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**GRAIN MARKETING COOPERATIVES'  
ADJUSTMENTS TO FARM PROGRAMS**

**by**

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## Preface

Preparation of this report was financed by a cooperative research agreement between the Agricultural Cooperative Service (ACS), USDA, and the North Dakota State University Agricultural Experiment Station. James Haskell, and Marc Warman, ACS, served as liaison during this study. This report also contributes to North Dakota State University Agricultural Experiment Station Project 1383 "Marketing Strategies for Cooperatives."

Individuals from Harvest States Cooperatives, Benson-Quinn Company, Atwood-Larson Company, Farmers Commodities Corporation, Union Equity Cooperative Exchange, and the St. Paul, Omaha, and Wichita (the latter two now part of CoBank) Banks for Cooperatives reviewed the survey instrument and identified potential respondents. The response of 87 cooperative elevator managers was exceptional. They participated unselfishly in the survey despite their busy schedules.

William W. Wilson, George Flaskerud, Marc Warman, Jay Leitch, and Timothy Petry provided important content and editorial suggestions as did Eldon Wylie, Daryl Stevens, Mike Thompson, Jim Bareksten, Ron Ostby, Reed Ihry, and Hugh McDonald. Bradley Clow worked on conceptualization and survey design in the early stages of this project.

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## ABSTRACT

A personal interview survey of 87 grain marketing cooperatives regarding the impact of changes in government programs and planned responses to the dilemma of excess capacity and loss of government storage income and related factors is reported. Government storage payment's impact on financial performance was ranked 77% more important than the second (other government programs) of 7 factors (e.g., interest rates). Government storage accounted for 20% of their net income. They acquired an average of 800,000 bu. of storage capacity in response to government programs. PIK and roll increased annual income an average of \$39,000 in 1986-87. Participation in CCC weekly auctions averaged 51% and in catalog sales 87%. Most managers felt that government programs did not influence merchandising methods.

Two of the major alternatives managers selected to enhance income (increase margins and the number of patrons) are unrealistic because of excess capacity, competitive pressures, and declining producer numbers. Becoming a low-cost provider, developing a market niche, and exploiting potential economies from mergers are the recommended strategies for survival. Strategies individual cooperatives selected should be adapted to each unique situation.

## Key Words

Cooperatives, marketing strategies, farm programs, grain marketing, country elevators

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## HIGHLIGHTS

Country elevator cooperatives' dependence on government storage income and other program activities in the 1980s and excess loadout capacity placed these firms in a vulnerable position in 1987-1988 when most government grain was being withdrawn. This report covers a survey of 87 grain marketing cooperatives regarding the impact of government programs and planned responses to the dilemma of excess capacity and loss of storage income. Responses to the survey were classified by production area (hard red spring wheat, corn, and hard red winter wheat), progressiveness, and size.

Major findings include the following points:

- Government storage, regardless of subcategory, was the most important of seven external factors impacting cooperative's financial strength. Government storage payments constituted 20% of elevator gross income in 1987. These payments enticed the elevators in the study to add an average of 380,000 bu. of temporary storage, 300,000 bu. of permanent storage, and 260,000 bu. of leased storage per elevator. Spring wheat, conservative, and large elevators depended most on government storage payments.
- The second most important factor was other government programs. PIK and particularly PIK and roll were especially beneficial to most elevators. Average income from PIK and roll in 1986 and 1987 was \$43,900 and \$33,500, respectively. PIK and roll also increased grain volume at 71% of the elevators.
- The least important factors impacting financial performance were mergers and rail abandonment. Other external factors that managers ranked were interest rates, farm crisis, and introduction of unit trains.
- Government farm programs had no impact on grain acquisition methods for 70% and no impact on grain merchandising methods for 85% of the elevators. Those reporting changes indicated that PIK and roll increased the use of cash purchases, that forfeited grain increased forward pricing, and that changes in government programs increased the use of DPC or NPE.
- Two of the top four income-enhancing alternatives (attract new patrons and increase margins) that managers selected from a list of 15 alternatives are incompatible with realities of excess capacity and competition. Therefore, managers should re-evaluate these alternatives.
- Becoming a low-cost provider, developing niche markets, and/or seeking merger partners were the three recommended strategies to cope with industry excess capacity and reduced storage income. Individual circumstances should dictate the strategies selected.
- Descriptive statistics included measurements of size (average 730 patrons, 2.6 million bu. storage, and 45 cars/day loadout capacity), and management policies (e.g., 38% had a policy on open market positions).
- Physical units rather than a dollar basis was the dominant (91%) method of calculating patronage refunds. Over one-half (58%) distributed patronage refunds based on individual grain while 42% did so based on a blend.



- Grain acquisition methods in 1987 were cash 78%, forward contracts 15%, and NPE or DPC 6%.
- Grain merchandising methods in 1987 were spot 38%, to arrive 35%, basis trading 18%, and F.O.B. country 9%.

## GRAIN MARKETING COOPERATIVES' ADJUSTMENTS TO FARM PROGRAMS

Steven P. Gunn and David W. Cobia<sup>1</sup>

Changes in government farm programs have alternately delayed and then accelerated the on-going structural crisis in the country elevator industry. The purpose of this report is to outline the strategies country elevators planned in response to reduced government storage income. The impact of changes in farm programs and other exogenous developments during the 1980-1987 period on procurement and selling strategies and characteristics of 87 selected country elevators in a seven-state region also are presented.

### PURPOSE AND BACKGROUND

Changes in government programs include the rise and fall of government storage, the payment in kind (PIK) program, government grain sales (CCC catalog and auction sales), and the conservation reserve program (CRP).<sup>2</sup> These developments have affected the financial and operating performance of grain handling cooperatives. Other developments causing major adjustments in the grain elevator industry have been exogenous structural changes, such as interest rates, the farm financial crisis, increased use of unit trains, and rail abandonment.<sup>3</sup>

This report is an analysis of results from a survey of 87 cooperative elevator managers regarding these issues. Managers were asked about their elevator operations and the effects of specific governmental and management and marketing strategies. The country elevator industry is plagued with uncertainties created by external factors over which they have no control. Many such factors exist. The emphasis of this report is on changes in government farm programs, including a brief discussion of interest rates, unit train rates, rail abandonment, and mergers.

### Government Programs

The financial impact of government farm programs on grain elevator operations has been mixed. During the early 1970s, growth in export demand was coupled with a decline in planting restrictions (Bowers 1987). Farm prices were high, elevators were busy shipping grain, and government payments to farmers fell to \$530 million in 1974. By 1976-77, farm prices declined in the face of excess supplies. Federal farm programs imposed set-asides along with the farmer-owned reserve and higher target and loan rates.

Although the Reagan administration came into office in 1981 with a more market-oriented approach to farm programs, many of the previous farm programs were continued. Higher target prices and loan rates were established to compensate, in part, for inflation. These measures proved expensive for the government and spurred production. Exports peaked in 1981 and then fell, bringing a decline in commodity prices. With falling exports and high levels of production, government-held surpluses were at near-record levels. Despite the acreage diversion programs of 1982 (10% for feed grains, 15% for wheat), good weather and high yields exacerbated the government's position. Farmers were becoming increasingly dependent on government programs.

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<sup>2</sup>See glossary for definitions.

<sup>3</sup>See Cobia et al. where these changes are documented.

Elevators faced declining export markets but continued to increase shipping capacity, primarily by expanding throughput to accommodate unit trains. Some were also building storage to take advantage of the lucrative government storage program. Under this program, elevators stored grain, acquired by the Commodity Credit Corporation (CCC), for 26.5¢/bu./year. Growth in elevator storage was phenomenal. For example, in 1980, the 589 North Dakota grain elevators had a collective storage capacity of 146 million bushels (North Dakota Grain Dealers Association). By 1988, 580 licensed elevators could store 258 million.

In 1983, the government increased acreage diversion to 20%. The payment in kind (PIK) program was also introduced. Under PIK, farmers could idle another 10 to 30% of their base in return for payment in that commodity. Total production of PIK commodities dropped by 35% (half of that from drought). Carry-over stocks declined enough to drop the PIK program for all commodities except wheat in 1984. The government slowed the growth of price supports and required acreage reductions based on the level of carry-over stocks. Elevators faced a decline in storage income and throughput due to declining production and sluggish exports. Although government programs continued to be expensive, many farmers were in a financial crisis.

The Food Security Act of 1985 protected farm income by freezing target prices while reducing loan rates. Acreage reduction programs were retained. A new provision was the conservation reserve program (CRP) designed to take marginal farmland out of production for 10 years. PIK certificates were issued as payment to farmers who participated in acreage reduction, CRP, and paid land diversion. CRP's effect on elevator volume varied with local sign-up and the percent of local acreage eligible for CRP.

Meanwhile, exports for wheat and corn bottomed out in 1986 and carry-over stocks boomed. This stimulated further expansion in storage capacity among elevators. Carry-over stocks remained high for 1987 and exports began to rise. By the fall of 1987, the government owned 3 billion bushels of grain in CCC and paid farmers to store another 2 billion in farmer-owned reserve (USDA 1987). Storage costs were about \$2.5 billion a year (Pedraza 1988). Also, elevators were paid about \$0.05 per bushel for receiving and shipping out CCC grain.

In November, 1987, the government began auctioning off CCC wheat to holders of certificates. About 383 million bushels of wheat were auctioned off in seven months. The government also began direct sales from its catalog listing of grain stocks. All of this government grain hitting the market would have caused a glut except that these grain sales were coupled with an export enhancement program that subsidized exports at about \$1/bu. The consequence of the grain sales and export enhancement was a virtual cleaning out of government grain in country elevators. The effect of the grain sales on an elevator could be devastating if the elevator depended heavily on government storage income.

Another important development was PIK and roll. Under the farm programs of 1986 and 1987, farmers and elevators could take advantage of price discrepancies by placing crops under loan in exchange for PIK certificates. Some elevators took advantage of price discrepancies between regions by engaging in long-distance storage certificate swaps. Some spring wheat elevators also took advantage of price discrepancies between durum and HRS wheat. Many elevators made substantial income by swapping PIK certificates.

### Other Developments

Results of unit train rates, one of the more dramatic external developments, are still working themselves through the country elevator system, particularly in the northern plains states where their introduction was delayed until December, 1980. The savings associated with unit train rates over single car rates have changed periodically since they were first introduced but were stable from 1983 to 1986. During this time, savings from 26- and 52-car unit trains from Minot, N.D., to the Pacific Northwest were 12.6 and 21.6¢/bu. respectively. Savings from Devils Lake, N.D., to Minneapolis were 7.8 and 10.8¢/bu., respectively. Elevators rushed to add throughput capacity to capture these cost savings. The industry has since been plagued with excess capacity. By 1984, Iowa was estimated to be running at 17% of capacity, while Nebraska and North Dakota were running at 23% and 43% respectively (Cobia et al.).

Rail line abandonment severely affected many elevators, mostly in the late 1970s and early 1980s. North Dakota, for example, lost 776 of 5,096 miles of track during the 1980s (North Dakota Public Service Commission). Many elevators were left with only trucking and lost business to nearby competitors if they retained their rail shipping ability. Others closed their doors or became feeders to elevators with rail.

Low interest rates in the 1970s were incentives for elevators to increase debt financing. After this adjustment, about a half of their assets were financed by debt (Clow and Wilson). Subsequently, interest rate changes significantly impacted performance. Interest rates cooperatives paid peaked in 1981 at 16.5% (USDA 1989). The high rates of the 1980s increased the cost of expansion and caused problems for elevators already highly leveraged.

Financial stress of farmers impacted country elevators negatively. These included pressures for higher farm prices (lower elevator margins), higher cash refunds, and bad debt loss. Many farmers faced a financial crisis in the 1980s. For instance, only 46% of North Dakota farmers were considered financially viable in 1985 (Leistritz et al.). Farmers were hit by declining commodity prices, high production costs (including interest rates), and drought. Land values fell but have since rebounded to some extent. For many farmers, the declining net income and decrease in asset values meant bankruptcy. For elevators and other farm businesses who sell supplies to farmers on credit, this meant bad debt.

Mergers and acquisitions among elevators were common in the 1980s as they adjusted to many of these external forces. The number of grain marketing cooperatives in the seven-state area covered in this report declined from 1,195 in 1981 to 961 in 1989 or 20% (USDA 1990). Frequently, merging was used to shore up weakened financial conditions from some of the developments listed earlier. Mergers are not always beneficial, however, and occasionally were associated with further financial distress (Clow and Wilson).

### Survey

The managers of 87 local country elevator cooperatives were personally interviewed to determine the relative impact of recent exogenous factors, particularly government programs, on elevator operations and performance. Their planned response to anticipated reductions in storage income and the characteristics of their operations were also obtained. Cooperatives selected for the survey were taken from nominations by officials of regional lenders and merchandisers who dealt with local grain marketing cooperatives in a seven-state area: Iowa, Kansas, Minnesota, Nebraska, North Dakota, Oklahoma, and South Dakota. These same officials helped refine the survey instruments (Appendix A). Interviews were conducted in September, October, and November, 1988.

### Classification Scheme

The 87 cooperatives were classified by production region, progressiveness, and size. Responses were compared according to these classifications. The three production regions and number of elevators in each are spring wheat (32 elevators), corn (28), and winter wheat (27). Their location by state is North Dakota (18 elevators), South Dakota (7), Minnesota (19), Iowa (12), Nebraska (5), Kansas (17), and Oklahoma (9).

A point system, based on net income and use of innovative techniques, was used to determine progressiveness. One point each was given for the use of a fax machine, a computerized accounting system, and no quality problems with stored grain. Elevators in each production region were sorted into thirds, based on the following factors: return on equity, return on assets, percent of noncash grain purchases for 1987, and government grain purchased by others divided by total storage capacity. Two points were given to elevators in the top third with the highest return on equity, return on assets, percent of noncash grain purchases in 1987, and the lowest government grain purchased by others divided by total storage. One point was given for each factor in the middle third and no points for each factor in the last third. The elevators were sorted into three groups, based on a summation of these factors: progressive (30 elevators), intermediate (32 elevators), and conservative (25 elevators) based on the number of points each received.

Storage capacity was used to measure size (Table 1). Since average storage capacity differed significantly among regions, elevators were grouped into large, medium, and small within each region to eliminate this size-production region intercorrelation. The largest third of each region was combined to form the large group as were the other two groups.

### CHARACTERISTICS OF ELEVATORS

Descriptive information on the characteristics, practices, and performance were collected for the 87 cooperatives.

#### Description

The elevators averaged 950 farmer patrons (Table 2), 18% of which were nonmembers, and 3.5 elevator patrons, 2.5 of which were other cooperatives, and one was an investor-oriented firm (IOF). All but two cooperatives were directly owned, and controlled by farmer patrons. The other two were federated, owned and controlled by other cooperatives. Farmers members had voting and patronage refund privileges in all of the 85 farmer-controlled cooperatives.

Although none of the cooperatives allowed nonmember patrons to vote, 28 or 32% allocated refunds (cash and retained) to nonmembers. Only 4 cooperatives allowed voting privileges to other local cooperatives including the 2 federated co-ops, which other cooperatives controlled exclusively. No cooperative allowed IOF elevators, truckers, and other grain merchandisers to vote.

Cooperatives participating in the survey controlled 207 major storage facilities (Table 3), ranging from 38 elevators having one storage facility to three cooperatives with five facilities. Average storage capacity was 2.6 million bu. with an average loadout capacity of 45 cars/day. The elevators averaged 19 full- and 4 part-time employees at peak season (Table 4). Managers averaged 16 years as a manager, 12 at the current elevator (Table 5). Most (83%) managers attended an average of two seminars per year on management.

