

Equity and Risk Associated with Share and Cash Leasing: A Nebraska and South Dakota Case Study

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Abstract

Twelve hundred farm operators were surveyed concerning their cropland leasing practices. Analysis performed on selected leasing arrangements revealed a risk premium for sharing arrangements, though this premium is returns to risk, not land. Cropland leases were found to be generally equitable though adjustments may be needed on an individual basis.

Introduction

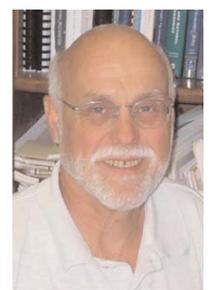
The importance of agricultural land leasing as part of American agriculture has increased and changed in composition. The leasing of farm cropland, pasture, and rangeland is being used by producers as a management tool to expand or contract their operation, to conserve limited capital, to finance farm operations, to increase management flexibility, and to reduce risk. Nationally, 419 million acres are leased by farm operators with an estimated value of \$480 billion dollars. Producers in Nebraska's and South Dakota's rental market lease almost 55 percent and 40 percent, respectively, of their agricultural land base. These percentages are consistent for states adjacent to Nebraska and South Dakota, with the amount of land in farms leased varying from 31 percent to 60 percent (1999 Agricultural Economics and Land Ownership Survey, Census of Agriculture).



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The pattern of leases being used is also noteworthy. In Nebraska during 1999, 41.9 percent of the leases were cash and 41.7 percent share - essentially equal. In South Dakota during the same time period, 57.4 percent of the leases were cash and 29.2 percent were share leases. Most of the remaining leases were cash/share leases involving a cash payment and a share of output to the landlord. Cash leases and cash/share leases accounted for nearly two-thirds of acres leased in both states, while share leases were nearly 30 percent of acres leased (Table 1). Cash leases are commonly used for crop, hay, or pasture while share leases are primarily used for crop or hay. Cash/share leases are typically for tracts that have multiple uses.

Table 1. Agricultural land rented by type of lease, 1999

Lease Type	Nebraska			South Dakota		
	Percent of Leases	Percent of Acreage	Average Size in Acres	Percent of Leases	Percent of Acreage	Average Size in Acres
Cash	41.9	51.7	287	57.4	55.4	215
Share	41.7	29.9	166	29.3	27.4	209
Cash/Share	15.1	13.7	212	11.2	15.1	298
All Other Leases	1.3	4.7	830	2.1	2.1	217
	100	100		100	100	
Total Leases/Acres	114,317	26,539,000		71,535	15,902,000	

Source: USDA Census of Agriculture, 1999 Agricultural Economics and Land Ownership Survey

Nebraska and South Dakota are located in the Northern Plains transition region that is characterized by wide variations in agricultural and climate conditions and thus, in leasing patterns. Consequently, the states offer the opportunity to examine the full array of leasing arrangements across diverse regions and under varying conditions, and circumstances provide an excellent opportunity to examine in detail longstanding issues concerning the leasing market and leased land. It is believed that results of this study are typical of many cropland rental patterns and practices found across the Midwest and Great Plains agricultural regions.

A recent Illinois study of contract choice (share versus cash) indicated a significant trend toward cash leasing (Barry, et al., 1999). Reasons cited for this trend include the avoidance of risk and management sharing by the landlord, and preference for a cash lease by farm operators to ensure they are the sole beneficiaries of their management contribution. Their results also indicated that farm operators prefer a cash lease in order to ensure they are the sole beneficiaries of the benefits of their management contribution. But, continuing changes in production technology, in farm programs, and swings in

commodity prices and income levels often mask the farmers' abilities to manage the tracts and the associated risks. This dynamic situation may also lead to less than optimal share leases.

An examination of the characteristics of farmland leasing in the North Central United States by Peterson, et al., (2002) concluded that landowners' and tenants' choices of a cash or share was based in part on their risk aversion, income, availability, and financial security. This again implies that equity and risk are important to participants of the leasing market.

Burgener and Feuz (2002) examined the equity of cropshare leasing arrangements in the Northwest region of Nebraska. Results showed the landowner return on investment was three percent with the traditional 2/3-1/3 (hereafter referred to by 67-33) tenant – landlord share lease arrangement prevalent in that area. They found the same level of return can also be obtained under more intensive cropping systems, but the cropshare should be adjusted to a 75-25 lease to increase the return to the tenant for their increased investment, innovation, and risk.

