. and C.C. Geisler, "The Agricultural Ladder: Agrarian Ideology and the Changing Structure of US Agriculture, *Journal of Rural Studies* 1:59-72, 1985.

Lewellen, W., M. Long, and J. McConnell, "Asset Leasing in Competitive Capital Markets," *Journal of Finance*, June 1976, 787-798.

Myers, S., D. Dill, and A. Bautista, "Valuation of Financial Lease Contracts," *Journal of Finance*, June 1976, 799-819.

Robison, L.J. and P. Barry, "The Competitive Firms Response to Risk, Chapter 12 in *Share Leasing as a Risk Response*, 162-173, 1987.

Smith, C. Jr. and L. Wakeman, Determinants of Corporate Leasing Policy," *Journal of Finance*, July 1985, 896-908.

Sutinen, J.G., "The Rational Choice of Share Leasing and Implications for Efficiency," *American Journal of Agricultural Economics* 57:613-621, 1975.

FOOTNOTES

1. The interview script is available from the authors upon request.

2. The summary data used to construct each figure is available from the authors upon request.

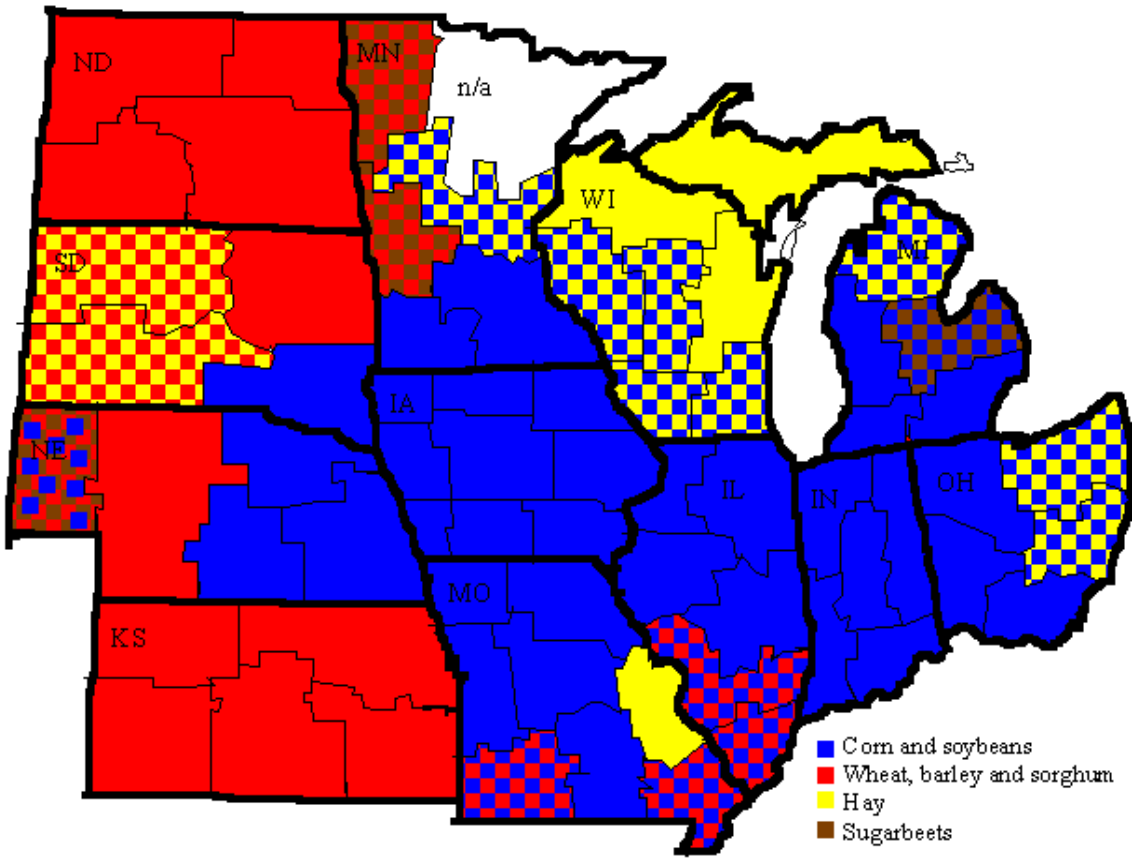


Figure 3. Crops Grown in the North Central United States

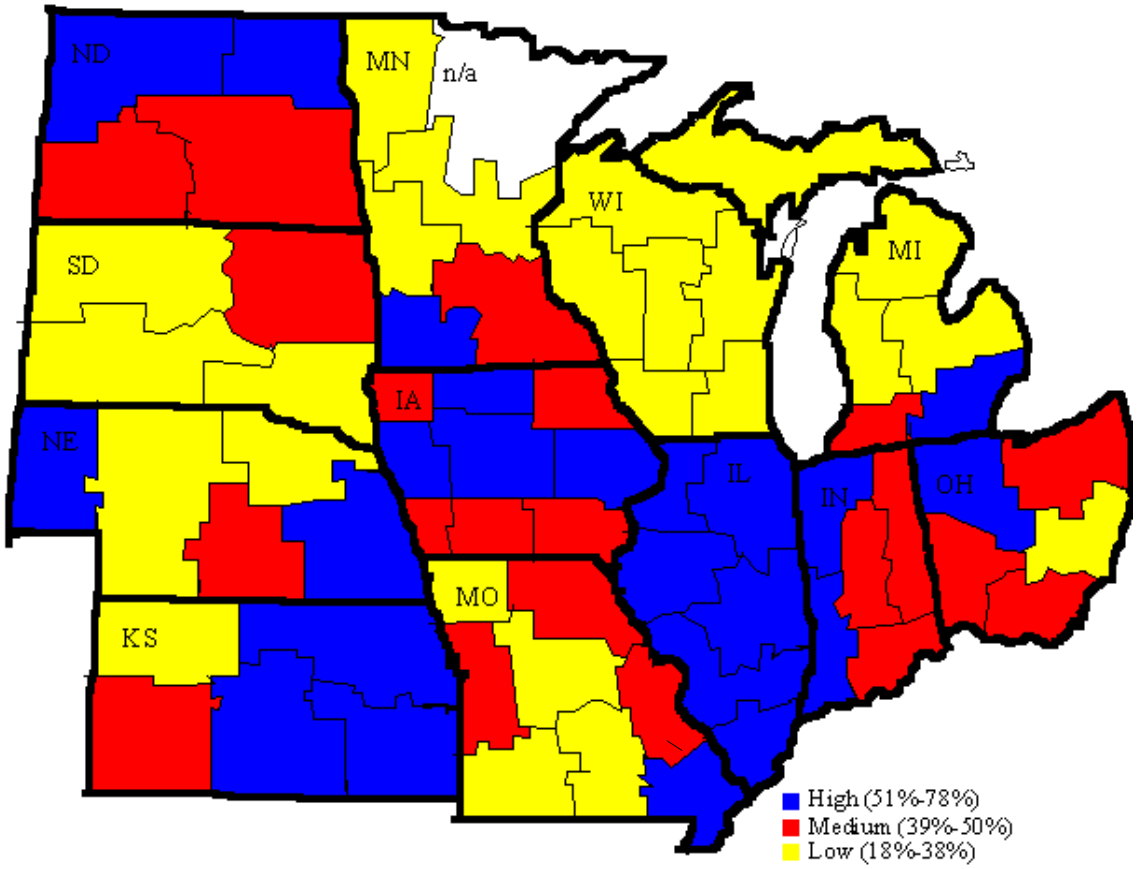


Figure 4. Percentage of Farmland Leased in the North Central United States

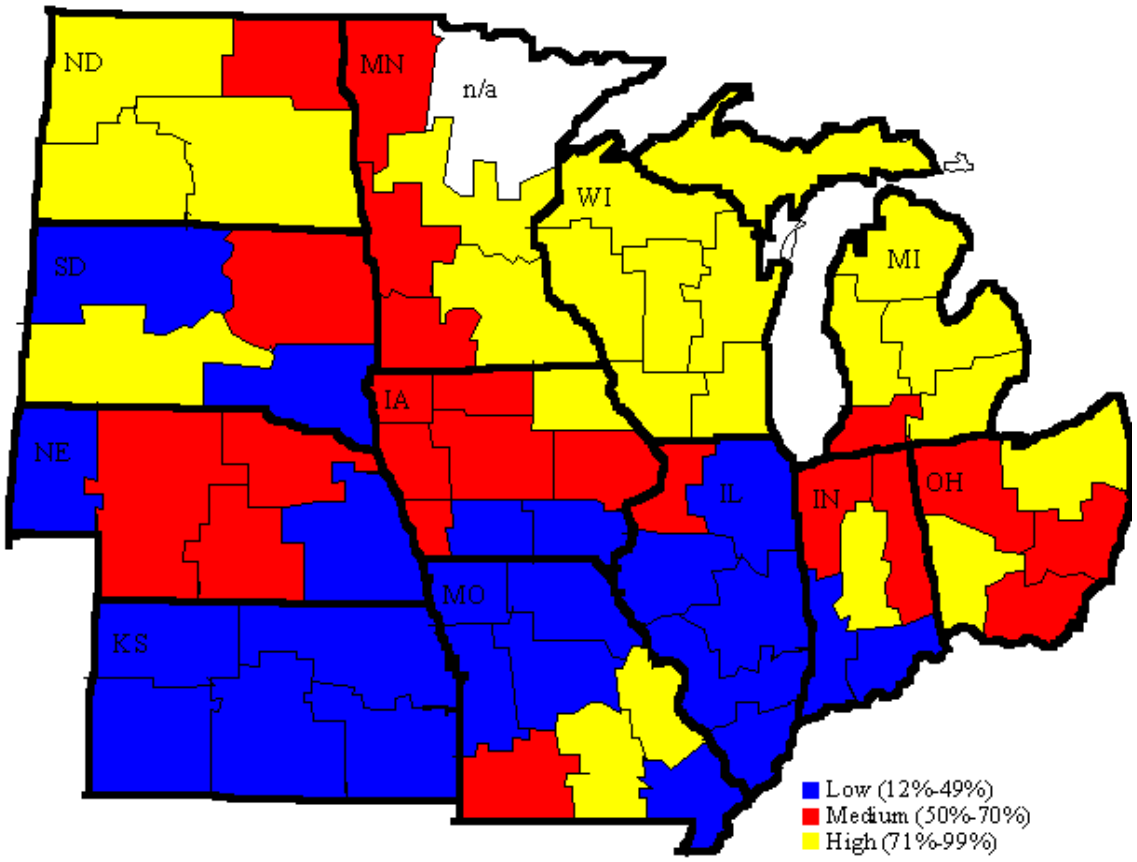


Figure 5. Percentage of Leased Farmland in Cash Rent Contracts in the North Central United States