Table 1. Storage capacity of 87 selected grain marketing cooperatives, 1988\*

Group	Cooperatives			Facilities		
	Number	Avg. storage capacity		Number	Avg. storage capacity	
		bushels			bushels	
All	87	2,649,632 (3,693,970)		207	1,113,613 (1,306,410)	
Production region						
Spring wheat	32	1,083,344 (931,886)	CW	70	495,243 (634,891)	CW
Corn	28	4,744,179 (5,632,368)	SW	64	2,075,578 (2,530,312)	SW
Winter wheat	27	2,333,852 (1,818,838)	SC	73	863,205 (920,082)	SC
Progressiveness						
Progressive	30	4,253,633 (5,168,762)	IC	78	1,636,013 (2,454,852)	IC
Intermediate	32	1,756,031 (1,195,024)	P	80	700,013 (661,427)	P
Conservative	25	1,876,320 (3,138,712)	P	49	957,306 (1,288,061)	P
Size (storage capacity)						
Small	29	688,759 (395,865)	ML	35	570,686 (315,601)	ML
Medium	29	1,705,517 (754,883)	SL	65	760,923 (316,806)	SL
Large	29	5,554,621 (5,247,712)	SM	107	1,505,458 (848,351)	SM

\*Values in parenthesis are standard deviations. Statistical significance between groups is represented by the first letter of the other group to which a specific group is compared, an upper case letter represents a .01 and a lower case letter represents a .05 level of statistical significance.

Source: Survey Statement I.G.

Table 2. Average number of patrons by type, 87 selected grain marketing cooperatives, 1988<sup>a</sup>

Group	Type of patron					
	Farmer			Other elevators		
	Member	Non-member	Total	Co-ops	IOF	Total
All	775 (652)	175 (212)	950	2.4 (4.5)	1.1 (2.8)	3.5
Production region						
Spring wheat	590 (689)	68 cW (94)	658	3.6 w (5.5)	1.2 (2.5)	4.8
Corn	813 (664)	192 s (198)	1,005	2.6 (4.7)	1.5 (3.3)	4.1
Winter wheat	955 (551)	284 S (267)	1,239	0.7 s (1.7)	0.7 (2.5)	1.4
Progressiveness						
Progressive	899 (656)	226 (277)	1,125	3.7 (6.0)	2.0 (3.7)	5.7
Intermediate	751 (672)	130 (137)	881	2.1 (3.7)	0.6 (1.5)	2.7
Conservative	657 (620)	170 (197)	827	1.3 (2.8)	0.8 (2.6)	2.1
Size (storage capacity)						
Small	418 mL (302)	125 l (136)	543	0.5 mL (1.4)	0.1 ml 0.4	0.6
Medium	719 sL (433)	147 (148)	866	2.9 s (5.6)	1.8 s (3.7)	4.7
Large	1,188 SM (845)	252 s (298)	1,440	3.8 S (4.8)	1.6 s (2.8)	5.4

<sup>a</sup>Values in parenthesis are standard deviations. Statistical significance between groups is represented by the first letter of the other group to which a specific group is compared, an upper case letter represents a .01 and a lower case letter represents a .05 level of statistical significance.

Source: Survey Statement I.F.

Table 3. Loadout capacity of 87 selected grain marketing cooperatives, 1988<sup>a</sup>

Group	Cooperatives			Facilities	
	Number	% Unit shippers <sup>b</sup>	Avg. load-out capacity cars/day	Number	Avg. load-out capacity cars/day
All	87	54.0	44.8	207	18.9
Production region					
Spring wheat	32	56.3	34.1 C	70	15.6
Corn	28	78.6	67.4 SW	64	29.5
Winter wheat	27	25.9	32.2 C	73	12.7
Progressiveness					
Progressive	30	66.7	59.8	78	23.0
Intermediate	32	50.0	38.0	80	15.2
Conservative	25	44.0	35.6	49	18.1
Size (storage capacity)					
Small	29	17.2	14.3 ML	35	11.8
Medium	29	62.1	37.9 SL	65	16.9
Large	29	82.8	82.3 SM	107	22.3

<sup>a</sup>Statistical significance between groups is represented by the first letter of the other group to which a specific group is compared, an upper case letter represents a .01 and a lower case letter represents a .05 level of statistical significance.

<sup>b</sup>Percent of cooperatives that can loadout 25 or more cars per day.

Source: Survey Statement I.G.



Table 4. Number of full- and part-time employees of 87 selected grain marketing cooperatives, 1988<sup>a</sup>

Group	Average number	
	Full-time	Part-time
All	18.9 (17.6)	4.0 (4.6)
Production region		
Spring wheat	10.2 CW (11.1)	2.7 w (3.5)
Corn	24.2 S (21.3)	4.1 (3.9)
Winter wheat	23.6 S (16.0)	5.4 s (5.9)
Progressiveness		
Progressive	26.0 iC (23.1)	5.3 (6.5)
Intermediate	16.7 p (12.9)	2.9 (2.6)
Conservative	13.0 P (11.9)	3.8 (3.5)
Size		
Small	7.9 mL (5.7)	3.4 (5.8)
Medium	16.4 sL (11.2)	3.7 (3.0)
Large	32.2 SM (21.9)	5.0 (4.5)

<sup>a</sup>Values in parenthesis are standard deviations. Statistical significance between groups is represented by the first letter of the other group to which a specific group is compared, an upper case letter represents a .01 and a lower case letter represents a .05 level of statistical significance.

Source: Survey Statement II.A.

Table 5. Experience and training of managers, 87 selected grain marketing cooperatives, 1988<sup>a</sup>

Group	Years as manager		Formal education	Univ. mgmt.	Seminars per year
	Present co-op	Total			
All	11.9 (8.5)	16.1 (9.1)	13.4 (1.8)	0.9 (1.5)	2.0 (1.9)
Production region			years	credits	
Spring wheat	12.6 (9.0)	16.5 (7.8)	12.7 cW (1.9)	0.2 CW (0.7)	2.0 (1.7)
Corn	9.2 w (6.4)	13.9 (9.8)	13.6 s (1.6)	1.4 S (1.7)	2.1 (1.9)
Winter wheat	14.0 c (9.4)	17.9 (9.5)	14.0 S (1.6)	1.3 S (1.6)	2.0 (2.2)
Progressiveness					
Progressive	12.5 (7.5)	15.0 (7.5)	13.4 (1.5)	0.9 (1.4)	1.9 (1.9)
Intermediate	10.8 (9.0)	16.5 (10.3)	13.6 (1.9)	1.2 (1.7)	2.0 (1.5)
Conservative	12.7 (9.3)	16.8 (9.4)	13.2 (2.0)	0.7 (1.4)	2.2 (2.3)
Size					
Small	13.3 (9.3)	15.1 (9.1)	12.9 m (1.8)	0.2 ML (0.7)	1.8 (1.8)
Medium	11.7 (9.1)	16.3 (9.3)	13.9 s (1.9)	1.3 S (1.8)	1.9 (2.2)
Large	10.9 (7.1)	16.8 (9.1)	13.4 (1.5)	1.2 S (1.5)	2.4 (1.7)

<sup>a</sup>Values in parenthesis are standard deviations. Statistical significance between groups is represented by the first letter of the other group to which a specific group is compared, an upper case letter represents a .01 and a lower case letter represents a .05 level of statistical significance.

Source: Survey Statements II. B.1 through II.B.4.

Managers with the least experience had the most education, had the most university credits in management, and attended the most seminars on management (Table 6). Managers with the most experience were last in each of these categories. Younger managers received more training.

Table 6. Comparison of formal training of managers by years of management experience, 87 selected grain marketing cooperatives, 1988<sup>a</sup>

Group	Management experience (years)	Formal training (average)		
		Education (years)	Seminars (no./yr.)	Univ. mgmt. credits
A	≤ 10	13.7 c (1.8)	2.4 c (2.0)	1.2 (1.5)
B	10 to 20	13.4 (1.6)	1.9 (1.7)	0.8 (1.5)
C	≥ 20	13.0 a (1.9)	1.7 a (2.0)	0.8 (1.5)

<sup>a</sup>Values in parenthesis are standard deviations. Statistical significance between groups is represented by the first letter of the other group to which a specific group is compared, an upper case letter represents a .01 and a lower case letter represents a .05 level of statistical significance.

Source: Survey Statements II. B.1 through II.B.4.

### Practices

Forty-one percent of the elevators paid managers a percentage of net income as an incentive, 95% reported a retirement plan, and 13% had other incentive programs (Table 7). Only 38% had an official policy regarding open market positions (Table 8). Most (92%) of the managers did all of their own merchandising (Table 9). The balance relied on commission companies and others who typically charge for these services.

Short-term financing came from three sources: the elevator itself (14%), commission company (26%), and others (60%). The Bank for Cooperatives was the primary source of credit listed among the others. The low degree of self short-term financing indicates that most cooperatives lack working capital and the relatively heavy commitment to finance inventories. Grain marketing cooperatives, therefore, must depend on others for this service.

Most (83%) cooperatives had a microcomputer, but its use was less than uniform, 75% for accounting, 41% for daily grain position, 48% for grain accounting, 59% for general ledger, 60% for receivables aging, and 55% for allocating patronage refunds (Table 10). Only 22 cooperatives had a FAX machine. Besides grain merchandising and storage (Table 11), services elevators in the survey provided include seed cleaning (70%), drying (74%), brokerage (23%), financial service (26%), fertilizer application (70%), grinding (69%), soil testing (63%), and pooling (14%).

Table 7. Management incentives at 87 selected grain marketing cooperatives, 1988<sup>a</sup>

Group	Incentive program		
	% of net income	Retirement plan	Other <sup>b</sup>
All	41.4	95.4	12.6
Production Region			
Spring wheat	43.8	93.8	12.5
Corn	50.0	96.4	17.9
Winter wheat	29.6	96.3	7.4
Progressiveness			
Progressive	50.0 i	93.3	10.0
Intermediate	28.1 p	100.0	15.6
Conservative	48.0	92.0	12.0
Size			
Small	37.9	96.6	13.8
Medium	44.8	89.7	17.2
Large	41.4	100.0	6.9

<sup>a</sup>Statistical significance between groups is represented by the first letter of the other group to which a specific group is compared, an upper case letter represents a .01 and a lower case letter represents a .05 level of statistical significance.

<sup>b</sup>Such as bonuses on sales goals.

Source: Survey Statement II.B.5.

Table 8. Percent of 87 selected grain marketing cooperatives that employ specified technological and managerial practices, 1988\*

Group	Electronic grain mkt. news	Fax machine	Computerized accounting	Board policy re. open futures position
All	83	21.8	74.7	38
Production Region				
Spring wheat	63 Cw	18.8 cw	56.3 cW	19 Cw
Corn	100 S	42.9 sW	82.1 s	54 S
Winter wheat	89 s	3.7 sC	88.9 S	44 s
Progressiveness				
Progressive	83	36.7 ci	93.3 CI	37
Intermediate	81	15.6 p	68.8 P	38
Conservative	84	12.0 p	60.0 P	40
Size				
Small	76 l	0.0 mL	48.8 ML	35
Medium	72 l	20.7 sl	82.8 S	31
Large	100 sm	44.8 Sm	96.6 S	48

\*Statistical significance between groups is represented by the first letter of the other group to which a specific group is compared, an upper case letter represents a .01 and a lower case letter represents a .05 level of statistical significance.

Source: Survey Statement II.B.6, 7, 9, & 10.

Table 9. Percent of 87 selected grain marketing cooperatives obtaining services from specified sources, 1988<sup>a</sup>

Group	Grain merchandising		Short-term financing			Govt. program training		Accounting		
	Self	Commission co.	Self	Commission co.	Other	Self	Commission co.	Self	Commission co.	Other
All	91.8 (26.4)	8.2 (26.4)	14.1 (34.4)	26.1 (43.4)	59.8 (48.7)	64.3 (45.6)	35.7 (45.6)	63.8 (47.4)	33.9 (46.7)	2.3 (15.1)
Production Region										
Spring wheat	83.8 c (34.9)	16.2 c (34.9)	9.4 (29.6)	60.3 CW (48.8)	30.4 CW (45.8)	34.4 CW (43.0)	65.6 CW (43.0)	18.8 CW (37.6)	75.0 CW (42.1)	6.3 (24.6)
Corn	100.0 s (0.0)	0.0 s (0.0)	15.1 (34.9)	12.3 s (31.6)	72.6 s (44.5)	66.1 SW (47.2)	33.9 SW (47.2)	80.4 SW (39.3)	19.6 Sw (39.3)	0.0 (0.0)
Winter wheat	92.6 (26.6)	7.4 (26.6)	18.7 (39.4)	0.0 s (0.0)	81.3 s (39.4)	97.8 SC (9.7)	2.2 SC (9.7)	100.0 SC (0.0)	0.0 Sc (0.0)	0.0 (0.0)
Progressiveness										
Progressive	95.0 (19.4)	5.0 (19.4)	20.9 (39.8)	19.2 (37.7)	59.9 (48.1)	66.7 (44.2)	33.3 (44.2)	70.0 (44.7)	26.7 (43.0)	3.3 (18.3)
Intermediate	88.5 (31.3)	11.5 (31.3)	6.3 (24.6)	31.1 (46.9)	62.7 (49.0)	57.5 (49.1)	42.5 (49.1)	60.9 (48.7)	35.9 (47.9)	3.1 (17.7)
Conservative	92.0 (27.6)	8.0 (27.6)	16.0 (37.4)	28.0 (45.8)	56.0 (50.7)	70.0 (43.3)	30.0 (43.3)	60.0 (50.0)	40.0 (50.0)	0.0 (0.0)
Size										
Small	90.8 (28.1)	9.2 (28.1)	15.0 (35.2)	38.9 l (48.6)	46.1 l (49.8)	51.4 l (48.8)	48.6 l (48.8)	50.0 l (50.0)	46.6 (49.9)	3.4 (18.6)
Medium	91.4 (26.4)	8.6 (26.4)	17.2 (38.4)	25.3 (43.3)	57.5 (49.5)	63.8 (46.1)	36.2 (46.1)	65.5 (48.4)	31.0 (47.1)	3.4 (18.6)
Large	93.1 (25.7)	6.9 (25.7)	10.2 (30.0)	14.1 s (35.0)	75.7 s (43.5)	77.6 s (39.2)	22.4 s (39.2)	75.9 s (41.4)	24.1 (41.4)	0.0 (0.0)

<sup>a</sup>Values in parenthesis are standard deviations. Statistical significance between groups is represented by the first letter of the other group to which a specific group is compared, an upper case letter represents a .01 and a lower case letter represents a .05 level of statistical significance.

Source: Survey Statement II.B.8.

Table 10. Percent of 87 selected grain marketing cooperatives employing computerized accounting systems for selected accounting operations, 1988\*

Group	Daily grain position		Grain accounting			General ledger		
	Local	Not used	Local	Commission co.	Not used	Local	Commission co.	Not used
All	41.4	58.6	48.3	11.5	40.2	58.6	13.8	27.6
Production Region								
Spring wheat	25.0 cw	75.0 cw	21.9 CW	25.0 w	53.1 c	21.9 CW	31.3 W	46.9 cW
Corn	53.6 s	46.4 s	60.7 S	7.1	32.1 s	71.4 S	7.1	21.4 s
Winter wheat	48.1 s	51.9 s	66.7 S	0.0 s	33.3	88.9 S	0.0 S	11.1 S
Progressiveness								
Progressive	56.7 C	43.3 C	66.7 iC	6.7	26.7 c	80.0 IC	13.3	6.7 IC
Intermediate	40.6	59.4	43.8 p	12.5	43.8	50.0 P	12.5	37.5 P
Conservative	24.0 P	76.0 P	32.0 P	16.0	52.0 p	44.0 C	16.0	40.0 C
Size								
Small	6.9 ML	93.1 ML	13.8 ML	13.8	72.4 ML	31.0 ML	13.8	55.2 ML
Medium	55.2 S	44.8 S	69.0 S	3.4	27.6 S	72.4 S	10.3	17.2 S
Large	62.1 S	37.9 S	62.1 S	20.7	17.2 S	69.0 S	24.1	6.9 S

Cont'd.