Historically, agricultural economists such as Heady (1952) consider leases to be equitable (i.e., fair) and efficient when the marginal cost equals the marginal benefit to the parties involved. This situation leads to two desirable outcomes: 1) the most efficient organization of resources on the farm relative to consumer demand and 2) an equitable division of inputs and outputs among the owners of various resources. Previous researchers cited have addressed issues concerning equity of cropland share leases. This study attempts to extend their efforts.

Objectives of the Nebraska and South Dakota Case Study

In this two-fold study, a relative contributions analysis was performed for a selected representative set of cropshare leasing arrangements within various Agricultural Statistical Districts (ASD) for Nebraska and South Dakota in order to test various sharing arrangements for equity. Then, a comparative analysis of economic returns of cropshare versus cash leasing was carried out to assess the risk differential across these two lease forms.

Data Sources

In 1996, statewide mail surveys were sent to a representative sample of agricultural producers in Nebraska and South Dakota. Respondents provided specific information on approximately 1,200 of their most important or most typical share and cash leases for cropland. The findings reflect average statewide or sub-state regional conditions. Further analysis was performed to insure that the 22 budgets are representative of typical cropping practices and leasing agreements associated with any particular Agricultural Statistics District (ASD). Even so, specific arrangements for a particular county or local market may differ.

Cropshare Leasing Patterns in Nebraska and South Dakota - Non-Irrigated

The most common non-irrigated output shares vary by area in each state. In the western regions, the 67-33 tenant-landowner share is the dominant arrangement (Figure 1). In the eastern regions, the 60-40 output share was generally the most common reported in the 1996 benchmark leasing study. However, in some eastern counties mostly bordering Iowa and Minnesota, there was a higher incidence of 50-50 shares, the arrangement that is nearly universal in states east of Nebraska and South Dakota.

These 1996 leasing patterns for non-irrigated cropland were generally similar to those of a 1986 benchmark study completed in both states in 1986 (Johnson et al., 1988). This would indicate that cropshare leasing arrangements change slowly overtime. However, some change was evident in the eastern portion of both states where the incidence of 50-50 cropshare leases is now nearly as high as that of the 60-40 share lease for non-irrigated cropland.

Crop Output Shares for Irrigated Cropland

Analysis of irrigated cropland centers in Nebraska, as very little cropland is irrigated in South Dakota. In Nebraska, the dominant output shares varied by region and type of irrigation. In the Northwest District of Nebraska, the most common share arrangements were 67-33 for center-pivot irrigated cropland (Table 2). For the North and Northeast District, the 50-50 share

Figure 1. Most common shares of non-irrigated cropshare leases, South Dakota and Nebraska, 1996

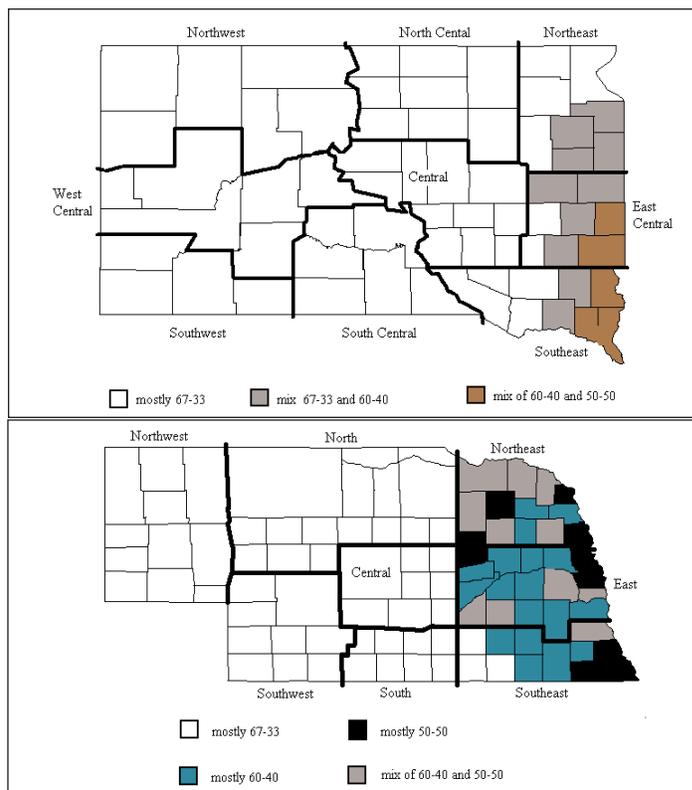


Table 2. Reported output shares for irrigated cropshare leasing in Nebraska by type of cropland and agricultural statistics district, 1996

