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Grain Marketing Tools: A Survey of Illinois Grain Elevators

The basic services offered by country elevators are very similar (purchasing, conditioning and storing grain), country elevators attempt to differentiate themselves from their competition by offering customers a variety of cash grain marketing tools. These tools range from the basic cash forward contracts to minimum price contracts to the so called "new generation grain marketing contracts". The purpose of this paper is to report the results of a 2010 survey of Illinois country grain elevator managers. The primary objective of the survey was to determine the marketing contracts grain elevator firms operating in Illinois offer their customers and the extent to which these contracts are used by the elevator's customers.

Keywords: cash grain contracts, basis contracts, delayed pricing contracts, hedge-to-arrive contracts, minimum price contracts, new-generation contracts.

Introduction

America's country grain elevators are part of dynamic industry that is facing a growing list of challenges. In this complex grain handling system, country elevators are at the furthest upstream point in the grain marketing channel. These firms typically represent the initial point of product sale by grain producers. They purchase, condition, and store grain and then market grain to a variety of processing and exporting firms. Issues such as identity preservation and changes in the market structure due to the increased demand for corn as an ethanol feedstock are some of the challenges faced by firms in this industry.

As with most sectors of the agriculture economy, the U. S. country grain elevator industry has experienced considerable consolidation and concentration. By the same token, the country elevator's customer base (grain producers and landlords) has also changed rather dramatically as grain production takes place on larger and fewer farms. The profitability of operating a country elevator is directly related to the volume of grain the country elevator purchases over the course of a marketing year (Baumel, 1997). Because the basic services offered by country elevators are very similar (purchasing, conditioning and storing grain), country elevators attempt to differentiate themselves from their competition by offering customers a variety of cash grain marketing tools. These tools range from the basic cash forward contracts to minimum price contracts to the so called "new generation grain marketing contracts".

The primary objective of this study is to determine the marketing contracts grain elevator firms operating in Illinois offer their customers and the extent to which these contracts are used by the elevator's customers. A secondary objective will be to ascertain the business organizational structure, grain storage capacity, and the volume and types of grain purchased by Illinois grain elevators. As a state, Illinois ranks as the second largest producer of corn and soybeans. Although the survey is limited to grain elevators operating in Illinois, it is likely that the marketing contracts offered by Illinois firms reflect the extent that these contracts are offered by firms operating in other Corn Belt states.

Methodology

In January of 2010, a mail survey was sent to 227 members of the Grain and Feed Association of Illinois. Approximately 95% percent of all country grain elevator companies in Illinois are members of this organization. As an incentive for participation, all elevator managers returning a completed survey were promised a copy of the final report. A follow-up reminder and survey were sent to non-responding elevator managers three weeks after the initial survey was mailed. One hundred and thirty-five usable surveys were returned for a response rate of 60%.

The grain elevator managers were queried about the size and scope of their firms' operation, their business organization, and the types of marketing tools they offer to their customers. A chi-square procedure was used to determine statistically significant relationships between the elevator company characteristics and marketing tools offered to customers. The results of the survey taken in early 2010 were then compared to a similar survey conducted in 2006.

Characteristic of Responding Grain Elevators

Consolidation continues in the country grain elevator sector. In 2006 there were 250 Grain and Feed Association of Illinois members that were identified as grain elevators. In 2010 membership in the Association had declined to 227, a nearly 10% reduction. Over the same period the average storage capacity of the members increased by 30%.

As would be expected in surveying grain elevator managers in Illinois, the majority of their grain receipts were corn and soybeans. The managers indicated that corn accounted for 74% of the volume of grain handled, soybeans accounted for 22% of grain volume, and the remainder was made up of a combination of wheat, oats, and grain sorghum.

Elevator Storage Capacity

One hundred and thirty-three of the association members responding indicated their elevator's storage capacity. The average capacity of the responding members was just over 6 million bushels. This was up approximately 1.4 million bushels from what was reported in the 2006 survey. Table 1 shows storage capacity in 2010 as compared to 2006. As might be expected the percent of respondents indicating capacity less than 5 million bushels declined while more respondents now indicated that their capacity was in excess of 5 million bushels.