Table 10. Cont'd.

Group	Receivables aging			Patronage allocation and checks		
	Local	Commission co.	Not used	Local	Commission co.	Not used
All	59.8	11.5	28.7	55.2	18.4	26.4
Production Region						
Spring wheat	28.1 CW	25.0 w	46.9 cW	25.0 CW	31.3 w	43.7 cw
Corn	67.9 Sw	7.1	25.0 s	64.3 S	17.8	17.9 s
Winter wheat	88.9 Sc	0.0 s	11.1 S	81.5 S	3.7 s	14.8 s
Progressiveness						
Progressive	80.0 iC	13.3	6.7 IC	73.3 ic	20.0	6.7 IC
Intermediate	53.1 p	9.4	37.5 P	46.9 p	18.8	34.4 P
Conservative	44.0 P	12.0	44.0 P	44.0 P	16.0	40.0 p
Size						
Small	31.0 ML	13.8	55.2 ML	31.0 ML	10.4	58.6 ML
Medium	72.4 S	10.3	17.2 S	69.0 S	13.8	17.2 S
Large	75.9 S	17.2	6.9 S	65.5 S	31.0	3.4 S

\*Statistical significance between groups is represented by the first letter of the other group to which a specific group is compared, an upper case letter represents a .01 and a lower case letter represents a .05 level of statistical significance.

Source: Survey Statement II.B.10



Table 11. Percent of 87 selected grain marketing cooperatives providing specified services, 1988\*

Group	Services									
	Grain merchandising	Grain storage	Seed cleaning	Drying	Pooling	Brokerage	Financial service	Feed grinding	Fertilizer application	Soil testing
All	100.0	100.0	70.1	73.6	13.8	23.0	26.4	69.0	70.1	63.2
Production Region										
Spring wheat	100.0	100.0	93.8 CW	71.9 c	9.4	28.1	28.1	43.8 CW	40.6 CW	31.3 CW
Corn	100.0	100.0	53.6 S	92.9 sW	10.7	17.9	39.3 W	85.7 S	82.1 S	82.1 S
Winter wheat	100.0	100.0	59.3 S	55.6 C	22.2	22.2	11.1 C	81.5 S	92.6 S	81.5 S
Progressiveness										
Progressive	100.0	100.0	53.3 C	86.7 c	23.3 c	30.0	30.0	66.6	80.0	70.0
Intermediate	100.0	100.0	71.9	71.9	15.6	21.9	21.9	65.6	65.6	65.6
Conservative	100.0	100.0	88.0 P	60.0 w	0.0 p	16.0	28.0	76.0	64.0	52.0
Size										
Small	100.0	100.0	79.3	55.2 mL	6.9	20.7	20.7	51.7 mL	48.3 mL	41.4 mL
Medium	100.0	100.0	62.1	79.3 s	10.3	27.6	37.9	72.4 s	75.9 s	62.1 s1
Large	100.0	100.0	69.0	86.2 S	24.1	20.7	20.7	82.8 S	86.2 S	86.2 Sm

\*Statistical significance between groups is represented by the first letter of the other group to which a specific group is compared, an upper case letter represents a .01 and a lower case letter represents a .05 level of statistical significance.

Source: Survey Statement, III.D.

Elevators in this report averaged 61% of farm supply sales on credit (Table 12). Only 9 of the elevators surveyed allowed no sales on credit. Seventy-four or 85% had some write-offs from bad debt. Those elevators extending the most credit reported the most bad debt. Of the elevators with 33% or less sales on credit, 69% experienced bad debt between 1980 and 1987. Bad debt write-offs peaked in the mid-1980s. Most (74%) of the participating elevators experienced bad debt peaks in 1984 and 1985. Nearly 60% of the elevators changed their credit policy to avoid further bad debt. Major changes include move to cash only (12%), limit on credit period (32%), credit limit (9%), and cash discount (3%).

Table 12. Credit policy of 87 selected grain marketing cooperatives, 1988\*

Group	Changed credit policy 1980-1987	Average sales on credit
	(- - - - -percent- - - - -)	
All	58.6	60.9 (30.3)
Production Region		
Spring wheat	65.6 w	39.4 CW (30.4)
Corn	67.9 W	65.9 Sw (28.6)
Winter wheat	40.7 sc	80.6 Sc (17.9)
Size		
Progressiveness		
Progressive	46.7 I	66.5 (31.5)
Intermediate	71.9 P	51.6 (30.7)
Conservative	56.0	65.8 (30.3)
Size		
Small	65.5 m	52.4 (36.3)
Medium	48.3 sl	65.1 (27.6)
Large	62.1 m	65.0 (28.7)

\*Values in parenthesis are standard deviations. Statistical significance between groups is represented by the first letter of the other group to which a specific group is compared, an upper case letter represents a .01 and a lower case letter represents a .05 level of statistical significance.

Source: Survey Statement III.B & C.

Comparisons of credit and bad debt loss by group lend some insight on the effects of the farm crisis (Table 12). Winter wheat elevators had the highest percent of sales on credit and the highest percentage of elevators with bad debt write-offs. This reflects the preponderance of combination elevator and input-supply stores in the winter wheat area. Despite the bad debt write-offs, winter wheat elevators made the fewest changes in credit policy. Progressive managers led, barely, in extending credit. They had slightly more bad debt and yet made the fewest changes in credit policy. Larger elevators had a similar pattern. The fact that the groups of elevators extending the most credit had the most bad debt is not surprising. What is surprising is that those with the most bad debt the most made the fewest changes.

### Competition

The average number of competitors among the groups was relatively uniform (Table 13). However, a significantly larger percentage of them were other cooperatives in the spring wheat area, 73%, as opposed to 48% and 37% for the corn and winter wheat areas. Elevator managers in this survey viewed competitors as having a substantially lower number of services, particularly feed grinding and seed cleaning (Table 14). Drying, on the average, was about the same.

### Grain Merchandising

Cooperatives in the survey were asked what percentage they used specific grain merchandising methods in 1980 and 1987. One objective was to determine how merchandising practices changed from 1980 to 1987 and to what extent there were changes attributable to changes in government programs. Grain acquisition methods listed were cash purchases, forward contracting, no-price-established or delayed-pricing contract (NPE/DPC), and minimum price contract or MPC (see Glossary).

Grain selling methods listed were spot market (load grain, deliver sample, and sell at auction market), sell-to-arrive (offer specific quality grain at auction, then deliver), FOB country (contract for grain, purchaser pays for delivery), and basis trading (sell grain through futures market). Use of merchandising methods that reduce risk (forward contracts, minimum pricing contracts, and basis trading) and that enhance pricing flexibility (NPE or DPC contracts) demonstrate a manager's innovativeness.

The cooperatives varied considerably in their use of assorted grain acquisition methods, but most increased their use of more innovative methods between 1980 and 1987 (Tables 15 and 16). Cash purchases, the more traditional method of acquisition, was the most heavily used in both 1980 and 1987. However, cash purchases declined from 83% in 1980 to 78% in 1987. Also, the percentage of elevators using cash purchases exclusively declined from 28% to 17%. Use of risk averting methods, such as forward contracting and minimum price contracting, increased. The percentage of elevators using NPE or DPC contracts increased 74% from 3% to 6%. Forward contracting increased 16% from 1980 to 1987, while minimum pricing contracts, developed after agricultural options trading began in 1984, increased from zero to 1%.

Table 13. Competitive environment<sup>a</sup> of 87 selected grain marketing cooperatives, 1988<sup>b</sup>

Group	Competitors			
	Average number per elevator	% Co-op	Average distance miles	Average loadout capacity cars/day
All	2.7	54.8	16.3	33.8
Production Region				
Spring wheat	2.9	73.1 CW	18.8	30.5 C
Corn	2.8	48.1 S	15.4	47.8 SW
Winter wheat	2.6	37.1 S	13.8	22.7 C
Progressiveness				
Progressive	2.6	48.7	15.1	37.7
Intermediate	3.0	55.8	17.1	31.6
Conservative	2.6	60.6	16.4	29.5
Size				
Small	3.0	62.8	13.8	26.4
Medium	2.6	54.7	17.0	39.6
Large	2.7	46.8	17.8	39.7

<sup>a</sup>As judged by manager.

<sup>b</sup>Statistical significance between groups is represented by the first letter of the other group to which a specific group is compared, an upper case letter represents a .01 and a lower case letter represents a .05 level of statistical significance.

Source: Survey Statement IV.A.

Table 14. Percent of competitors that provide specified services to 87 selected grain marketing cooperatives, 1988<sup>a</sup>

Group	Services						
	Grain storage	Seed cleaning	Drying	Brokerage	Feed grinding	Fertilizer application	Soil testing
All	96.2	47.7 (22.4)	69.9 (3.7)	7.5 (15.5)	35.6 (33.4)	54.4 (15.7)	39.7
Production Region							
Spring wheat	97.8	81.7 CW (12.1)	78.5 W (-6.6)	8.6 (19.5)	30.1 (13.7)	52.7 (-12.1)	40.9
Corn	94.6	25.7 S (27.9)	90.5 W (2.4)	6.8 (11.2)	48.6 (37.1)	59.5 (22.5)	45.9
Winter wheat	100.0	27.5 S (31.8)	39.1 SC (16.5)	7.2 (15.0)	30.4 (51.1)	53.6 (39.0)	33.3
Progressiveness							
Progressive	100.0	44.9 (8.4)	85.9 ic (0.8)	11.5 (18.5)	33.3 (33.3)	53.8 (26.2)	43.6
Intermediate	93.5	47.8 (24.1)	65.2 p (6.7)	8.7 (13.2)	40.2 (25.4)	59.8 (5.8)	45.7
Conservative	100.0	53.0 (35.0)	60.6 p (-0.6)	1.5 (14.5)	33.3 (42.7)	50.0 (14.0)	28.8
Size							
Small	95.4	60.9 l (18.4)	58.6 l (-3.4)	10.3 (10.4)	35.6 (16.1)	52.9 (-4.6)	35.6
Medium	100.0	43.1 (19.0)	76.4 (2.9)	11.1 (16.5)	44.4 (28.0)	51.4 (24.5)	41.7
Large	97.4	39.0 s (30.0)	79.2 s (7.0)	1.3 (19.4)	28.6 (54.2)	61.0 (25.2)	44.2

<sup>a</sup>Numbers in parenthesis are the difference from equivalent values for the 87 cooperatives (see Table 13). Statistical significance between groups is represented by the first letter of the other group to which a specific group is compared, an upper case letter represents a .01 and a lower case letter represents a .05 level of statistical significance. An upper case letter represents a .01 level and a lower case letter represents a .05 level of statistical significance.

Source: Survey Statement IV.B.

Table 15. Percent of 87 selected grain marketing cooperatives employing specified grain acquisition methods, 1980 and 1987<sup>a</sup>

Group	Method <sup>b</sup>						
	1980			1987			
	Cash purchase	Forward contract	NPE/DPC	Cash purchase	Forward contract	NPE/DPC	MPC
All	83.4 (19.2)	13.1 (17.3)	3.4 (8.4)	78.3 (22.0)	15.2 (17.7)	5.9 (13.1)	0.6 (2.0)
Production Region							
Spring wheat	81.6 W (23.7)	12.4 c (19.9)	6.1 w (11.8)	76.6 w (28.7)	14.8 (22.8)	8.5 (18.5)	0.2 (0.5)
Corn	74.6 W (17.0)	22.1 sW (17.4)	3.2 (6.4)	68.9 W (16.4)	23.0 W (15.1)	7.1 (10.7)	1.1 (2.7)
Winter wheat	94.6 SC (6.3)	4.5 C (6.0)	0.6 s (2.9)	90.0 sC (9.6)	7.6 C (7.7)	1.7 (3.8)	0.7 (2.0)
Progressiveness							
Progressive	74.5 Ci (22.8)	19.0 c (21.3)	6.2 (12.0)	68.5 Ci (24.7)	20.2 c (19.7)	10.5 c (19.3)	0.9 (2.1)
Intermediate	86.1 p (15.1)	11.8 (14.8)	2.2 (5.5)	79.7 P (19.0)	15.2 (16.1)	4.3 (8.5)	0.8 (2.5)
Conservative	90.6 Pi (15.4)	7.6 p (12.8)	1.8 (5.0)	88.1 P (17.4)	9.3 p (16.0)	2.5 p (5.8)	0.2 (0.6)
Size							
Small	91.3 L (13.8)	8.7 (13.8)	0.0 L (0.0)	88.0 Lm (15.1)	9.9 l (12.3)	1.3 m (4.1)	0.9 (2.6)
Medium	82.7 (18.6)	13.1 (15.7)	3.9 (8.9)	74.4 s (22.3)	15.6 (15.2)	9.5 s (19.2)	0.5 (1.9)
Large	76.2 S (21.9)	17.4 (21.1)	6.4 S (10.7)	72.4 S (24.7)	20.1 s (23.1)	7.0 (10.4)	0.5 (1.2)

<sup>a</sup>Values in parenthesis are standard deviations. Statistical significance between groups is represented by the first letter of the other group to which a specific group is compared, an upper case letter represents a .01 and a lower case letter represents a .05 level of statistical significance.

<sup>b</sup>NPE/DPC = No price established or delayed pricing contract. MPC = minimum pricing contract. Percentages may not add up to 100% due to other undisclosed methods used.

Source: Survey Statment VI.C.1.

Table 16. Change in percentage of grain acquisition methods from 1980 to 1987 by 87 selected grain marketing cooperatives, 1988

Group	Method			
	Cash purchase	Forward contract	NPE/DPC	MPC
All	-5.1	+2.1	+2.5	.6
Production Region				
Spring wheat	-5.0	+2.4	+2.4	.2
Corn	-5.7	+0.9	+3.9	1.1
Winter wheat	-4.6	3.1	1.1	.7
Progressiveness				
Progressive	-6.0	1.2	4.3	.9
Intermediate	-6.4	3.4	2.1	.8
Conservative	-2.5	1.7	.7	.2
Size				
Small	-3.3	1.2	1.3	.9
Medium	-8.3	2.5	5.6	.5
Large	-3.8	2.7	.6	.5

Source: Table 15.

Selling spot market and/or to-arrive were the two primary forms of selling. Spot market sales declined by 16% from 1980 to 1987 (Tables 17 and 18). To-arrive sales declined slightly (3%). The percentage of elevators depending exclusively on either of these methods declined between 1980 and 1987 (spot from 15 to 8%, to-arrive from 9 to 6%). The other forms of selling, FOB country and basis trading, increased between 1980 and 1987 (9% and 72%, respectively). Another indication of the growing importance of FOB country and basis trading was the drop in percent of elevators not using these methods (from 63 to 58% for FOB country and from 75 to 56% for basis trading).

#### Patronage Refunds on Grain Merchandising

A fundamental difference of cooperatives from IOFs is the distribution of net income to patrons as patronage refunds to achieve business-at-cost. Patronage refunds can be allocated to patrons by individual commodity or on the average and by quantity or by value. The cooperative also can allocate some net income to unallocated or tax-paid reserves. Ideally refunds should be allocated so that returns to each individual patron reflect the net income generated by their patronage. It is often difficult to keep track of the net income made from each type of service; thus, many cooperatives use a blending method to determine refunds. Blending often distorts the business-at-cost principle because one product may be profitable while another is not. Income from unrelated business and/or nonmember business is generally transferred to unallocated reserves. This account also may have income credited to it from member business to increase the size of the unallocated account.