Type of Cropland and Agricultural Statistics District	Output Shares			
	50-50	60-40	67-33	Other
Gravity Irrigated Cropland:	-----Percent Distribution of Leases-----			
Statewide	23.8	47.6	22.5	6.1
Northwest	-	-	62.5	37.5*
North	100	-	-	-
Northeast	71.4	14.3	14.3	-
Central	17.2	41.4	34.5	6.9
East	34.9	60	2.9	2.2
Southwest	9.1	54.5	36.4	-
South	13.5	59.5	24.3	2.7
Southeast	31.6	47.4	15.8	5.2
Center Irrigated Cropland				
Statewide	54.2	26.3	16.9	2.6
Northwest	-	33.3	66.7	-
North	100	-	-	-
Northeast	94.7	-	5.3	-
Central	30.8	46.2	23.1	-
East	41.9	45.2	6.5	6.4
Southwest	73.3	-	26.7	-
South	40	33.3	20	6.7
Southeast	42.8	28.6	28.6	-

* Represents primarily 75-25 leases. Source: Cole (2000)

was most frequently used for both types of irrigated land in 1996. In the East and Central Districts the most common reported share in 1996 was 60-40, although the presence of 50-50 and 67-33 shares was also common. The most common irrigated share leases in the rest of Nebraska were the 60-40 shares on gravity irrigated land and 50-50 on center-pivot irrigated land.

When compared against the patterns observed 10 years previous, the output shares for irrigated cropland were generally unchanged. However, one noteworthy adjustment is the higher incidence of 67-33 shares in some of the districts for both gravity and center-pivot irrigated cropland. This arrangement is coming into greater practice in cases where the landowner prefers not to pay for a portion of the various input costs and, thus, accepts a smaller share of the output.

Input Share Arrangements

Economic theory suggests that the cost of variable inputs in crop production should be shared by the tenant and landowner in the same proportions as output is shared. In doing so, these inputs will be used to the level of maximum efficiency in the crop production process. In reality, whether specific inputs are shared and whether they are shared in the same proportion as output depends on the negotiation between the landowner and the tenant as well as on the relative proportion of the fixed input costs contributed by each party in the production process. Generally, fertilizer, herbicide, crop drying, and liming expense is shared in a majority of all lease types, but the incidence of sharing increases as the landowner output share increases.

More specifically, for non-irrigated cropshare arrangements with 50-50 output shares, several inputs are typically shared between the tenant and the landlord (Table 3). Seed, fertilizer, herbicide and insecticide materials, lime, and crop drying were almost universally shared in 1996. Less common among shared expenses were hired chemical applications costs and hauling expenses. Landowners often perceive chemical application costs as substituting for mechanical weed control, which has traditionally been the responsibility of the tenant, and therefore have not been as willing to share in that expense. In the case of hauling, tenants may negotiate for a share of this expense if the crop is hauled some distance from the point of harvest.

Table 3. Reported sharing of crop inputs under cropshare leasing by type of land and output shares, South Dakota and Nebraska, 1996

Type of Land and Output Share/Input Share	Seed	Fert.	Herb.	Insect.	Chem. Appli.	Harv.	Hauling	Crop Drying	Irr. Energy
	Percent of Respondents Reporting the Input Shared								
Non-Irrigated Cropland:									
South Dakota									
50-50	84	93	85	91	24	36	13	91	-
60-40	14	98	80	78	31	0	0	76	-
67-33	7	77	55	48	24	2	4	68	-
Nebraska									
50-50	100	100	98	100	33	15	19	74	-
60-40	8	93	74	74	24	0	8	75	-
67-33	13	83	56	46	27	1	1	68	-
Gravity Irrigated Cropland:									
50-50	82	100	94	100	64	6	21	100	100
60-40	16	100	88	97	40	0	2	75	84
67-33	12	54	35	41	24	6	6	38	13
Center Pivot Irrigated Cropland:									
50-50	89	100	97	100	60	6	15	85	96
60-40	10	94	63	67	22	10	14	86	79
67-33	25	93	69	76	36	0	0	51	86