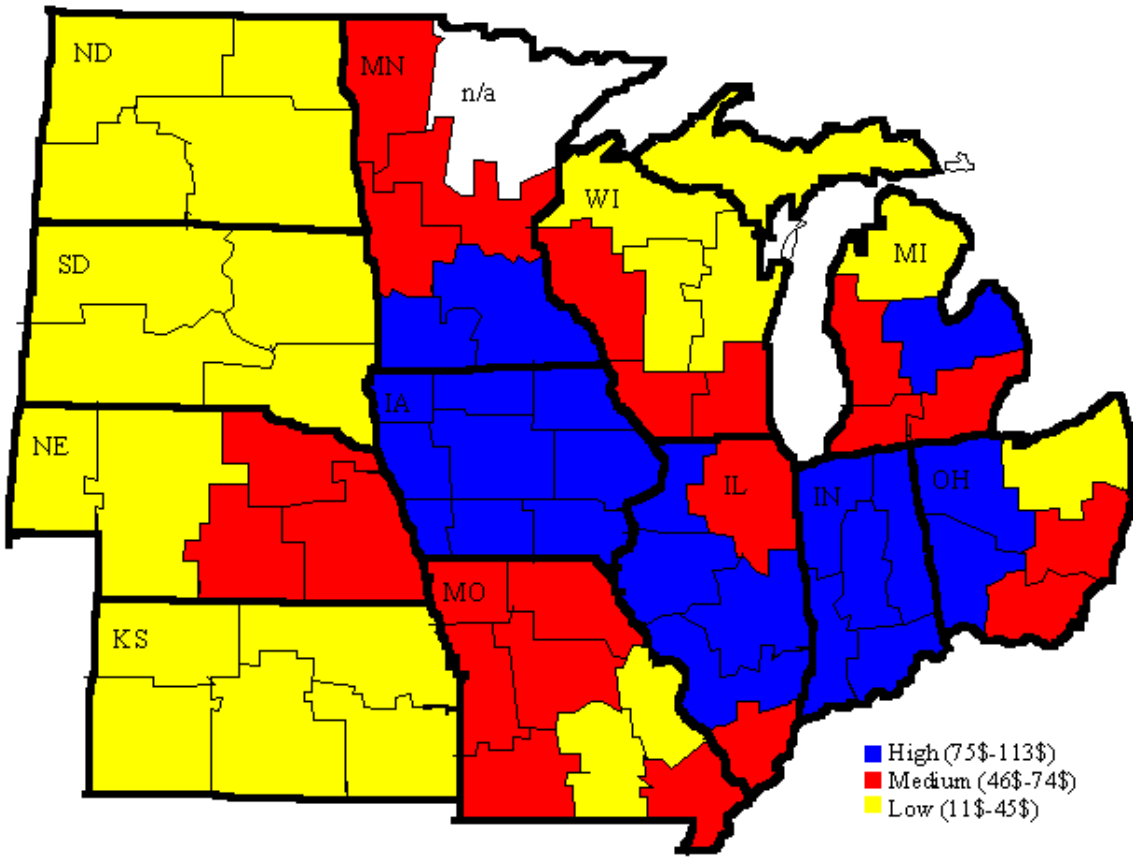


Figure 6. Cash Rent Levels in the North Central United States

Table 1. Common Landlord Share Agreements

State	Extension Regions	Crops Grown	Landlords to			
			Output Share	Fertilizer Share	Sold Share	Chemical Share
Iowa	9	Corn, Soybean	50	50	50	50
Indiana	5	Corn, Soybean	50	50	50	50
Illinois	4	Corn, Soybean	50	50	50	50
	2	Corn, Wheat	33	33	0	33
Ohio	3	Corn, Soybean	50	50	50	50
	1	Corn, Soybean	40	40	40	40
	2	Corn, Soybean	33	33	33	33
	1	Corn, Soybean	33	0	0	0
	2	Hay	50	0	0	0
Wisconsin	2	Corn, Soybean	50	50	50	50
	1	Corn, Soybean	40	40	40	40
	1	Corn, Soybean	33	0	0	0
	1	Corn, Soybean	25	0	0	0
	6	Hay	50	0	0	0
Michigan	1	Corn, Soybean	50	50	50	50
	1	Corn, Soybean	33	33	33	33
	4	Corn, Soybean	33	0	0	0
	1	Sugar Beet	20	0	0	0
	1	Hay	50	0	0	0
Minnesota	1	Corn, Soybean	50	50	50	50
	2	Corn, Soybean	33	0	0	0
	1	Hay	50	0	0	0
	2	Wheat, Barley, Sugar Beet	40	40	40	40
	1	Wheat, Barley	33	33	0	33
	1	Wheat Barley	33	0	33	33

Table 1 cont.

State	Extension Regions	Crops Grown	Landlords to			
			Output Share	Fertilizer Share	Sold Share	Chemical Share
Missouri	4	Corn, Soybean	50	50	50	50
	1	Corn, Soybean	33			100
	1	Corn, Soybean	33	0	0	0
	2	Corn, Wheat	33	33	0	0
Nebraska	4	Corn, Soybean	40	40	40	40
	1	Corn, Soybean	40	0	40	0
	1	Corn, Soybean	40	0	0	0
	1	Corn, Soybean	33	0	0	0
	1	Wheat, Sorghum	30	30	30	30
	1	Wheat, Sorghum	33	0	0	0
	1	Corn, Soybean, Sugar Beet	30	30	30	30
South Dakota	1	Corn, Soybean	40	40	40	40
	1	Wheat, Barley	33	33	0	33
	1	Wheat, Barley	33	33	0	0
	2	Wheat, Barley	33	0	0	0
	1	Hay	50	0	0	0
	1	Hay	40	0	0	0
North Dakota	1	Wheat, Sorghum	33	33	33	33
	3	Wheat, Sorghum	33	33	0	33
	1	Wheat, Sorghum	33	33	0	0