Table 17. Percent of 87 selected grain marketing cooperatives employing specified grain selling methods, 1980 and 1987<sup>a</sup>

Group	Grain selling method							
	1980				1987			
	Spot market	To-arrive	FOB country	Basis trading	Spot market	To-arrive	FOB country	Basis trading
Total	45.2 (37.7)	35.6 (37.4)	8.7 (19.6)	10.5 (25.7)	37.8 (34.5)	34.5 (35.8)	9.5 (18.7)	18.1 (29.8)
Production Region								
Spring wheat	50.3 (30.3)	40.2 (32.1)	7.5 (14.8)	2.0 C (5.2)	47.9 c (30.9)	40.2 (31.4)	8.1 (13.3)	3.8 Cw (10.2)
Corn	31.0 w (37.1)	31.1 (39.0)	14.0 (28.2)	23.9 SW (39.4)	24.4 s (32.1)	27.1 (36.8)	15.6 w (26.8)	32.9 S (38.7)
Winter wheat	53.9 c (43.1)	34.8 (42.2)	4.6 (11.4)	6.7 C (15.8)	39.8 (37.5)	35.5 (39.5)	5.0 c (11.4)	19.7 s (27.5)
Progressiveness								
Progressive	42.0 (38.1)	37.5 (38.7)	6.2 (17.0)	14.3 (30.0)	29.8 (31.6)	38.9 (37.0)	5.9 (14.6)	25.4 (33.5)
Intermediate	54.8 (35.8)	22.9 c (28.4)	8.3 (17.5)	14.1 (29.8)	47.7 (35.2)	23.3 c (29.1)	10.7 (16.6)	18.4 (29.7)
Conservative	36.8 (38.6)	49.6 i (41.8)	12.2 (24.6)	1.4 (4.5)	34.9 (35.2)	43.7 i (39.5)	12.4 (24.8)	9.0 (22.9)
Size								
Small	46.8 (38.1)	40.9 (39.8)	8.7 (17.7)	3.6 (13.4)	43.5 (34.1)	36.4 (37.1)	10.5 (17.9)	9.5 (18.4)
Medium	48.8 (38.7)	28.4 (35.3)	7.6 (21.3)	15.2 (31.1)	41.3 (34.9)	26.2 (31.7)	7.4 (21.4)	25.0 (33.9)
Large	40.0 (37.2)	37.4 (37.3)	9.9 (20.2)	12.8 (28.4)	28.6 (33.8)	40.9 (38.0)	10.7 (17.0)	19.8 (33.3)

<sup>a</sup>Values in parenthesis are standard deviations. Statistical significance between groups is represented by the first letter of the other group to which a specific group is compared, an upper case letter represents a .01 and a lower case letter represents a .05 level of statistical significance.

Source: Survey Statement VI.D.1.



Table 18. Changes in percentage of grain selling methods from 1980 to 1987 by 87 selected grain marketing cooperatives

Group	Method			
	Spot Market	To arrive	FOB country	Basis trading
All	-7.4	-1.1	.8	7.6
Production Region				
Spring wheat	-2.4	0	.6	1.8
Corn	-6.6	-4.0	1.6	9.0
Winter wheat	-14.1	.7	.4	13.0
Progressiveness				
Progressive	-12.2	1.4	-.3	11.1
Intermediate	-7.1	.4	2.4	4.3
Conservative	-1.9	-5.9	.2	7.6
Size				
Small	-3.3	-4.5	1.8	5.9
Medium	-7.5	-2.2	-.2	9.8
Large	-11.4	3.5	.8	7.0

Source: Table 17.

Refunds on grain operations were allocated by physical units (bushels of grain) by 91% of the co-ops and on a dollar basis by 9% (Table 19). Thirty-nine percent of the elevators distributed grain handling refunds based on a blend of grains and 53% distributed refunds based on individual grains. The remaining 8% were distributed to nongrain merchandising activities such as feed.

#### Allocation of Net Income from Services

An average of 34% of gross income came from grain-related services (Table 20). Of this amount, 55% was credited to unallocated reserves, 10% was allocated based on a blend of service patronage and the rest, 35%, was allocated according to proportions of patronage in each service. The net income from most member storage (77%) was allocated separately.

Income from government storage was largely placed in unallocated reserves. Ninety-four percent of the elevators reported allocating net income from government storage to unallocated reserves. The rest of the elevators (6%) blended net income from government storage with all grain-related income and distributed refunds based on grain merchandising.

Table 19. Method of calculating patronage refunds by 87 selected cooperative elevators, 1988<sup>a</sup>

Group	Volume			Monetary	
	Blend	Individual grain	Combination <sup>b</sup>	Blend	Individual grain
	(- - - - - percent - - - - -)				
All	32.2	48.3	8.0	6.9	2.3
Production region					
Spring wheat	3.1 Cw	71.9 CW	0.0 W	9.4	6.3
Corn	64.3 S	28.6 S	0.0 W	7.1	0.0
Winter Wheat	29.6 s	40.7 S	25.9 SC	3.7	0.0
Progressiveness					
Progressive	46.7 c	38.3 C	10.0	6.7	3.3
Intermediate	28.1	46.9	6.3	6.3	3.1
Conservative	20.0 p	64.0 P	8.0	8.0	0.0
Size					
Small	20.7 l	55.2	6.9	6.9	3.4
Medium	31.0	41.4	13.8	13.8	0.0
Large	44.8 s	44.8	3.4	0.0	3.4

<sup>a</sup>Statistical significance between groups is represented by the first letter of the other group to which a specific group is compared, an upper case letter represents a .01 and a lower case letter represents a .05 level of statistical significance.

<sup>b</sup>Patronage refunds were calculated separately for wheat but net income from feed grains (primarily corn and sorghum) were allocated as a blend.

Source: Survey statement V.A.

Table 20. Allocation of net income from grain related services, 87 selected grain marketing cooperatives, 1988\*

Group	Allocation of net income from all grain related services				Member storage			Government storage		
	Unallocated reserves	Allocated		Total	Unallocated reserves	Allocated		Unallocated reserves	Allocated	
		Blend	By indiv. ser.			Blend	Member storage		Blend	Govt. storage
	(- - - - percent of total net income - - - - )				(- - - - - percent of cooperatives - - - - - )					
All	18.4 (13.1)	3.4 (9.6)	11.7 (11.9)	33.5	6.9	16.1	77.0	88.5	5.7	5.7
Production region										
Spring wheat	24.0 w (12.7)	0.0 c (0.5)	9.3 (11.3)	33.3	15.6 w	3.1 cw	81.3	100.0 w	0.0 w	0.0 cw
Corn	19.1 w (12.9)	6.4 s (14.4)	12.4 (12.4)	37.9	3.6	25.0 s	71.4	89.3	3.6	7.1 s
Winter wheat	11.1 Sc (10.7)	4.0 (8.3)	14.0 (11.9)	29.1	0.0 s	22.2 s	77.8	74.1 s	14.8 s	11.1 s
Progressiveness										
Progressive	15.2 c (12.1)	5.2 (13.0)	12.2 (11.2)	32.6	0.0 ic	20.0	80.0	83.3	10.0	6.7
Intermediate	12.0 c (12.1)	10.1 (8.6)	17.5 (10.1)	39.6	9.4 p	12.5	78.1	87.5	3.1	9.4 c
Conservative	24.5 pi (15.3)	2.7 (6.6)	10.9 (12.8)	38.1	12.0 p	16.0	72.0	96.0	4.0	0.0 i
Size										
Small	16.9 (15.6)	1.9 (5.5)	11.3 (12.5)	30.1	10.3	13.8	75.9	86.2	6.9	6.9
Medium	18.3 (12.3)	4.2 (10.3)	11.8 (11.6)	34.3	3.4	17.2	79.3	89.7	6.9	3.4
Large	20.1 (11.5)	4.0 (12.0)	12.1 (11.9)	36.1	6.9	17.2	75.9	89.7	3.4	6.9

Cont'd.

Table 20. Cont'd.

Group	Drying				Cleaning			
	Service not offered	Unallocated reserves	Allocated		Service not offered	Unallocated reserves	Allocated	
			Blend	Drying			Blend	Cleaning
( ----- percent of cooperatives ----- )								
All	26.4	3.4	13.8	56.4	29.9	6.9	6.9	56.3
Production region								
Spring wheat	28.1 c	9.4	0.0	62.5 W	6.6 CW	15.6 w	3.1	74.7 Cw
Corn	7.1 sW	0.0	21.4	71.4 W	46.4 S	3.6	7.1	42.9 S
Winter wheat	44.4 C	0.0	22.2	33.4 SC	40.7 S	0.0 c	11.1	48.2 s
Progressiveness								
Progressive	13.3 C	3.3	20.0	63.4 c	46.7 C	6.7	3.3	43.3 c
Intermediate	28.1	3.1	9.4	59.4	28.1	3.1	9.4	59.4
Conservative	40.0 P	4.0	12.0	44.0 p	12.0 P	12.0	8.0	68.0 p
Size								
Small	44.8 mL	3.4	6.9	44.9	20.7	6.9	10.3	62.1
Medium	20.7 s	0.0	17.2	62.1	37.9	0.0	6.9	55.2
Large	13.8 S	6.9	17.2	62.1	31.0	13.8	3.4	51.8

\*Statistical significance between groups is represented by the first letter of the other group to which a specific group is compared, an upper case letter represents a .01 and a lower case letter represents a .05 level of statistical significance.

Source: Survey Statement V.B.

Just over half (55%) of the income from grain drying was allocated back to patrons on the basis of drying patronage. Twelve or 14% of the elevators did not allocate drying profits separately. Only 3 elevators placed net income from drying in unallocated reserves. Twenty-four elevators had no drying service, mostly in the HRW area. Income from cleaning was allocated similar to income from drying. Twenty-five elevators of the 87 did not clean grain.

Nonmember business often is treated differently from member business. Over two thirds (68%) of the elevators in this survey allocated net income from nonmember business to unallocated reserves. The balance of the elevators allocated net income back to nonmembers in the same way they did to members.

### Performance

Although most country elevators provide services, their primary function is to handle grain. Thus, margins from grain merchandising are important to their financial viability. Typically, managers aim for a certain margin on each commodity to cover costs associated with handling and loading and to contribute to net income. Margins vary by commodity and location, generally reflecting the competitive environment and pricing policies of market participants. Approximately one third of the participating elevators' gross income (total sales less cost of goods sold) came from merchandising (Table 21). Gross margins from this source varied from 9% to 85% of total gross income among the elevators. Income from other grain-related services were member storage (11%), government storage (20%), drying (2%), and cleaning (1%). Margins from grain-related services averaged 66% of gross income.

Attempted and obtained margins for six principal commodities participating elevators handled are given in Table 22. The six commodities, HRS wheat, barley, soybeans, sorghum (milo), HRW wheat, and corn, accounted for 91% of the grain.

Seventy percent of the elevators handled corn, the most important commodity, which accounted for an average of 26% of the grain handled. Average attempted margin for corn was 10.4¢/bu., ranging from 5 to 20¢/bu. Average obtained margin for corn was 11¢/bu. and ranging from 2 to 31¢/bu.

HRW wheat and barley were two principal commodities where average attempted margins were higher than average obtained margins. Winter wheat was the second most important crop the participating elevators handled. Half of the elevators handled winter wheat, which accounted for 21% of grain merchandised. Average attempted margin for winter wheat was 12.4¢/bu., ranging from 5 to 22¢/bu. Obtained margins averaged 11¢/bu., ranging from 1 to 19¢/bu.

The 40 elevators (46%) handling HRS wheat, the third most important commodity, averaged an attempted margin of 10.48¢/bu., ranging from 5 to 20¢/bu. The average margin they obtained was 11.83¢/bu., ranging from 1 to 25¢/bu.

Forty-seven percent of the elevators handled barley, the fifth most important commodity (of all grain handled) and was the other commodity where attempted margins were higher than obtained. Attempted margin on barley averaged 11.7¢/bu., ranging from 7 to 20¢/bu. Obtained margin for barley averaged 11.0¢/bu., ranging from -3 to 36¢/bu.

Attempted margin for soybeans averaged 13.7¢/bu., ranging from 6 to 30¢/bu. Margins realized on soybeans averaged 14.1¢/bu. They had the greatest variation, ranging from -5 to 60¢/bu. with a standard deviation of 11. The next highest was sorghum with 8.6 and the lowest was sorghum with 5.2.

Table 21. Average contribution (percent) to total gross margin and net income by specified service of 87 selected grain merchandising cooperatives, 1987<sup>a</sup>

Group	Contribution to total gross margin by grain merchandising	Contribution to net income by:			
		Storage		Drying	Cleaning
		Member	Govt.		
All	32.4 (17.1)	10.9 (8.5)	19.6 (11.9)	1.7 (2.2)	1.4 (1.7)
Production region					
Spring wheat	42.3 WC (16.2)	5.6 WC (5.3)	24.3 W (11.4)	1.1 C (1.9)	2.3 WC (2.1)
Corn	28.8 S (18.9)	14.1 S (9.7)	20.1 w (12.0)	3.1 SW (2.5)	0.6 S (1.0)
Winter wheat	24.3 S (8.6)	13.8 S (7.2)	13.4 Sc (9.7)	0.8 C (1.1)	1.1 S (1.4)
Progressiveness					
Progressive	31.6 (17.3)	12.9 (9.4)	16.8 C (10.8)	2.0 (2.3)	0.9 c (1.4)
Intermediate	34.3 (17.6)	10.1 (8.6)	17.5 C (10.1)	1.8 (2.3)	1.6 (1.9)
Conservative	30.9 (16.5)	9.6 (6.8)	25.6 PI (13.4)	1.2 (1.9)	1.7 p (1.8)
Size					
Small	35.2 (19.7)	8.8 (7.4)	18.5 (13.8)	0.9 l (1.4)	1.8 (2.0)
Medium	33.5 (17.0)	12.2 (8.8)	19.3 (11.7)	1.9 (2.2)	1.0 (1.5)
Large	28.4 (13.8)	11.7 (7.0)	20.9 (10.1)	2.2 s (2.6)	1.3 (1.6)

<sup>a</sup>Values in parenthesis are standard deviations. Statistical significance between groups is represented by the first letter of the other group to which a specific group is compared, an upper case letter represents a .01 and a lower case letter represents a .05 level of statistical significance.

Source: Survey Statements III.B and V.B.