Source: Cole (2000) and Xu (2002)

Non-irrigated cropland leases involving 60-40 shares do not usually involve sharing seed expenses. Likewise, under 67-33 arrangements, seed costs are usually covered by the tenant. Given these input cost configurations, the relative contributions of the parties have traditionally been relatively close to the output shares and therefore equitable. However, with the advent of new seed varieties with built-in qualities of pest resistance or greater profit potential, it may become increasingly important for seed costs to be shared.

In the case of irrigated cropland, cost sharing of inputs were basically similar to irrigated leases under 50-50 and 60-40 shares. However, the additional costs of irrigation energy is added to the shared input list. Because production output is often correlated with irrigation application rates, the sharing of irrigation energy expense is usually quite appropriate.

Patterns of sharing various input costs are evident by region and tenant-landlord output shares for non-irrigated and irrigated crops. However, results from the 1996 survey also suggest considerable variability exist in share arrangements as well. What explains this?

First, each rental arrangement can vary in its structure due to the relative interests of the parties involved and services rendered. In short, non-economic as well as economic factors involved in the lease may alter its structure from typical patterns.

Second, a sizable portion of leases (40 percent of the leases examined in this study) are between relatives which may also explain the many variations observed.

Third, there are often specific aspects of a leasing agreement which create an economic rationale to change a lease arrangement from prevailing patterns. For example, the pattern of shared inputs for the 67-33 share arrangement on irrigated cropland was markedly different from one area of Nebraska to another. In some areas of Nebraska where this output share has existed for some time, the inputs shared tended to be similar to those of 67-33 non-irrigated leases. In addition, given the risk involved, the relative contributions of the parties involved tended to merit this arrangement. But, in other parts of Nebraska where the advent of the 67-33 share on irrigated cropland has been relatively recent, the pattern has been typically one of the landowner not sharing in any of the variable inputs. In this case, the tenant gets a larger share of the output in exchange for covering all of the variable input costs. Given the likelihood of higher and more stable yields associated with irrigation in these localities, the relative contributions of each party, without sharing key variable inputs, is perceived to justify the output shares.

Both the output and input shares associated with cropshare leasing vary across regions of Nebraska and South Dakota. However, within sub-state areas, dominant share arrangements tended to exist which were influenced by the crops grown, the presence of and type of irrigation, perceived yield variability, and general preference patterns of both landowners and tenants.

The question remains whether the share lease is a resilient and viable option promoting economic equity or an antiquated leasing tool leading to inequity and inefficiencies? Two levels of analysis are performed to address these interrelated questions.

Equity Tests of Cropshare Leases

A total of 22 typical cropshare and farming situations in Nebraska and South Dakota were used for the analysis. All costs shared, whether field operations or purchased materials, were allocated between the tenant and landowner as reported by survey respondents in Table 3. Interested readers are encouraged to consult Cole (2000) or Xu (2002) for budgeting details.

A share arrangement for this analysis was assumed to reflect an acceptable degree equity if the input shares between landowner and tenant were within ± 5 percentage points of the reported output share specified by the lease. A range of ± 5 percentage points, though perhaps arbitrary, was chosen as the budgets used in this process were typical or representative of production practices and costs in Nebraska and South Dakota. The share of inputs are also a summary or culmination of share arrangements in a particular area of each state. In reality, crop leases are negotiated on an individual basis and, thus, may be equitable to those involved although they do not appear to be based strictly upon comparison of the output share to the inputs shared. For example, an individual lease may involve extraneous items such as maintenance of fence lines, road ditches, wildlife areas, farmsteads, or field roads which are not necessarily directly related to crop production. When incurred, these costs and benefits to the landowner and tenant may make a share lease more equitable when, in fact, such does not appear to be the case from the conventional shares.