Table 2. Frequency of Factors Reported to Influence Landlords' Decisions to Lease

State	Age	Farming Experience of Tenant or Distance From Farm	Purchase Motivation Investment	Off Farm Income Opportunity	Cost Structure	Purchase Motivation Recreation
Illinois	83%	83%	67%	0%	17%	0%
Indiana	90	55	25	25	40	0
Kansas	96	100	44	26	22	0
North Dakota	100	100	17	11	55	11
Iowa	93	61	35	48	22	9
Ohio	100	100	57	39	9	35
Nebraska	95	95	45	45	30	15
Missouri	100	93	43	50	43	21
Minnesota	94	94	35	65	41	12
South Dakota	96	82	30	30	22	13
Michigan	100	71	29	43	0	71
Wisconsin	100	89	47	35	12	76

Table 3. Frequency of Factors Reported to Influence Landlords' Preference to Cash Lease

State	Risk Aversion and Expected Variance	Farming Experience	High Land Quality	Relationship	Low Land Quality	Financial Security
Kansas	96%	43%	13%	13%	4%	4%
Illinois	83	83	83	0	0	33
Missouri	86	86	7	29	21	14
Indiana	75	45	15	5	15	20
Iowa	48	91	43	22	0	4
Nebraska	79	86	21	36	7	14
Minnesota	76	53	59	24	6	6
Michigan	71	100	29	0	14	0
South Dakota	65	74	13	13	17	4
Ohio	78	96	9	13	13	17
North Dakota	83	56	17	22	0	0
Wisconsin	59	94	0	0	47	0

Table 4. Frequency of Factors Reported to Influence Landlords' Preference to a Share Lease

State	Relationship	Farming Experience	Risk Aversion and Expected Variance	Financial Security	Low Land Quality
Kansas	70%	48%	70%	13%	4%
Illinois	83	83	33	17	0
Missouri	71	57	50	7	0
Indiana	35	85	10	15	5
Iowa	87	65	39	22	9
Nebraska	92	70	55	15	5
Minnesota	76	71	29	6	29
Michigan	86	57	43	29	0
South Dakota	83	65	35	13	0
Ohio	74	78	22	17	4
North Dakota	72	56	44	11	11
Wisconsin	18	6	0	0	0

Table 5. Frequency of Factors Reported to Influence Tenants Preference to Cash Lease

State	Farming Experience	High Land Quality	Risk Aversion and Expected Variance	Financial Security	Low Land Quality	Relationship
Kansas	43%	65%	43%	26%	17%	0%
Illinois	50	83	17	50	0	0
Missouri	64	79	21	29	14	0
Indiana	65	60	60	55	5	0
Iowa	61	57	26	43	0	0
Nebraska	65	55	45	45	15	5
Minnesota	76	76	35	41	12	0
Michigan	86	29	71	0	43	14
South Dakota	52	43	13	39	9	9
Ohio	87	52	30	26	22	0
North Dakota	61	44	39	50	17	0
Wisconsin	53	41	47	18	18	0

Table 6. Frequency of Factors Reported to Influence Tenants' Preference to Share Lease

State	Financial Security	Risk Aversion and Expected Variance	Low Land Quality	Relationship	Farming Experience
Kansas	65%	83%	13%	22%	0%
Illinois	83	83	0	33	0
Missouri	86	86	29	7	7
Indiana	65	65	20	25	5
Iowa	83	70	0	9	4
Nebraska	93	100	50	14	7
Minnesota	88	65	12	35	12
Michigan	57	57	29	29	0
South Dakota	82	82	26	17	4
Ohio	61	61	17	17	4
North Dakota	83	83	28	28	5
Wisconsin	35	24	29	24	0

Table 7. Frequency of Factors Reported to Influence Output Share Arrangements

State	Participant's Input Contributions	Tradition	Land Productivity	Side Arrangements
Minnesota	59%	53%	47%	6%
Michigan	57	29	29	0
Illinois	83	67	33	33
Missouri	71	86	21	21
Kansas	65	70	43	22
Indiana	45	45	40	30
Iowa	57	78	22	4
North Dakota	72	72	28	11
Ohio	61	70	17	17
Nebraska	85	45	40	5
South Dakota	71	65	35	17
Wisconsin	35	41	6	18