Table 22. Margins on six principal commodities among 87 selected grain marketing cooperatives, 1987\*

Group	HRS Wheat			Barley			HRW Wheat		
	Average % of handle	Attempted margin	Obtained margin	Average % of handle	Attempted margin	Obtained margin	Average % of handle	Attempted margin	Obtained margin
	(- - -¢/bushel- - -)			(- - -¢/bushel- - -)			(- - -¢/bushel- - -)		
All	16.5 (22.8)	10.5 (3.3)	11.8 (5.8)	8.8 (13.4)	11.7 (2.8)	11.0 (8.1)	21.3 (33.8)	12.5 (3.8)	11.0 (5.2)
Production region									
Spring wheat	40.7 CW (18.0)	10.3 (2.9)	11.5 (6.1)	22.5 CW (13.5)	11.0 W (2.7)	9.4 W (4.9)	2.2 W (4.1)	10.4 (3.9)	7.6 (4.9)
Corn	4.9 S (11.6)	11.3 (3.5)	13.2 (4.1)	1.0 S (3.3)	10.0 W (1.0)	11.0 W (6.6)	1.4 W (5.0)	11.6 (3.8)	11.0 (3.4)
Winter wheat	0.0 W (0.0)	--	--	0.8 S (1.9)	16.0 SC (2.9)	19.5 SC (9.3)	64.6 SC (30.3)	13.6 (3.7)	12.6 (3.5)
Progressiveness									
Progressive	12.7 (19.5)	9.3 (1.9)	12.1 (7.2)	6.5 (11.0)	11.3 (3.8)	10.9 (6.4)	19.1 (28.6)	12.0 (3.5)	11.6 (3.9)
Intermediate	17.2 (23.8)	11.4 (3.2)	11.9 (5.1)	9.9 (16.1)	11.2 (2.3)	10.9 (4.4)	22.2 (37.9)	13.9 (4.0)	10.9 (5.4)
Conservative	20.2 (25.0)	10.5 (3.6)	11.5 (5.4)	10.3 (12.4)	12.4 (3.5)	11.4 (8.9)	22.8 (35.3)	11.7 (4.4)	10.3 (4.1)
Size									
Small	21.8 (24.9)	10.9 (3.2)	11.9 (5.0)	10.7 (13.8)	12.6 (3.4)	11.7 (8.9)	26.0 (38.1)	13.5 (4.5)	12.0 (3.8)
Medium	12.9 (19.3)	10.6 (3.8)	12.5 (6.7)	8.9 (15.2)	11.0 (2.9)	11.6 (4.8)	19.0 (32.7)	12.5 (4.6)	10.6 (4.4)
Large	14.8 (23.5)	9.6 (1.3)	10.7 (5.9)	6.9 (11.1)	11.3 (3.3)	9.5 (5.6)	19.0 (31.0)	11.9 (3.2)	10.6 (4.9)

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Cont'd.

Table 22. Cont'd.

Group	Corn			Soybeans			Sorghum		
	Average % of handle	Attempted margin	Obtained margin	Average % of handle	Attempted margin	Obtained margin	Average % of handle	Attempted margin	Obtained margin
	(- - - ¢/bushel - - -)			(- - - ¢/bushel - - -)			(- - - ¢/bushel - - -)		
All	25.8 (30.1)	10.4 (4.1)	10.8 (6.3)	12.0 (14.3)	13.7 (4.1)	14.1 (11.1)	6.3 (13.3)	25.1 (9.5)	26.0 (8.6)
Production region									
Spring wheat	6.6 C (12.6)	9.8 (1.2)	10.4 (6.0)	5.1 C (9.4)	11.8 W (2.6)	10.5 W (7.1)	0.0 W (0.0)	-- --	-- --
Corn	61.4 SW (20.4)	8.9 (2.3)	8.7 (2.5)	27.9 SW (9.9)	11.8 W (3.0)	12.8 W (4.5)	1.9 W (6.5)	18.7 (9.9)	22.0 (7.2)
Winter wheat	11.6 C (18.7)	13.6 (4.2)	14.8 (5.9)	3.7 C (8.0)	22.8 SC (5.1)	24.6 SC (13.9)	18.2 SC (17.9)	26.1 (8.3)	26.7 (8.4)
Progressiveness									
Progressive	29.9 (30.8)	10.6 (3.6)	10.9 (4.4)	12.6 (13.1)	15.6 (6.2)	16.9 (7.1)	9.1 (14.3)	25.5 (7.6)	26.4 (6.6)
Intermediate	25.8 (30.7)	9.9 (2.6)	10.8 (5.1)	11.1 (14.0)	11.3 (3.1)	13.1 (5.1)	4.2 (13.8)	26.4 (9.3)	27.2 (8.8)
Conservative	20.8 (29.0)	10.8 (3.9)	10.4 (6.8)	12.4 (16.3)	14.0 (5.3)	11.6 (13.6)	5.5 (11.1)	23.2 (11.2)	24.3 (11.8)
Size									
Small	15.4 (22.0)	11.0 (3.4)	11.6 (6.4)	12.1 (16.0)	13.6 (5.6)	13.4 (12.9)	6.1 (14.1)	26.8 (8.6)	28.7 (7.6)
Medium	29.9 (31.6)	10.7 (3.3)	11.1 (3.6)	14.0 (14.3)	13.1 (5.0)	13.4 (7.1)	5.7 (14.4)	28.0 (10.4)	28.4 (11.5)
Large	32.0 s (33.7)	9.7 (3.3)	9.7 (5.9)	9.8 (12.4)	14.4 (5.6)	15.4 (7.0)	7.0 (11.6)	22.0 (7.0)	22.8 (5.1)

\*Values in parenthesis are standard deviations. Statistical significance between groups is represented by the first letter of the other group to which a specific group is compared, an upper case letter represents a .01 and a lower case letter represents a .05 level of statistical significance. Averages are simple, not weighted.

Source: Survey statement III.A.



Twenty-six percent of the elevators handled sorghum, which accounted for 6% of the grain. Attempted margin averaged 25.1¢/bu. for sorghum, ranging from 8 to 41¢/bu. Obtained margins averaged 26¢/bu., ranging from 8 to 38¢/bu.

Average 1987 net income for all 87 elevators was \$321,542 (Table 23). Most elevators had a positive net income (five elevators made over \$1 million) but three elevators lost money. Return on owners' equity averaged 11% and ranged from -17% to 39%. Return on assets averaged 6%, ranging from -0.9% to 14%.

### Differences Among Groups

This section summarizes observations about significant differences among the groups regarding descriptive statistics, practices, and performance. Only statistically significant comparisons are made unless a trend is present. As noted in the footnote in most tables, statistical significance between groups is represented by the first letter of the other group to which a specific group is compared: an upper case letter represents a .01 level of significance and a lower case represents a level of .05.

The following convention will be followed when making comparisons to avoid frequent repetition and to make the narrative more compact. The first number in brackets refers to the group being discussed and the second number refers to the average for the other two groups. In some cases, statistics are given for both other groups.

### Production Region

Spring wheat cooperatives had less storage and loadout capacity and fewer employees. Their managers had less education, used the microcomputer less, and relied more on commission firms for services (grain merchandising and accounting). Seed cleaning was significantly more important and sale of farm supplies and services significantly less important than for the other two production regions. A much higher percent (73%) of their competition was from other cooperatives (vs. 43% for the other 2 areas).

Cooperatives in the corn production area had the most storage and loadout capacity with 4.7 million bu. storage and 67 cars/day loadout capacity. Averages for these same factors for the other regions were 1.7 million bu. and 33 cars/day. Over 90% of the corn elevators dry grain compared to 79% in the spring and 39% in the winter wheat areas. On the buying side, corn elevators use forward contracting the most (22% vs. 8% for the other two regions). On the selling side, they use the spot market the least (24% vs. 44%) and basis trading the most (33% vs. 4% for spring and 20% for winter wheat areas).

Cooperative elevators in the winter wheat production area had the most farmer patrons (1,239 vs. 658 for spring wheat and 1,005 for corn). Winter wheat cooperatives provided less drying services (56% vs. 93% for corn and 72% for winter wheat areas) and used cash purchases the most (95% vs. 78%) and forward contracting the least (5% vs. 17%) to acquire grain. They also cut back on the use of spot and increased the use of basis trading the most to sell grain from 1980 to 1987 (-14% vs. -5% and 13% vs. 9% for corn and 2% for spring wheat).

Table 23. Average financial data on 87 selected grain marketing cooperatives, 1987<sup>a</sup>

Group	Total assets	Net worth	Net income	Debt/ net worth	Debt/ total assets	Return on equity	Return on assets
All	\$5,501,040 (5,292,509)	\$2,758,088 (2,325,609)	\$321,542 (447,910)	1.04 (0.85)	0.44 (0.18)	10.7 (7.9)	5.7 (3.9)
Production Region							
Spring wheat	4,114,511 c (3,800,841)	1,822,874 c (1,664,139)	175,273 c (171,535)	1.40 w (1.08)	0.51 w (0.18)	10.5 (8.0)	4.8 (3.6)
Corn	7,469,374 s (6,979,514)	3,728,097 s (3,032,459)	564,124 sw (704,184)	0.98 (0.60)	0.46 w (0.14)	13.3 w (9.8)	7.0 (4.9)
Winter wheat	5,019,827 (4,172,321)	2,835,844 (1,587,935)	231,473 c (195,868)	0.65 s (0.56)	0.34 sc (0.18)	8.1 c (3.7)	5.1 (2.3)
Progressiveness							
Progressive	7,825,383 ic (7,352,011)	3,647,152 c (2,981,139)	614,511 ic (671,970)	1.05 (0.68)	0.46 (0.17)	16.0 ic (6.6)	8.3 ic (3.2)
Intermediate	4,614,049 p (2,969,583)	2,507,250 (1,577,476)	217,760 p (162,689)	1.12 (1.03)	0.45 (0.18)	10.5 pc (7.4)	5.5 pc (3.4)
Conservative	3,861,089 p (3,664,000)	2,023,942 p (1,895,808)	105,147 p (110,648)	0.93 (0.82)	0.41 (0.20)	4.9 pi (5.4)	2.8 pi (2.9)
Size							
Small	2,116,017 Lm (1,545,117)	1,287,551 Lm (923,903)	113,748 Lm (103,666)	0.77 (0.70)	0.37 l (0.18)	8.8 (7.6)	5.2 (4.4)
Medium	4,767,384 Ls (1,878,223)	2,492,177 Ls (1,183,278)	270,554 Ls (185,708)	1.18 (1.06)	0.46 (.19)	11.7 (7.8)	5.8 (3.4)
Large	9,717,919 SM (7,033,234)	4,539,151 SM (2,929,287)	586,455 SM (699,854)	1.17 (0.73)	0.50 s (0.14)	11.8 (8.1)	5.9 (3.8)

<sup>a</sup>Values in parenthesis are standard deviations. Statistical significance between groups is represented by the first letter of the other group to which a specific group is compared, an upper case letter represents a .01 and a lower case letter represents a .05 level of statistical significance.

Source: Financial statements of participating cooperatives.

### Progressiveness

Progressive cooperatives were larger than the others (4.3 vs. 1.8 million bu. storage), and did the least seed cleaning (53% vs. 80%) and the most drying (87% vs. 66%) and pooling (23% vs. 16% for intermediate and none for conservative). Their managers used cash purchases to acquire grain the least (75% vs. 88%). Use of this acquisition method declined more than the conservative cooperatives (-6% vs. -3%). They also cut back the most on the use of spot sales (-12% vs. 7% for intermediate and 2% for conservative) and increased the use of basis trading the most (11% vs. 6%).

Conservative cooperative elevators were the smallest in all aspects except number of nonmember farmer patrons. More of them provided seed cleaning services (88% vs. 53% for progressive and 72% for intermediate). Fewer of them provided drying (60% vs 72% for intermediate and 87% for progressive). None of them provided pooling. They used cash transactions to acquire grain the most (91% vs. 86% for intermediate and 75% for progressives).

### Size

Managers of smaller elevators have had less education. Fewer of the smaller elevators provided drying services (55% vs. 79% for medium and 86% for the large). They acquired more of their grain via cash (88% vs. 73% the large) and the least via forward contracts (10% vs. 20% for the large).

Large cooperatives used new technology the most (100% vs. 74% for electronic grain news and 97% vs. 83% for medium and 49% for small or microcomputer use). More of them provided grain drying and fertilizer (86% vs. 78% for medium and 52% for small). They used cash the least (72% vs. 88% for small) and forward contracting the most (20% vs. 16% for medium and 10% for small) to acquire grain. They also cut back on the use of cash the most from 1980 to 1987 (11% vs. 8% for medium and 3% for small). More of them also calculated patronage refunds on a blend rather than on an individual grain basis (45% vs. 26%).

## IMPACTS OF GOVERNMENT PROGRAMS AND OTHER SELECTED DEVELOPMENTS

### Ranking of Impacts

Managers were asked to rank seven factors according to their impact on elevator operations: government storage programs, other farm programs, interest rates, rail line abandonment, farm financial crisis, introduction of unit train rates, and mergers. The responses were scored by assigning a value to each ranking (factor ranked most important = 1, second most important = 2, etc.); then each factor's total was divided by the number of managers ranking the factors (Table 24). Tables that include statistical tests of comparison between these factors and between groups are in Appendix Tables B1 - B3.

Government storage programs had the largest impact among the selected factors with a score of 1.8 (the lower the score the larger the impact). Another indication of the importance of government storage programs was that 52 or 61% of the managers ranked it first but never last. Other farm programs ranked second in importance with a score of 3.1. Managers ranked it first only 8% of the time but ranked it among the top 4 out of 7 factors 82% of the time.

Table 24. Average ranking (1 = most, 7 = least) of specified factors according to financial impact from 1980 to 1987 by managers of 87 selected grain marketing cooperatives, 1988<sup>a</sup>

Group <sup>b</sup>	Govt. programs		Interest rates	Factor			
	Storage	Other		Farm crisis	Introduction of unit trains	Mergers	Rail abandonment
All	1.80 (1.25)	3.18 (1.43)	3.61 (1.72)	3.84 (1.50)	4.11 (1.96)	5.44 (1.61)	6.11 (1.78)
Production Region							
Spring wheat	1.41 (0.87)	3.69 W (1.35)	3.91 (1.63)	4.38 W (1.36)	3.19 W (1.86)	5.31 (1.49)	6.13 (1.34)
Corn	2.07 (1.18)	3.14 w (1.38)	3.46 (1.86)	3.79 w (1.45)	4.46 w (1.67)	5.50 (1.50)	5.79 (2.08)
Winter wheat	2.00 (1.58)	2.56 Sc (1.27)	3.40 (1.65)	3.20 Sc (1.40)	4.88 Sc (2.10)	5.52 (1.86)	6.44 (1.95)
Progressiveness							
Progressive	1.90 (1.32)	3.00 (1.54)	4.17 i (1.81)	3.93 (1.54)	3.76 (1.88)	5.21 (1.83)	6.03 (2.09)
Intermediate	1.94 (1.22)	3.25 (1.39)	3.22 p (1.45)	3.91 (1.59)	4.19 (2.04)	5.63 (1.36)	6.06 (1.44)
Conservative	1.50 (1.19)	3.29 (1.37)	3.46 (1.86)	3.63 (1.36)	4.42 (1.96)	5.46 (1.61)	6.25 (1.85)
Size							
Small	1.82 (1.44)	3.14 (1.38)	3.36 (1.70)	3.68 (1.25)	4.36 (1.73)	5.82 (0.98)	5.82 (1.85)
Medium	1.75 (1.14)	3.29 (1.49)	3.54 (1.55)	3.75 (1.29)	3.82 (2.06)	5.61 (1.29)	6.25 (1.24)
Large	1.83 (1.14)	1.83 (1.14)	3.93 (1.71)	4.07 (1.65)	4.14 (1.88)	4.90 (1.70)	6.24 (1.50)

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<sup>a</sup>Values in parenthesis are standard deviations. Statistical significance between groups is represented by the first letter of the other group to which a specific group is compared, an upper case letter represents a .01 and a lower case letter represents a .05 level of statistical significance.

<sup>b</sup>See Appendix Tables B1-3 for matrices of significant differences between factors by groups.

Source: Survey Statement VI.A.

Factors of intermediate importance were interest rates (3.6), farm crisis (3.8), and introduction of unit trains (4.1). These factors were generally ranked in the middle range. For example, the percentage of managers ranking these factors in the third, fourth, and fifth positions were 54% (interest), 73% (farm crisis), and 45% (unit trains).

Mergers (5.4) and rail line abandonment (6.1) are two factors that were not considered as important, and 65% and 74% of the managers placed them in the bottom two positions, respectively. Some managers, however, did consider these factors important and placed them first (7%) or second (5%), respectively. Mergers and rail line abandonment only affected a few managers.