Overall, the typical output and input share arrangements reported by respondents displayed a generally acceptable degree of equity. Only six of the 22 share arrangements examined in this case study did not fall within the ± 5 percentage points range (Table 4). Those six budgets showed the landowner contributing an excess proportion of the inputs when compared to their output share. In Nebraska, two of these budgets were for irrigation arrangements, suggesting that traditional non-irrigated share arrangements when adapted to irrigation situations may not have been adapted appropriately for equitable arrangements. It may also suggest that landowners are contributing an excessive share of costs (in the form of irrigation components) to the crop production process.

Table 4. Equity test of typical cropshare lease arrangements and comparison of net economic profits under select cropshare leasing arrangements, Nebraska and South Dakota

Region and Crop Enterprise	Tenant/Landowner		Estimated Input Contributions				Estimated Econ. Profit Under Share				Dollar Shift from Share to Cash for Tenant*	Percent Risk Aversion Factor
	Yield in Acres	Output Share	Tenant \$	Tenant %	Landowner \$	Landowner %	Tenant \$	Landowner \$	Tenant %	Landowner %		
South Dakota												
Nonirrigated												
East & Southeast												
Corn	120.00	50.50	148.57	50.00	146.99	50.00	-10.17	-8.59	-4.06	-14.70	6.11	0.031
Soybeans	40.00	50.50	91.76	44.00	114.68	56.00	31.44	8.82	55.03	-15.07	23.59	0.207
Eastern												
Corn	100.00	60.40	131.00	60.00	86.84	40.00	15.60	6.26	27.71	-5.85	12.11	0.165
Soybeans	35.00	60.40	106.11	57.00	78.88	43.00	21.75	6.36	33.73	-5.62	11.98	0.133
North Central & Eastern												
Corn	85.00	67.33	141.69	70.00	60.64	30.00	-11.77	4.32	-5.11	-2.32	6.65	0.091
Soybeans	32.00	67.33	95.83	65.00	51.07	35.00	35.57	13.63	49.51	-2.29	15.94	0.246
Central & North Central												
Spring Wheat	36.00	67.33	68.60	60.00	45.23	40.00	29.98	4.06	35.36	-1.31	5.38	0.135
Sunflowers	16 cwt.	67.33	99.15	67.00	49.58	33.00	18.12	9.05	29.51	-2.32	11.39	0.214
South Central												
Grain Sorghum	60.00	67.33	92.20	67.00	45.92	33.00	-4.21	-1.92	-0.02	-5.88	3.96	0.076
Nebraska												
Nonirrigated												
Northwest												
Winter Wheat	35.00	67.33	84.21	60.00	55.98	40.00	12.88	-7.43	14.56	-9.10	1.67	0.038
Southwest												
Wheat, Eco-fallow	48.00	67.33	114.58	65.00	61.26	35.00	20.29	6.17	33.67	-7.19	13.37	0.223
Southeast												
Corn	115.00	60.40	152.31	60.00	103.22	40.00	28.05	17.02	58.67	-13.60	30.62	0.314
Soybeans	40.00	60.40	129.89	56.00	100.47	44.00	22.51	1.13	37.24	-13.60	14.73	0.18
East												
Corn	125.00	50.50	138.21	46.00	160.44	54.00	26.79	4.56	65.70	-34.35	38.91	0.314
Soybeans	40.00	50.50	166.77	43.00	154.07	57.00	12.73	-24.57	22.51	-34.35	9.78	0.103
Nebraska Pivot Irrigated												
North												
Corn		50.50	183.31	46.00	211.94	54.00	12.19	-16.44	20.28	-24.53	8.09	0.069
Southwest												
Corn		50.50	193.59	46.00	229.61	54.00	1.91	-34.11	5.58	-37.78	3.67	0.034
Northeast												
Corn, Rolling Hills	155.00	50.50	210.17	45.00	259.85	55.00	-6.07	-55.75	-52.07	-9.75	-46.00	0.008
East												
Corn		50.50	195.05	39.00	311.43	61.00	15.15	-101.23	-3.12	-82.96	-18.27	-0.109
Soybeans		50.50	150.77	35.00	286.41	65.00	10.48	-125.16	-27.45	-87.23	-37.93	-0.369
Nebraska Gravity Irrigated												
Southwest												
Corn		60.40	269.98	63.00	158.36	37.00	-35.38	-1.96	-28.44	-8.90	6.94	0.066
Central												
Corn		60.40	279.52	60.00	193.04	40.00	-27.28	-21.88	-23.87	-25.29	3.41	0.027