Table 1: Storage Capacity Comparisons between 2006 and 2010

Storage Capacity	Percentage of Respondents 2006	Percentage of Respondents 2010
Less than 2 million bushels	34%	32%
Between 2 and 5 million bushels	39%	31%
Between 5 and 10 million bushels	16%	19%
Over 10 million bushels	11%	18%

Ninety-three elevators responded to both the 2006 and the 2010 survey. Among those elevator companies, 75 (81%) indicated that they had expanded their storage capacity. On average these elevators increased their capacity by 1.25 million bushels. Four of the companies indicated that they had expanded by the purchase of existing facilities. Fifty-six of the firms expanded by new construction and fifteen indicated that their expansion came from both acquisition of existing facilities and new construction. Eighteen elevators indicated that they had actually decreased capacity between 2006 and 2010.

Business Organization

The business organization of the responding firms was almost equally divided between a cooperative type of organization and corporations. Forty-nine percent of the respondents indicated that their firm was organized as a cooperative and 49% indicated they were organized as a corporation. The remaining firms were organized either as a partnership or sole proprietor.

Customer Base

Twenty-six percent of the responding elevator managers indicated that their firm served less than 100 customers. Twenty percent indicated a customer base between 101 and 200 and 20% indicated a customer base between 201 and 300. The remaining 35 % of the grain elevators had customer numbers in excess of 300.

The survey also indicated that the majority of grain elevators in Illinois operate from multiple sites. Only 31% of the respondents indicated an operation from a single location, 45% indicated they operated from two to four sites. The remaining elevators operated with 5 or more separate facilities.

Value Enhanced Grain

Value enhanced grain (specialty grains – non-GMO, high oil corn, STS soybeans, etc) make up a small fraction of the total receipts of the responding country elevators. Table 2 shows that forty-five percent of the respondents indicated that they received no value enhanced grain and another 42% indicated that value enhanced grain made up less than 5% of their total grain receipts. Of those elevators receiving value enhanced grain, 58% indicated that those grain receipts had declined between 2006 and 2010 as seen on Table 3.

Table 2: Percent of Receipts that are Value Enhanced Grain

Percent of Grain Receipts That Are Value Enhanced	Percent of Respondents
Zero	45%
1 to 5%	42%
6 to 10%	8%
11 to 15%	2%
16 to 20%	2%
More than 20%	2%

Table 3: Change in Value Enhanced Receipts from 2006 to 2010

Receipts of Value Enhanced Grain	Percent of Respondents
Decreased	58%
Remained the Same	37%
Increased	6%

Offer and Use of Marketing Tools: 2010 Compared to 2006

The percentage of elevators offering various marketing contracts and the estimated percentage of customers using those tools are indicated in Table 4. A description of each of these pricing contracts can be found in Appendix A. The forward cash contract remains the most popular marketing tool offered by country elevators and is the contract most commonly used by elevator customers. Basis contracts and delayed pricing contracts which allow grain producers to deliver grain but defer establishing the actual sale price are offered by over 90% of the elevators responding. Although these contracts are commonly offered, producer and landlord use remains rather modest with elevator managers estimating the 25% of their customers using delayed

pricing contracts and 10% using basis contracts. As can be noted, the percentage of elevators offering forward cash contracts, cash contracts with buy back options, hedge-to-arrive contracts and minimum price contracts decreased from 2006 to 2010. Delayed pricing contracts have increase during the same time period while basis contracts have remain unchanged.

Table 4: Grain Marketing Tools* - 2010 Compared to 2006.