Comparisons of the rankings by location, progressiveness, and size categories underscored the importance of government programs, especially government storage, to country elevators. Government storage programs ranked first among all of the groups and differed significantly from the other factors in all of the groups except winter wheat (Appendix Tables B1 - B3). Other farm programs did not differ significantly but did rank second in seven of the nine groups. Only among intermediate (progressiveness) and spring wheat area elevators did other farm programs rank third. The only significant difference among comparison groups for the impact of government programs was that winter wheat managers rated other farm programs as relatively more important than did the managers from the other regions.

Factors of intermediate importance (according to overall ranking) varied in ranking position among the comparison groups. Interest rates, which ranked third overall, ranked second once (intermediate-progressiveness), third five times, fourth twice, and fifth once (progressive) among the groups. Farm crisis (fourth overall) was more consistent with one third ranking (winter wheat), seven fourth rankings, and one fifth ranking (spring wheat) among the groups. The groups' ranking of the introduction of unit trains reflected some differences in timing of introduction of unit train shipping. Corn belt and winter wheat elevators have had unit train shipping for a longer period than spring wheat elevators, so the introduction of unit train shipping had a lesser impact on corn and winter wheat elevators during the 1980s. As a result, the introduction of unit trains ranked second among the spring wheat elevators, but fifth overall.

Mergers and rail abandonment were less important across groups than the other factors. Mergers ranked sixth and rail abandonment seventh in all of the groups except among small elevators where they tied for sixth.

#### Participation in Government Grain Sales<sup>4</sup>

To reduce storage payments and government stocks, the USDA decided to sell off government (Commodity Credit Corporation or CCC) grain and entice farmers to sell grain from the farmer-owned reserve. To prevent a glut on the domestic market, an export enhancement subsidy was used to promote exports. About half (44 or 51%) of the elevators in the study participated in CCC weekly grain auctions. Most took part in CCC catalog sales (Table 25). Only 11 elevators did not participate, while 29 purchased more than 500,000 bushels from CCC. Sixty-one or 70% of the managers indicated that someone else had purchased some of the CCC grain they had in storage. These purchases averaged 183,690 bushels among the 87 elevators, accounting for 7% of total storage capacity.

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<sup>4</sup>See glossary for definition of terms.

Table 25. Participation in government CCC grain sales by 87 selected grain marketing cooperatives, 1980-1987\*

Group	Participated in CCC weekly auctions	Catalog sales (bu)				CCC grain in storage purchased by others	
		Less than 250,000	250,000- 500,000	More than 500,000	No participation	Bushels	Percent of total storage capacity
(-----percent-----)							
All	50.6	32.2	21.8	33.3	12.6	183,690 (363,679)	6.9
Production Region							
Spring wheat	75.0 c	31.3	28.1	21.9	18.8 c	148,844 (206,002)	13.7
Corn	17.9 SW	28.6	14.3	50.0	7.1 SW	245,214 (568,916)	5.2
Winter wheat	55.6 c	37.0	22.2	29.6	11.1 c	161,185 (211,365)	6.9
Progressiveness							
Progressive	53.3 c	16.7 i	43.3 Ic	30.0	10.0	238,200 (568,113)	5.6
Intermediate	65.6 c	46.9 p	6.3 P	43.8	3.1 c	108,031 c (137,881)	6.2 c
Conservative	28.0 pI	32.0	16.0 p	24.0	28.0 i	215,120 i (216,833)	11.5 i
Size							
Small	34.5 L	51.7 L	20.7	0.0	27.6 L LM	89,690 L (133,249)	13.0 L
Medium	51.7 l	34.5 l	17.2	37.9	10.3 Sl	140,965 l (214,159)	8.3 l
Large	65.5 Sm	10.3 Sm	27.6	62.1	0.0 S Sm	320,414 Sm (558,760)	5.8 Sm

Cont'd.

Table 25. Cont'd.

Group	Average non-catalog & offgrade ccc grain purchased	Non-catalog & off-grade grain sales			Experienced purchase/sale problems
		Purchased all of own	Purchased some	Did not purchase off-grade	
	bushels	- - - - - percent - - - - -			
All	139,626 (381,274)	51.7	37.9	10.3	27.6
Production Region					
Spring wheat	39,938 C (69,608)	37.5 c	43.8	18.8	50.0 CW
Corn	330,982 SW (622,478)	60.7 s	32.1	7.1	14.3 S
Winter wheat	59,333 C (119,670)	59.3	37.0	3.7	14.8 S
Progressiveness					
Progressive	162,200 (493,680)	46.7 i	46.7 i	6.7	20.0
Intermediate	149,609 (360,790)	62.5 pc	25.0 pc	12.5	31.3
Conservative	99,760 (236,335)	44.0 i	44.0 i	12.0	32.0
Size					
Small	52,155 ml (85,254)	41.4 m	41.4	17.2	34.5 m
Medium	179,793 s (423,584)	62.1 s	34.5	3.4	13.8 sl
Large	186,931 s (497,885)	51.7	37.9	10.3	34.5 m

\*Values in parenthesis are standard deviations. Statistical significance between groups is represented by the first letter of the other group to which a specific group is compared, an upper case letter represents a .01 and a lower case letter represents a .05 level of statistical significance.

Source: Survey Statement VI.H.

Many elevators were active in noncatalog and off-grade grain sales. Fifty-nine or 68% of the managers participated in noncatalog or off-grade sales purchasing an average of 139,626 bushels. Forty-five of the managers purchased all of their own off-grade stocks, 10% purchased some of their own, and 38% did not purchase off-grade stocks.

Most managers did not incur any problems with CCC stock purchases or sales. However, 24 or 28% of the managers did; and 5 or 6% had more than one complaint. The most common (17%) complaint was the difference in discount schedules between the market and the government. Infrequent complaints were slow payment, poor record keeping, poor cooperation, and grading differences between market and CCC.

### Impacts of Government Programs

#### Merchandising

Most managers reported that changes in government programs had no impact on buying (70%) or selling (85%) strategies and less on margins (64%) (Table 26). Patterns or clusters of comments regarding type of impact, some conflicting, did emerge. Apparent conflicting or inconsistent responses could be reconciled on the basis of differences in resources, patron needs, market opportunities, and errors in judgment or lack of merchandising skills.

Table 26. Impact of changes in government programs on changes in acquisition and selling methods and margins by 87 selected grain marketing cooperatives, 1980-1987

Merchandising methods	Impact	
	None	Yes
	(- percent -)	
Buying	70	30
Selling	85	15
Margins	64	36

Source: Survey Statements VI C2 and D.2 & 3.

#### Buying Practices

Nine managers identified PIK and roll, the most frequent common response, as contributing to an increase in cash purchases (Table 27). This impact was in the face of an overall decline in cash purchases (Table 16). Two managers indicated that changes in government programs caused them to reduce the proportion of cash purchases.



Table 27. Comment clusters from managers of 87 selected country elevators on changes in merchandising prompted by 1980 to 1987 changes in farm programs

Number of managers	Summary comments
-----grain acquisition methods-----	
9	PIK and roll increased cash
2	decrease in cash
3	Increased forward pricing--to some extent because of forfeited grain
2	Decreased forward contracts
4	Forfeited grain caused changes (1 increase, 1 decrease in cash)
4	Increase in DPC or NPE
5	Just influenced handle or timing, not the method
2	Farm programs have forced farmers to be better merchandisers
----- selling methods -----	
4	Enhanced hedging, shifted to basis hedging, I do more basis trading to recover from ccc with drawing storage
2	Made more to arrive
1	More shopping around
1	Made market more volatile
----- changes in margins -----	
8	Improved or benefitted selling operations, storage allowed more in and out charges, PIK and Roll made more margins, made more on government grain, loan rate increased prices resulting in better margins on higher prices
7	More storage income, therefore, lower margins needed, substituted storage income for lower margins
2	Made up for lower margins with increased volume
9	Lower margins due to farm programs, lost margin, and volume
5	Margins declined but due to competition, not government

Source: Survey Statements VI C.2, D.2, and 3.

Three managers reported that they increased forward contracting because of changes in government programs and, to some extent, because of forfeited grain or loans. Four additional managers indicated that forfeited grain caused changes in other acquisition methods, one an increase and another a decrease in cash.

Five managers commented that government programs did not influence their method of selling but did influence their volume and/or timing. Two other managers indicated that although farm programs had not influenced their acquisition methods they did force farmers to become better merchandisers.

### Selling Methods

Only 15 out of the 87 managers indicated that changes in farm programs influenced changes in their selling methods. Four reported that, because of farm program changes, they shifted toward more basis trading while others increased their to-arrive sales and shopped around more.

### Changes in Margins

The managers were evenly divided on whether changes in government programs improved or made margins lower. Those who said that program changes improved margins indicated that storage allowed more in and out charges, PIK and roll enhanced margins, and loan rate improved prices for better margins.

The nine who claimed the changes caused smaller margin didn't elaborate. Seven additional managers reported that they substituted storage income for narrower margins. Two more said they compensated for lower margins with increases in volume from government programs. Five managers observed that their narrower margins were the result of increased and vigorous competition, not government programs.

### PIK Program and PIK and Roll

The payment-in-kind or PIK program was another notable development for country elevators. PIK was designed to reduce carry-over stocks by paying farmers in grain as an incentive to reduce production. PIK and roll was a strategy farmers and the grain trade used to take advantage of PIK certificates and the differences in commodity prices between trade areas.

The effects of PIK varied greatly among elevators. The 1983 PIK program increased the volume for 43% of the elevators, decreased it for 31%, and didn't change it for 26% (Table 28). Supply sales increased at 53% of the elevators, decreased at 41%, and didn't change at 6%.

Most managers were active in PIK and roll. Its effects on country elevators were generally favorable. Most (89%) of the managers had participated in PIK and roll activities. All of the managers active in PIK and roll were active in swapping PIK certificates with local farmers, and 41% of the managers were active in long-distance or durum swapping. Most (71%) of the managers indicated that PIK and roll had a favorable impact on their cooperatives' grain handle. Only 12% of the managers indicated an adverse effect from PIK and roll, and 17% saw no change.

Income from PIK certificate swaps varied considerably, ranging from none (7% of respondents) to over \$100,000 (13% of respondents). Income from this activity averaged \$54,875 in 1986 and declined to \$33,499 in 1987.

Table 28. Impact of PIK and PIK and roll on 87 selected grain handling cooperatives<sup>a</sup>

Group	Effect of 1983 PIK						Active <sup>b</sup>	1986-87 PIK and roll			Average PIK and roll income	
	On grain handle			On input sales				Effect on grain handle			1986	1987
	Increase	Decrease	No change	Increase	Decrease	No change		Increase	Decrease	No change		
	(-----percent-----)							(-----)			(\$-----)	
All	42.5	31.0	26.4	52.9	41.4	5.7	88.5	71.3	11.5	17.2	43,886 (84,392)	33,499 (38,567)
Production Region												
Spring wheat	62.5 cW	6.3 C	31.3 C	21.9 CW	68.8 CW	9.4	96.9 W	78.1 W	15.6	6.3 W	68,536 wc (92,656)	41,485 (48,497)
Corn	35.7 s	64.3 S	0.0 S	78.6 S	17.9 S	3.6	100.0 W	85.7 W	7.1	7.1 W	33,895 s (51,516)	30,424 (32,487)
Winter wheat	25.9 S	25.9	48.1	63.0 S	33.3 S	3.7	66.7 SC	48.1 SC	11.1	40.7 SC	25,944 s (24,023)	27,223 (29,834)
Progressiveness												
Progressive	46.7	33.3 c	20.0	63.3 i	36.7	0.0	96.7	86.7 c	3.3	10.0	52,352 c (69,186)	47,336 C (46,611)
Intermediate	31.3 c	43.8 C	25.0	40.6 p	46.9	12.5	87.5	68.8	15.6	15.6	60,129 c (82,125)	35,889 c (38,837)
Conservative	52.0 i	12.0 pI	36.0	56.0	40.0	4.0	80.0	56.0 P	16.0	28.0	13,584 pi (15,611)	13,834 PI (10,335)
Size												
Small	41.4	24.1	34.5	41.4 l	48.3	6.9	82.8	55.2 ml	20.7 l	24.1	27,026 L (74,094)	18,978 L (25,909)
Medium	41.4	31.0	27.6	48.3	44.8	6.9	89.7	75.9 s	10.3	13.8	24,931 L (18,942)	24,102 L (19,587)
Large	44.8	37.9	17.2	69.0 s	31.0	0.0	93.1	82.8 s	3.4 s	13.8	112,669 SM (191,012)	57,416 SM (51,101)

<sup>a</sup>Values in parenthesis are standard deviations. Statistical significance between groups is represented by the first letter of the other group to which a specific group is compared, an upper case letter represents a .01 and a lower case letter represents a .05 level of statistical significance.

<sup>b</sup>Percent of cooperatives that participated in 1986-87 PIK and roll.

Source: Survey Statements VI.E and VI.F.

Spring wheat managers reported the largest gain in grain handle and the largest cut in supply sales from the 1983 PIK program. Timing of the PIK announcement and storage capacity might explain some of this difference. PIK was announced in March. The payoff to winter wheat producers was lower because their wheat was already planted. Spring wheat area also has a higher proportion of production in storage. Thus, corn belt managers reported the largest loss in grain handled and the largest gain in supply sales. Corn belt managers were the most active in PIK and roll, but spring wheat managers were the most active in long-distance swapping. Spring wheat elevators may have had more profitable opportunities for long-distance swaps. Corn belt managers concentrated more on local swaps, and a higher percentage indicated gains in grain handle from PIK and roll. Spring wheat elevators reported the highest income from certificate swap-handling in both 1986 and 1987.

More conservative managers saw more of an increase in grain handle from the 1983 PIK than managers of the other groups. However, progressive managers led in the percent gained from input sales due to 1983 PIK. Progressive managers were the most active in the 1986-1987 PIK and roll and had the highest percentage gain in grain handle from PIK and roll. Progressives led in use of long-distance swapping; and, generally the more progressive the elevator, the higher the income from certificate swap-handling in 1986 and 1987. Overall progressive elevators fared better from PIK and PIK and roll than more conservative elevators.

Large elevators had the highest percent that gained in grain handle and input sales due to 1983 PIK. Large elevators were the most active in PIK and roll and the most active in long-distance swapping. They tended also to achieve a gain in grain sales more than the other groups from PIK and roll and had the highest average income from certificate swap-handling in 1986 and 1987. Large elevators outperformed smaller elevators under PIK and PIK and roll.

#### Government Storage Programs

Government payments for grain storage have had a dramatic impact on country grain elevators. Farm programs, stagnant exports, and several bumper crops all contributed to grain surpluses during the late 1970s and early 1980s. The government absorbed much of the surplus, and the excess had to be stored. Favorable storage terms were offered to both farmers and elevators.

Many elevators became dependent on government storage for a major portion of their income during the 1980s. Storage income (local and government) as a percent of gross income among 45 North Dakota elevators averaged 10% for 1978 to 1981 and 21% for 1982 to 1986 (Clow and Wilson). Government storage payments accounted for an average of 20% of 1987 gross income among participating cooperatives (Table 29). Government storage income ranged from 0.3% to 56% of gross elevator income.

Government storage contracts were frequently profitable enough to encourage elevators to expand their storage capacity. One way to expand storage was to build temporary storage bunkers. Several (24%) of the participating elevators built such structures for an average storage expansion of 1.16 million bu./elevator. Over half (58%) of the elevators built permanent storage for an average expansion of 525,040 bushels. A third of the elevators leased storage for an average expansion of 777,069 bushels. Only 21% of the elevators did not expand storage capacity, and 7% expanded, using all three types of storage.