* The dollar shift in economic profit is equal and opposite for the landowner. Source: Crop enterprise budgets developed from share lease arrangements reported in Cole (2000) and Xu (2002)

Clearly, the equity disparity is impacted by the assumptions made concerning such items as land values, management charges, and irrigation expenses. However, in those cases where an economic disparity existed, a supplementary cash payment could remedy the situation. For example, in the 50-50 non-irrigated corn lease in the East Nebraska ASD, a cash payment of \$11.12 per acre (total cost of production divided by two subtracted from the input contribution of each) was required by the landowner to the tenant to restore the lease to an equitable situation. Obviously, the addition of such cash payments would be resisted by those making the payment; and would probably lead to renegotiation of the lease to more equitable terms, avoiding any cash disparities in the future.

Economic Returns to Cropshare versus Cash Leasing

Economic theory suggests that expected cash returns should not be a factor in the decision between choosing either a share or

Table 5. Southeast Nebraska non-irrigated soybeans, 60-40 lease, profit comparison – share to cash

Yield estimated at 40 bushels per acre		\$5.85 per bushel sale price		
		Total	Tenant	Landowner
Crop Share Leasing:	Shares ----->	Dollars per Acre		
		0.60	0.40	
Revenue:				
Marketed Crop		234.00	140.40	93.60
Federal Program Payments		20.00	12.00	8.00
Total Revenue		254.00	152.40	101.60
Costs:				
		230.36	129.89	100.47
Cash Leasing:				
Revenue:				
		254.00	187.00	67.00
Costs:				
		230.36	149.76	80.60a
Net Econ. Profit		23.64	37.24	-13.60
Risk Factor			14.73	-14.73
Gross Return to Landowner Under Share		101.60		
minus Total Variable Costs				
Landowner Pays Under Share:				
Field Operation Charges		0.00		
Purchased Materials		16.59		
Other Costs		3.27		
Equivalent Cash Rent Payment Under Share		81.74		
(Payment Under Share – Actual Cash Rent Paid) =		81.74 – 67.00 =		
Payment Under Share		81.74		
Risk Aversion Factor =		0.180		

a (land charge + real estate tax) Source: Cole (2000) and Xu (2002)

cash lease. The economic returns would theoretically equalize over time as market participants renegotiate their share and cash lease agreements. Farm management specialists argue that economic returns to landowners under cropshare leases should be slightly higher than those under cash leases in order to compensate the landowner for assuming part of the risk associated with production agriculture (Lundeen and Johnson, 1987). This additional return to the landowner is a return to risk and not to the land, so returns to land should be essentially equal under either type of lease.

In order to examine the economic returns under share and cash leases, additional analysis was done for each of the 22 budget results included in the case study. For the purpose of illustration, we will use the profit comparison for the southeast non-irrigated soybean budget (Table 5).

Yield and price per bushel are shown at the top of Table 5. Total revenue for both crop share and cash leasing is simply yield multiplied by price per bushel, plus the federal farm program payment. Net economic profit, excluding returns to land, for both types of leases was calculated for the landowner and the tenant. The dollar shift when moving from share to

cash is also shown in Table 5. In the case of Southeast non-irrigated soybeans, \$14.73 per acre shifts from the landowner to the tenant when a cash lease is used instead of a share lease.

The lower half of the table shows the additional calculations necessary for the equivalent cash rental payment under a share lease, which is the amount available to pay the landowner's fixed costs and provide a reasonable return to land. For a cash lease this would be the rental payment. In the case of non-irrigated cropland, these fixed costs are primarily the land charge and the real estate taxes. For irrigated tracts additional fixed costs for the irrigation system such as the well, pump, power supply, pipe and/or the center pivot are also included.

The last line Table 5 shows a risk aversion factor. It represents the percent of the equivalent cash rent under share that is given up when a cash lease for the tract is used. In other words it is the percent difference between the amount received by the landowner or given up by the tenant that can be attributed to risk.