Contract Type	2006	2010	Change
Forward Cash Contract			
Offered	98%	97%	-1%
Used	69%	63%	-6%
Cash Contract with Buy Back			
Offered	26%	24%	-2%
Used	12%	10%	-2%
Basis Contract			
Offered	92%	92%	0%
Used	8%	10%	2%
Delayed Pricing Contract			
Offered	90%	94%	4%
Used	22%	25%	3%
Hedge-to-Arrive			
Offered	82%	80%	-2%
Used	14%	13%	-1%
Minimum Price Contract			
Offered	64%	59%	-5%
Used	5%	5%	0%
Automated Pricing			
Offered	N/A	29%	
Used	N/A	8%	
Managed Hedging			
Offered	N/A	14%	

Marketing Tools Offered by Elevator Size

Table 5 compares the offering of marketing contracts by elevator size. Forward cash contracts are offered by nearly all of the elevators regardless of size. Deferred pricing arrangements such as basis and delayed pricing contracts were offered by nearly all of the large elevators while New Generation contracts such as automated pricing and managed hedging were offered and relatively low levels across all elevators.

Table 5: Grain Marketing Tools* - Comparison by Elevator Storage Capacity

Contract Type	Large ≤ 3 million bushels	Small > 3 million bushels
Forward Cash Contract		
Offered	98%	96%
Used	63%	63%
Cash Contract with Buy Back		
Offered	21%	26%
Used	10%	9%
Basis Contract		
Offered	88%	96%
Used	10%	9%
Delayed Pricing Contract		
Offered	95%	92%
Used	26%	24%
Hedge-to-Arrive		
Offered	72%	86%
Used	10%	14%
Minimum Price Contract		
Offered	49%	68%
Used	6%	5%
Automated Pricing		
Offered	23%	34%
Used	11%	7%
Managed Hedging		
Offered	16%	12%

Table 6 shows the marketing contracts offered by grain elevators organized as cooperatives and non-cooperatives. The type of business organization appears to have little impact on extent to which elevators offer their customers marketing tools.

Table 6: Grain Marketing Tools* - Business Organization

Contract Type	Cooperatives	Non-Cooperatives	Difference
Forward Cash Contract			
Offered	96%	98%	2%
Used	63%	61%	-2%
Cash Contract with Buy Back			
Offered	27%	20%	-7%
Used	8%	14%	6%
Basis Contract			
Offered	94%	90%	-4%
Used	7%	13%	6%
Delayed Pricing Contract			
Offered	96%	90%	-6%
Used	23%	29%	6%
Hedge-to-Arrive			
Offered	87%	71%	-16%
Used	12%	14%	2%
Minimum Price Contract			
Offered	56%	63%	7%
Used	3%	7%	4%
Automated Pricing			
Offered	35%	22%	-13%
Used	9%	7%	-2%
Managed Hedging			
Offered	19%	7%	-12%

New Generation Marketing Contracts

The percentage of respondents offering New Generation Contracts and Managed Hedging by elevator size is indicated in Table 7. As might be expected the managers of the larger elevators indicated that they were more likely to offer these contracts than smaller elevators.

Table 7: New Generation Contracts Offered by Size of Elevator

Contract Type	Small Less than 2 million bushels	Medium 2 million to 5 million bushels	Large Greater than 5 million bushels
Automated Pricing Offered	**17%**	**34%**	**45%**
Managed Hedging (Professional Market Advisory) Offered	**14%**	**16%**	**25%**

Table 8 shows that cooperatives were somewhat more likely to offer new generation contracts than those offered by corporations.

Table 8: New Generation Contracts Offered by Type of Business Organization

Contract Type	Cooperatives	Corporations
Automated Pricing Offered	**36%**	**27%**
Managed Hedging (Professional Market Advisory) Offered	**20%**	**18%**

The survey of Illinois Grain and Feed Association members indicated a modest change in the structure of the grain elevator industry in Illinois over the past 4 years**.** The average storage capacity of elevators has made a modest increase from 4.6 million bushels in 2006 to 4.8 million bushels in 2010. The number of firms (members of the Grain and Feed Association of Illinois) in the industry has declined from 250 in 2006 to 227 in 2010. The average customer base has had also made a modest increase from 300 in 2006 to about 330 in 2010.