Table 29. Impact of government storage programs on 87 selected cooperative elevators 1980-1987\*

Group	Gov't storage income as a % of gross income	Avg. storage capacity increase by			Internally financed construction	Elevators with grain storage quality problems
		Build		Lease		
		Temporary	Permanent			
		bushels			percent	
All	19.6 (11.9)	279,793 (742,442)	301,747 (621,699)	259,023 (773,814)	55.0 (47.4)	17.2
Production Region						
Spring wheat	24.4 W (11.3)	42,094 C (124,300)	159,250 (252,622)	307,656 lw (806,533)	49.8 (49.8)	15.6
Corn	20.1 w (12.0)	781,964 SW (1,144,211)	359,464 (634,114)	413,214 w (1,024,647)	71.8 w (43.4)	28.6 w
Winter wheat	13.4 Sc (9.8)	40,741 C (211,695)	410,778 (862,481)	41,481 sc (192,548)	43.7 c (47.0)	7.4 c
Progressiveness						
Progressive	16.8 CI (10.8)	398,233 (955,528)	554,100 C (944,862)	402,500 (1,029,827)	74.5 Ci (39.5)	13.3
Intermediate	17.5 P (10.1)	210,781 (462,664)	220,281 (345,969)	207,344 (754,650)	54.0 p (48.0)	9.4 c
Conservative	25.6 P (13.4)	226,000 (754,034)	103,200 P (148,709)	153,000 (295,917)	32.8 P (47.1)	32.0 i
Size						
Small	18.5 (13.8)	24,828 L (79,401)	129,276 L (153,799)	76,379 L (166,186)	46.0 (49.9)	10.3
Medium	19.3 (11.7)	197,759 l (432,232)	213,345 l (231,350)	50,690 L (156,797)	68.6 (45.3)	20.7
Large	20.9 (10.1)	616,793 Sm (1,143,670)	562,621 Sm (1,000,285)	650,000 SM (1,244,631)	50.3 (45.5)	20.7

\*Values in parenthesis are standard deviations. Statistical significance between groups is represented by the first letter of the other group to which a specific group is compared, an upper case letter represents a .01 and a lower case letter represents a .05 level of statistical significance.

Source: Survey Statement V.B.1.c. and VI.G.

Total storage expansion among the 87 elevators was 73.13 million bu. for an average of 840,563 bushels. If one were to fill the expanded storage for a year and charge the government storage rate of 26.5¢/bu. per year, the total return would be \$19.38 million with an average per elevator of \$222,749.

Despite such a stimulant for expansion, few elevators borrowed heavily from outside sources to expand. Among those elevators that expanded, the average amount of internal financing of storage construction was 69%. Many (64%) of those expanding financed all construction from within. Only 20% financed all construction from outside sources.

Elevators that expanded storage capacity had more quality problems with grain in storage than those who did not. With the increased storage capacity and the intra-seasonal aspects associated with government storage, elevators were challenged to keep grain in condition. Of the 69 elevators that expanded storage, 13 reported quality problems. Only 2 of the 18 elevators that did not expand storage reported quality problems.

Spring wheat elevators depended most on government storage for an average of 24% of gross income and expanded percentage of storage capacity the most. Winter wheat elevators' government storage income was significantly lower than for the other two areas, probably because their level of storage capacity (as a percent of production) was lower. Corn belt elevators, however, led in average amount of overall storage capacity added and in leasing and temporary storage expansion and placed a close second to winter wheat elevators in permanent storage expansion. The spring wheat region led in percentage of elevators that expanded through leasing space and building permanent storage. The corn belt led in percentage of elevators that expanded temporary storage and percentage of elevators having quality problems with grain in storage.

As expected, conservative elevators depended on government storage income the most for an average of 26% of gross income. Progressives, however, led in each category of storage expansion and had the highest percentage of internal financing for storage expansion. Progressives had fewer quality problems than conservatives because quality problems were one of the criteria used to determine progressiveness.

Large elevators both expanded more and were affected more by government storage programs. Large elevators led in average percentage of gross income from government storage (21%) and in every category of storage expansion. Medium-sized elevators led in percentage internally financed. Smaller elevators had the least quality problems with grain in storage.

Declining government storage payments meant the loss of a substantial portion of income for most elevators. Spring wheat and conservative groups were the most dependent and, thus, the groups most affected by loss of government storage payments (Table 29). Groups expected to be least affected are winter wheat and progressive.

#### Conservation Reserve Program

The conservation reserve program (CRP) was instituted in the 1985 Food Security Act (Public Law 99-198) to conserve marginal cropland by taking it out of production for ten years (Mortensen et al.). This program did not affect all elevators equally as marginal land eligible for CRP is not evenly distributed. For example, as of July, 1987, 30 North Dakota counties had less than 5% of cropland in CRP while 5 counties had over 10% and one over 20% of cropland in CRP.

The CRP program has and will continue to have an important impact on country elevators because of reduced acres. Average acreage taken out of production from the local trade areas was 4,129 acres (Table 30). Average reduction in grain handle was 5% and in input sales 4%. Grain handle and input sales reduction from CRP varied from none to 20% and none to 10%, respectively.

Table 30. Estimated impact of the conservation reserve programs on loss of grain acreage, merchandising and input sales according to managers of 87 selected grain merchandising cooperatives, 1988\*

Group	Avg. grain acres taken out of production in market area	Avg. percent decrease in	
		Grain handle	Input sales
All	4,129 (6,318)	4.7 (5.8)	3.9 (5.9)
Production Region			
Spring wheat	4,081 (8,285)	4.8 (5.7)	4.6 (7.0)
Corn	2,844 (4,171)	4.4 (5.9)	3.1 (4.5)
Winter wheat	5,569 (8,813)	5.0 (6.2)	3.9 (5.8)
Progressiveness			
Progressive	5,447 (6,914)	5.1 i (5.7)	4.2 (4.4)
Intermediate	3,239 (5,660)	2.9 pc (3.9)	2.6 c (4.7)
Conservative	3,648 (6,320)	6.6 i (7.5)	5.2 i (8.3)
Size			
Small	2,620 l (4,731)	4.7 (6.4)	2.9 (5.3)
Medium	4,254 (6,945)	3.9 (4.1)	3.1 (4.4)
Large	5,615 s (11,522)	5.6 (6.7)	5.6 (7.4)

\*Values in parenthesis are standard deviations. Statistical significance between groups is represented by the first letter of the other group to which a specific group is compared, an upper case letter represents a .01 and a lower case letter represents a .05 level of statistical significance.

Source: Survey Statement VI.I.

Corn belt elevators lost the least acres and had the lowest reductions in grain handle and input sales. The winter wheat region appeared to be the hardest hit. Thirty-nine percent of the corn belt elevators lost no grain handle from CRP while 25% lost 10% or more. The percentage of elevators reporting no lost grain handle for the spring and winter wheat area, respectively, were 34% and 30%. The percentage of elevators with grain handle losses of 10% or more in these two regions were 22% and 14%.

#### STRATEGIES FOR SURVIVAL IN THE COUNTRY ELEVATOR INDUSTRY<sup>5</sup>

Managers must make up for the loss of government storage income and cope with possible reductions in grain flows in the face of already existing severe competition created by excess capacity. This section covers how the participating managers evaluated 15 income-enhancing alternatives to endure their oncoming predicament.

##### Managers' Perceptions of Alternatives

The managers identified which of the 15 alternatives (Table 31) they considered practical. Next they ranked the alternatives they considered practical on their potential for enhancing income. The frequency of ranking is given in Table 31 (e.g., 18 managers listed attracting new patrons as having the most potential, 25 ranked it 2nd..., none ranked it 13th). Seventy-eight (90%) of the managers considered attracting new patrons a practical alternative. The ranking index for alternatives (Tables 31 to 40) were created by assigning weights to each ranking. For example, items ranked first were given a value of 1; second, 2; and so on (see Tables 31 to 40 for the formula). Tables that include statistical tests of comparison between alternatives and between groups are in Appendix Tables B4 - B6.

##### Compatibility of Alternatives

The dilemma elevators face is reflected in survey responses (Tables 31 to 40). Though some responses are realistic, others are unrealistic because of the competitive environment, and others are incompatible or suffer from the fallacy of composition. What works for one individual does not work if everyone tries it, e.g., the early bird gets the worm. For example, one elevator may increase its handle by attracting new patrons. But in this survey, 90% of the elevators considered attracting new patrons as practical, more than any other alternative. Seventy-one percent ranked this alternative as one of their top 3 options compared to 57% for changing merchandising practices (Table 31). Not all elevators can attract new patrons. Competitive pressure from excess capacity and declining farm numbers makes attracting new patrons nearly impossible for 90% of the elevators to do simultaneously.

Mergers and acquisitions are a major way out of the dilemma of simultaneously increasing margins and the number of patrons in an industry with excess capacity. However, many cooperatives seem unwilling to even consider mergers and acquisitions. Only 41% of them considered this option, and only 11% ranked it among their top 3 choices. However, 5% mentioned joint ventures to increase revenue.

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<sup>5</sup>Most of the material in this section is adapted from an earlier publication (Gunn and Cobia).



Table 31. Frequency distribution of rankings of net income-enhancing alternatives by managers of 87 selected grain marketing cooperative elevators, fall 1988

Alternatives	Frequency of ranking													Total(%)	Index <sup>a</sup>
	1	2	3	4	5	6	7	8	9	10	11	12	13		
1 Attract new patrons	18	25	19	4	5	2	2	2	1	0	0	0	0	78 (90)	3.55 (1)
2 Chg. merch. practice	27	14	9	5	4	4	1	0	0	1	0	0	0	65 (75)	4.60 (2)
3 Labor utilization	5	15	17	8	2	6	0	1	0	1	0	1	0	56 (64)	6.03 (3)
4 Increase margins	24	7	4	5	3	0	2	2	0	0	0	0	0	47 (54)	6.31 (4)
5 +/- mkting service	2	3	5	5	7	9	5	2	4	1	0	0	0	43 (49)	7.98 (6)
6 Decrease cost by ___	1	6	4	9	6	6	6	2	1	0	0	0	0	41 (47)	7.97 (5)
7 Incr. revenue by ___	2	4	5	9	6	4	1	4	0	2	0	0	0	37 (43)	8.20 (7)
8 Merger/acquisition	4	3	3	4	6	2	4	2	2	4	2	0	0	36 (41)	8.57 (8)
9 Chg. disc./premium	1	0	5	7	10	5	3	0	2	0	2	0	0	35 (40)	8.65 (9)
10 Handle new crops	0	2	4	6	5	2	2	2	4	0	3	2	0	32 (37)	9.19 (11)
11 Decr. trans. cost	1	2	2	5	3	4	5	4	4	0	0	0	0	30 (34)	9.16 (10)
12 Chg. blend./clean.	1	3	2	8	7	5	1	0	0	0	0	0	0	27 (31)	9.07 (12)
13 Elim. product line	0	0	1	2	1	3	3	6	1	2	0	0	0	19 (22)	10.14 (13)
14 Close plant	0	1	0	2	1	5	6	0	0	1	0	0	1	17 (20)	10.17 (14)
15 Chg. mgmt. structure	1	1	1	0	3	0	0	1	3	2	1	1	1	15 (17)	10.41 (15)
Total	87	86	81	79	69	57	41	28	22	14	8	4	2		

\*See Table 40 for footnote.  
Source: Survey Statement VII.

Table 32. Frequency distribution of rankings of net income-enhancing alternatives by managers of 32 HRS wheat production area cooperative elevators, fall 1988

Alternatives	Frequency of ranking													Total(%)	Index <sup>a</sup>
	1	2	3	4	5	6	7	8	9	10	11	12	13		
1 Attract new patrons	6	7	8	1	3	2	1	2	1	0	0	0	0	31 (97)	3.66 (1)
2 Chg. merch. practice	2	5	4	2	2	4	1	0	0	1	0	0	0	21 (66)	6.38 (4) CW
3 Labor utilization	2	6	6	3	0	3	0	0	0	1	0	1	0	22 (69)	5.95 (3)
4 Increase margins	17	3	0	3	2	0	0	1	0	0	0	0	0	26 (81)	3.72 (2) CW
5 +/- mkting service	1	0	0	2	1	5	1	0	3	1	0	0	0	14 (44)	8.73 (9) c
6 Decrease cost by ___	0	3	2	2	4	2	4	1	1	0	0	0	0	19 (59)	7.38 (5) w
7 Incr. revenue by ___	1	1	1	3	2	1	1	1	0	1	0	0	0	12 (38)	8.72 (8)
8 Merger/acquisition	1	0	0	1	0	0	2	0	0	4	1	0	0	9 (28)	10.08 (12) CW
9 Chg. disc./premium	0	0	3	4	4	2	2	0	1	0	0	0	0	16 (50)	8.05 (7)
10 Handle new crops	0	2	3	3	3	1	2	1	1	0	2	1	0	19 (59)	7.77 (6) C
11 Decr. trans. cost	1	1	1	3	0	0	0	3	1	0	0	0	0	10 (31)	9.33 (11)
12 Chg. blend./clean.	1	3	2	1	3	1	0	0	0	0	0	0	0	11 (34)	8.86 (10)
13 Elim. product line	0	0	0	1	0	0	0	2	1	0	0	0	0	4 (13)	10.80 (15) w
14 Close plant	0	0	0	1	1	2	2	0	0	0	0	0	1	7 (22)	10.34 (14)
15 Chg. mgmt. structure	1	1	1	0	1	0	0	1	1	0	1	1	1	8 (25)	10.25 (13)
Total	32	32	31	30	26	23	16	12	10	8	4	3	2		

\*See Table 40 for footnote.  
Source: Survey Statement VII.

Table 33. Frequency distribution of rankings of net income-enhancing alternatives by managers of 28 corn production area cooperative elevators, fall 1988

Alternatives	Frequency of ranking													Total(%)	Index <sup>a</sup>
	1	2	3	4	5	6	7	8	9	10	11	12	13		
1 Attract new patrons	7	7	7	3	0	0	0	0	0	0	0	0	0	24 (86)	3.39 (1)
2 Chg. merch. practice	14	4	2	2	0	0	0	0	0	0	0	0	0	22 (79)	3.45 (2) S
3 Labor utilization	0	4	6	3	2	2	0	1	0	0	0	0	0	18 (64)	6.18 (3)
4 Increase margins	4	2	1	1	0	0	2	1	0	0	0	0	0	11 (39)	7.84 (8) S
5 +/- mkting service	0	1	4	2	3	2	2	1	1	0	0	0	0	16 (57)	7.32 (4) S
6 Decrease cost by ___	1	3	2	2	2	2	1	0	0	0	0	0	0	13 (46)	7.64 (6)
7 Incr. revenue by ___	0	3	1	3	3	2	0	1	0	0	0	0	0	13 (46)	7.73 (7)
8 Merger/acquisition	2	2	0	3	4	1	0	1	2	0	0	0	0	15 (54)	7.34 (5) S
9 Chg. disc./premium	0	0	1	1	4	1	0	0	0	1	0	0	0	8 (29)	9.43 (11)
10 Handle new crops	0	0	0	1	0	1	0	0	1	0	1	1	0	5 (18)	10.50 (14) S
11 Decr. trans. cost	0	0	1	1	2	0	4	0	2	0	0	0	0	10 (36)	9.16 (19)
12 Chg. blend./clean.	0	0	0	2	1	4	1	0	0	0	0	0	0	8 (29)	9.36 (10)
13 Elim. product line	0	0	0	0	1	2	0	3	0	1	0	0	0	7 (25)	9.95 (12)
14 Close plant	0	1	0	0	1	2	0	0	1	0	0	0	0	5 (18)	10.20 (13)
15 Chg. mgmt. structure	0	0	0	0	1	0	0	0	2	2	0	0	0	5 (18)	10.52 (15)
Total	28	27	25	24	23	18	12	8	8	4	2	1	0		

\*See Table 40 for footnote.  
Source: Survey Statement VII.