In the Southeast Nebraska non-irrigated soybean example, the risk aversion factor is 18.0 percent implying the equivalent cash rent the landowner could expect to receive under a cash lease is 18.0 percent less than under the more risky share lease. Alternatively, the tenant who uses a crop share lease sacrifices 18.0 percent of the net economic profit in order to shift some of the production risk to the landowner.

A summary of 22 of the net economic profits to landowners and tenants under selected share and cash leasing arrangements for various ASD's in Nebraska and South Dakota is summarized in Table 4. For the 15 non-irrigated leases included in the case study, the dollar shift in economic profit when moving from share to cash ranged from a low of \$1.67 to a high of \$38.91 per acre. For the seven irrigated cropland leases, the dollar shift was from \$3.41 to \$46.00 per acre. The mean shift in economic profit when moving from share to cash was \$13.75 per acre for a non-irrigated lease and \$17.76 per acre an irrigated lease. Most risk aversion factors for non-irrigated crop leases were in excess of 10 percent while those for irrigated cropland tended to be less than 10 percent. This would be expected, as irrigation tends to alleviate a large proportion of the production risk associated with uncertain moisture conditions.

These results add credibility to farm management specialists' contention that economic returns to landowners under cropshare leases tend to be slightly higher than those under cash leases. But, as noted previously, the difference was compensation for assuming part of the risk associated with production agriculture and not returns to land. Preference between the share lease and the cash lease ultimately depends upon the attitudes the landowner and tenant have toward risk and the probabilities each assigns toward expected revenue flows. Landowners, for example, are often willing to forego some higher expected income from a share lease in favor of known dollar returns under a cash lease.

In those minority of cases where, economic profit and risk aversion factors were reported as negative or excessively high, and therefore, seemingly nonsensical, the following are offered as plausible explanations.

First, income under share leasing is highly dependent upon yields and crop prices. For example, southeast non-irrigated wheat, an additional 1.6 bushels per acre would be required to make the risk aversion factor equal to zero. Slight increases in crop price could have a similar effect, though changing prices would affect all risk aversion factors. In short, a slight change in yields or prices can change economic profit and shift the sign of the risk aversion factor.

High cash rental rates or high crop production costs in particular region were other reasons for negative economic profits. Often, the only way a tenant can lease new land is to bid up the cash lease rate, implying the tenant may be absorbing the risk adjustment and perhaps more. In some cases, the magnitude of production costs may be too high for certain crops with existing yields and technology, implying some future adjustment in cropping patterns or production technology.

A third reason may reflect a certain rigidity in the land leasing market as documented by two recent studies completed by Cole (2000) in Nebraska and Xu (2002) in South Dakota. Typically, in both states a leasing relationship between tenant and landowner has been in effect for approximately 12 years, although the lease itself may be renewed annually. Cash lease rates were reported adjusted an average of once every six years. Tenants in both states reported a very high degree of satisfaction with their lease situation. In addition, 50 percent of

the all respondents reported leasing some of their land from non-local landowners. Finally, though not documented by either study, an increasing number of landowners are removed from production agriculture either geographically or generational, and may not be knowledgeable of changing production costs or changing land values. These factors combined suggest that tenants might be taking advantage of landowners through lease rates that are not being frequently adjusted, resulting in negative economic profit and/or extreme risk aversion factors.

Summary

The cropland leasing market in Nebraska and South Dakota is very diverse. Results from a two-state rental study suggest that the rental market for cropland, after adjusting for regional differences in farming practices, production, and/or differences related to local customs, is functioning reasonably. Consequently, the cropland rental market is probably not obstructing the efficient organization of resources on the farm.

The share lease, thought by some to be antiquated and declining in popularity, is still a very viable leasing instrument. The share lease, also thought to be fairly inflexible, seems to have been modified by market participants to account for changing production practices and technology, though some modifications and adjustments may still be needed in the case of irrigated land that is share leased. Regardless, most current leases are generally in the range of being equitable for both the tenant and the landowner.

The analysis also adds some credence to the farm management specialists' contentions that the return for share leased land to the landowner will be slightly higher than cash leased land, although this difference is due to the shifting of risk to the landowner and not necessarily differences in returns to land. This difference is less for irrigated land than for non-irrigated cropland, however, since much of the production risk is alleviated by the use of irrigation.

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