The survey also indicated that there have been rather modest changes in the level and use of cash grain marketing tools offered by the industry. After completing the statistical analysis, it was concluded that storage capacity, customer base and business organization had no significant impact on the type of cash contracts offered over the past 4 years.

The use of various marketing tools by producers remains little changed over the past 4 four years. Studies indicate that producers are more likely to concentrate on costs, planting intensity, tillage operations, and yields to enhance profits than on price (Nivens, Kastens and Dhuyvetter, 2002).

However other studies indicate that spreading sales over the marketing year can contribute to the financial success of grain producers (Mirshra, El-Osta and Johnson), thus the use of forward cash contracts by nearly 70% of elevator customers can be explained.

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Appendix: Definitions of Grain Marketing Tools (Guither and Hambleton, 1995; and Hagedorn, Irwin, Good, Martines-Filho, Sherrick and Schnitkey)

Forward cash contract: An agreement that establishes price, location of delivery, and time of delivery for grain to be delivered at a later date. The contract may be made before harvest.

Delayed price contract: An agreement that transfers the title to grain to the buyer at the time of delivery but does not establish price. The date of pricing is at the option of the seller, within the period agreed to in the contract. A delayed price contract fixes the schedule of service charges and allows the seller to speculate on the cash price.

Basis Contract: An agreement establishing that the price paid for grain to the seller will be the price of a specified futures contract on the day of the seller's choosing, minus the basis that existed at the time of the contract. A basis contract fixes the basis and allows the seller to speculate on the futures price.

Minimum price contract: An agreement in which the buyer establishes a minimum price by buying put options on a quantity of grain. Minimum price is offered to a seller through a cash contract. If prices go up, the option is allowed to expire, and the buyer pays the seller a higher price. If the price goes down, the buyer pays the minimum price agreed to in the contract and offsets losses by cashing in on the higher premium for the put option.

In another variation of minimum price contract, the buyer buys a call option and contracts a sale using the current price with a seller. If prices go up, the buyer cashes in on the higher premium for the call option and passes the higher price onto the seller as agreed to in the contract.

Hedge-to-arrive contract (also known as futures-only contract): An agreement specifying the time of delivery for grain and the futures price on which the seller's price will be based. The futures price, established at the time of contract, is the current price of the appropriate futures contract. The seller then chooses the date, before expiration of the contract, on which to establish the basis portion of this price. A hedge-to-arrive contract allows the seller to speculate on basis improvement without trading in the futures market directly.

Cash contract with buy-back: A variation of the forward cash contract in which the seller locks in a cash price for later delivery but has the right to buy back the contract if prices decline. The time of the contract establishes the initial price. If a buy-back occurs, the gain to the seller is added to a later sale to that buyer. The buyer sells futures contracts at the time of the initial contract. If prices decline, the buyer buys the futures and passes the profit back to the producer.

Premium offer contract: A variation of the forward cash contract in which the buyer pays a premium for grain sold contingent upon the seller's making a firm offer of an equal number of bushels at a specific (higher) futures price. If the futures reach that price, the seller automatically sells the grain, using the basis that day for the appropriate shipment period. The seller makes no additional sales if the futures fail to reach that price. The buyer sells call options at the strike price equal to the offer price of the seller. The amount of the premium on the option determines the premium to the seller for the initial sale.

Multiple-year contract: A variation of the forward cash contract in which the seller is allowed to change the time of delivery, even into the next marketing year. The time of the contract establishes the initial price and the buyer hedges by selling futures contracts. The seller changes the time of delivery, the elevator moves the hedge to a later contract and adjusts the price to the seller by the amount of the premium or the discount incurred in rolling the hedge.

Automated pricing contract: These contracts are designed to give producers an average price over a given period of time.

Managed hedging contract: Recommendations from a professional market advisory service is used to price grain over a specific period of time.