Table 34. Frequency distribution of rankings of net income-enhancing alternatives by managers of 27 HRW wheat production area cooperative elevators, fall 1988

Alternatives	Frequency of ranking													Total(%)	Index*
	1	2	3	4	5	6	7	8	9	10	11	12	13		
1 Attract new patrons	5	11	4	0	2	0	1	0	0	0	0	0	0	23 (85)	3.59 (1)
2 Chg. merch. practice	11	5	3	1	2	0	0	0	0	0	0	0	0	22 (81)	3.70 (2) S
3 Labor utilization	3	5	5	2	0	1	0	0	0	0	0	0	0	16 (59)	5.98 (3)
4 Increase margins	3	2	3	1	1	0	0	0	0	0	0	0	0	10 (37)	7.80 (5) s
5 +/- mkting service	1	2	1	1	3	2	2	1	0	0	0	0	0	13 (48)	7.76 (4)
6 Decrease cost by ___	0	0	0	5	0	2	1	1	0	0	0	0	0	9 (33)	9.00 (10) S
7 Incr. revenue by ___	1	0	3	3	1	1	0	2	0	1	0	0	0	12 (44)	8.06 (6)
8 Merger/acquisition	1	1	3	0	2	1	2	1	0	0	1	0	0	12 (44)	8.07 (7) S
9 Chg. disc./premium	1	0	1	2	2	1	0	1	0	1	0	0	0	11 (41)	8.56 (8)
10 Handle new crops	0	0	1	2	2	0	0	1	2	0	0	0	0	8 (30)	9.52 (12)
11 Decr. trans. cost	0	1	0	1	1	4	1	1	1	0	0	0	0	10 (37)	8.94 (9)
12 Chg. blend./clean.	0	0	0	5	3	0	0	0	0	0	0	0	0	8 (30)	9.02 (11)
13 Elim. product line	0	0	1	1	0	1	3	1	0	1	0	0	0	8 (30)	9.56 (13) s
14 Close plant	0	0	0	1	0	2	2	0	0	0	0	0	0	5 (19)	9.94 (14)
15 Chg. mgmt. structure	1	0	0	0	1	0	0	0	0	0	0	0	0	2 (7)	10.50 (15)
Total	27	27	25	25	20	16	13	8	4	2	2	0	0		

\*See Table 40 for footnote.  
Source: Survey Statement VII.

Table 35. Frequency distribution of rankings of net income-enhancing alternatives by managers of 30 progressive grain marketing cooperatives, fall 1988

Alternatives	Frequency of ranking													Total(%)	Index*
	1	2	3	4	5	6	7	8	9	10	11	12	13		
1 Attract new patrons	5	5	9	1	3	1	2	1	1	0	0	0	0	28 (93)	4.05 (1) i
2 Chg. merch. practice	8	8	4	1	1	2	0	0	0	0	0	0	0	24 (80)	4.27 (2)
3 Labor utilization	4	7	4	4	0	3	0	0	0	0	0	0	0	22 (73)	5.18 (3) c
4 Increase margins	6	2	2	1	2	0	0	2	0	0	0	0	0	15 (50)	7.27 (5) i
5 +/- mkting service	0	2	1	2	6	4	3	1	3	1	0	0	0	23 (77)	6.95 (4) c
6 Decrease cost by ___	0	2	0	5	2	3	2	1	1	0	0	0	0	16 (53)	7.95 (8)
7 Incr. revenue by ___	2	2	1	2	2	3	0	4	0	1	0	0	0	17 (57)	7.60 (6) c
8 Merger/acquisition	2	0	2	3	4	1	2	0	0	3	2	0	0	19 (63)	7.68 (7) i
9 Chg. disc./premium	1	0	3	3	1	2	2	0	2	0	1	0	0	15 (50)	8.48 (9)
10 Handle new crops	0	0	1	1	2	0	2	0	2	0	2	2	0	12 (40)	9.90 (11) c
11 Decr. trans. cost	0	0	1	2	1	2	2	3	2	0	0	0	0	13 (43)	9.27 (10)
12 Chg. blend./clean.	1	0	1	2	1	1	1	0	0	0	0	0	0	7 (23)	10.10 (12) c
13 Elim. product line	0	0	0	0	0	1	2	4	0	1	0	0	0	8 (27)	10.55 (14) c
14 Close plant	0	1	0	2	0	0	4	0	0	1	0	0	0	8 (27)	10.18 (13)
15 Chg. mgmt. structure	1	1	0	0	1	0	0	0	2	0	0	1	1	7 (23)	10.57 (15)
Total	30	30	29	29	26	23	22	16	13	7	5	3	1		

\*See Table 40 for footnote.  
Source: Survey Statement VII.

Table 36. Frequency distribution of rankings of net income-enhancing alternatives by managers of 32 intermediate cooperative elevators, fall 1988

Alternatives	Frequency of ranking													Total(%)	Index*
	1	2	3	4	5	6	7	8	9	10	11	12	13		
1 Attract new patrons	5	12	9	2	2	0	0	0	0	0	0	0	0	30 (94)	2.91 (1) p
2 Chg. merch. practice	13	1	1	3	2	2	0	0	0	1	0	0	0	23 (72)	4.92 (2)
3 Labor utilization	0	4	10	3	2	2	0	1	0	0	0	1	0	23 (72)	5.80 (4)
4 Increase margins	11	4	1	3	0	0	2	0	0	0	0	0	0	21 (66)	5.22 (3) p
5 +/- mkting service	2	0	1	3	1	4	2	1	1	0	0	0	0	15 (47)	8.11 (7)
6 Decrease cost by ___	0	4	1	2	3	2	3	1	0	0	0	0	0	16 (50)	7.73 (5)
7 Incr. revenue by ___	0	2	2	6	3	1	0	0	0	0	0	0	0	14 (44)	8.05 (6)
8 Merger/acquisition	1	1	0	1	1	1	1	2	1	1	0	0	0	10 (31)	9.33 (12) p
9 Chg. disc./premium	0	0	1	1	6	2	1	0	0	0	0	0	0	11 (34)	8.95 (8)
10 Handle new crops	0	1	3	2	1	1	0	1	2	0	1	0	0	12 (38)	9.03 (9)
11 Decr. trans. cost	0	2	0	2	2	2	2	1	0	0	0	0	0	11 (34)	9.06 (10)
12 Chg. blend./clean.	0	1	0	2	4	3	0	0	0	0	0	0	0	10 (31)	9.16 (11)
13 Elim. product line	0	0	0	0	0	1	0	1	1	1	0	0	0	4 (13)	10.69 (15) c
14 Close plant	0	0	0	0	0	2	2	0	0	0	0	0	1	5 (16)	10.52 (13)
15 Chg. mgmt. structure	0	0	1	0	0	0	0	1	1	1	1	0	0	5 (16)	10.53 (14)
Total	32	32	30	30	27	23	13	9	6	4	2	1	1		

\*See Table 40 for footnote.  
Source: Survey Statement VII.

Table 37. Frequency distribution rankings of net income-enhancing alternatives by managers of 25 conservative grain marketing cooperatives, fall 1988

Alternatives	Frequency of ranking													Total(%)	Index <sup>a</sup>
	1	2	3	4	5	6	7	8	9	10	11	12	13		
1 Attract new patrons	8	8	1	1	0	1	0	1	0	0	0	0	0	20 (80)	3.78 (1)
2 Chg. merch. practice	6	5	4	1	1	0	1	0	0	0	0	0	0	18 (72)	4.60 (2)
3 Labor utilization	1	4	3	1	0	1	0	0	0	1	0	0	0	11 (44)	7.36 (4) P
4 Increase margins	7	1	1	1	1	0	0	0	0	0	0	0	0	11 (44)	6.56 (3)
5 +/- mkting service	0	1	3	0	0	1	0	0	0	0	0	0	0	5 (20)	9.04 (11) P
6 Decrease cost by _____	1	0	3	2	1	1	1	0	0	0	0	0	0	9 (36)	8.28 (6)
7 Incr. revenue by _____	0	0	2	1	1	0	1	0	0	1	0	0	0	6 (24)	9.10 (12) P
8 Merger/acquisition	1	2	1	0	1	0	1	0	1	0	0	0	0	7 (28)	8.68 (9)
9 Chg. disc./premium	0	0	1	3	3	1	0	0	0	0	1	0	0	9 (36)	8.46 (7)
10 Handle new crops	0	1	0	3	2	1	0	1	0	0	0	0	0	8 (32)	8.54 (8) P
11 Decr. trans. cost	1	0	1	1	0	0	1	0	2	0	0	0	0	6 (24)	9.14 (13)
12 Chg. blend./clean.	0	2	1	4	2	1	0	0	0	0	0	0	0	10 (40)	7.72 (5) P
13 Elim. product line	0	0	1	2	1	1	1	1	0	0	0	0	0	7 (28)	8.94 (10) IP
14 Close plant	0	0	0	0	1	3	0	0	0	0	0	0	0	4 (16)	9.72 (14) 0
15 Chg. mgmt. structure	0	0	0	0	2	0	0	0	0	1	0	0	0	3 (12)	10.08 (15)
Total	25	24	22	20	16	11	6	3	3	3	1	0	0		

\*See Table 40 for footnote.  
Source: Survey Statement VII.

Table 38. Frequency distribution of rankings of net income-enhancing alternatives by managers of 29 small (storage capacity) grain marketing cooperative elevators, fall 1988

Alternatives	Frequency of ranking													Total(%)	Index <sup>a</sup>
	1	2	3	4	5	6	7	8	9	10	11	12	13		
1 Attract new patrons	5	9	5	2	2	1	1	1	0	0	0	0	0	26 (90)	3.72 (1)
2 Chg merch practice	10	4	3	2	1	1	0	0	0	0	0	0	0	21 (72)	4.52 (2)
3 Labor utilization	2	3	6	2	0	4	0	1	0	1	0	0	0	19 (66)	6.19 (3)
4 Increase margins	8	1	1	2	0	0	2	0	0	0	0	0	0	14 (48)	6.50 (4)
5 +/- mkting service	0	1	1	2	4	3	0	0	1	0	0	0	0	12 (41)	8.26 (9)
6 Decrease cost by _____	0	2	2	3	1	1	3	1	0	0	0	0	0	13 (45)	7.95 (7)
7 Increase revenue by _____	1	2	2	3	1	0	1	0	0	0	0	0	0	10 (34)	8.21 (8)
8 Merger/acquisition	2	2	0	1	0	1	1	0	0	0	0	0	0	7 (24)	9.00 (11)
9 Chg. disc./premium	1	0	2	3	7	0	0	0	0	0	0	0	0	13 (45)	7.66 (5) L
10 Handle new crops	0	1	2	1	3	1	0	1	0	0	1	0	0	10 (34)	8.78 (10)
11 Decr. trans. cost	0	1	1	0	0	0	0	0	1	0	0	0	0	3 (10)	10.17 (13) lm
12 Change blend./clean	0	3	1	4	2	2	0	0	0	0	0	0	0	12 (41)	7.90 (6) L
13 Elim. product line	0	0	1	1	0	1	2	0	0	1	0	0	0	6 (21)	9.76 (12) 1
14 Close plant	0	0	0	0	1	0	0	0	0	0	0	0	0	1 (3)	10.69 (14) 1
15 Chg. mgmt. structure	0	0	0	0	1	0	0	0	0	0	0	0	0	1 (3)	10.71 (15)
Total	29	29	27	26	23	15	10	4	2	2	1	0	0		

\*See Table 40 for footnote.  
Source: Survey statement VII.

Table 39. Frequency distribution of rankings of net income-enhancing alternatives by managers of 29 medium-size (storage capacity) grain marketing cooperative elevators, fall 1988

Alternatives	Frequency of ranking													Total(%)	Index <sup>a</sup>
	1	2	3	4	5	6	7	8	9	10	11	12	13		
1 Attract new patrons	7	9	4	1	2	0	0	0	1	0	0	0	0	24 (83)	3.74 (1)
2 Chg merch practice	8	6	3	2	1	2	0	0	0	0	0	0	0	22 (76)	4.33 (2)
3 Labor utilization	2	1	5	4	2	0	0	0	0	0	0	0	0	14 (48)	7.09 (4) 1
4 Increase margins	6	5	2	1	1	0	0	1	0	0	0	0	0	16 (55)	6.16 (3)
5 +/- mkting service	1	1	2	0	2	3	1	1	1	0	0	0	0	12 (41)	8.05 (7)
6 Decrease cost by _____	1	2	2	3	2	1	2	0	0	0	0	0	0	13 (45)	7.69 (5)
7 Increase revenue by _____	1	0	3	3	2	1	0	1	0	1	0	0	0	12 (41)	7.95 (6)
8 Merger/acquisition	0	1	2	0	1	0	1	2	0	2	0	0	0	9 (31)	9.12 (10) 1
9 Chg. disc./premium	0	0	2	3	0	4	2	0	2	0	0	0	0	13 (45)	8.29 (8) 1
10 Handle new crops	0	1	0	3	1	0	1	0	1	0	2	0	0	9 (31)	9.29 (12)
11 Decr. trans. cost	1	1	0	2	2	1	2	1	0	0	0	0	0	10 (34)	8.69 (9) s
12 Change blend./clean	1	0	1	1	3	1	0	0	0	0	0	0	0	7 (24)	9.19 (11)
13 Elim. product line	0	0	0	1	1	2	0	2	0	0	0	0	0	6 (21)	9.88 (13)
14 Close plant	0	0	0	1	0	1	0	0	0	0	0	0	0	2 (7)	10.53 (15) 1
15 Chg. mgmt. structure	1	1	0	0	0	0	0	0	1	0	0	1	0	4 (14)	10.00 (14)
Total	29	28	26	25	20	16	9	8	6	3	2	1	0		

\*See Table 40 for footnote.  
Source: Survey statement VII.

Table 40. Frequency distribution of rankings of net income-enhancing alternatives by managers of 29 large-size (storage capacity) grain marketing cooperative elevators, fall 1988

Alternatives	Frequency of ranking													Total(%)	Index*
	1	2	3	4	5	6	7	8	9	10	11	12	13		
1 Attract new patrons	6	7	10	1	1	1	1	1	0	0	0	0	0	28 (97)	3.19 (1)
2 Chg merch practice	9	4	3	1	2	1	1	0	0	1	0	0	0	22 (76)	4.97 (3)
3 Labor utilization	1	11	6	2	0	2	0	0	0	0	0	1	0	23 (79)	4.83 (2) m
4 Increase margins	10	1	1	2	2	0	0	1	0	0	0	0	0	17 (59)	6.28 (4)
5 +/- mktng service	1	1	2	3	1	3	4	1	2	1	0	0	0	19 (66)	7.62 (6)
6 Decrease cost by	0	2	0	3	3	4	1	1	1	0	0	0	0	15 (52)	8.26 (7)
7 Increase revenue by	0	2	0	3	3	3	0	3	0	1	0	0	0	15 (52)	8.43 (8)
8 Merger/acquisition	2	0	1	3	5	1	2	0	2	2	2	0	0	20 (69)	7.60 (5) m
9 Chg. disc./premium	0	0	1	1	3	1	1	0	0	0	2	0	0	9 (31)	10.00 (12) Sm
10 Handle new crops	0	0	2	2	1	1	1	1	3	0	0	2	0	13 (45)	9.50 (11)
11 Decr. trans. cost	0	0	1	3	1	3	3	3	3	0	0	0	0	17 (59)	8.60 (9) s
12 Change blend./clean	0	0	0	3	2	2	1	0	0	0	0	0	0	8 (28)	10.12 (13) S
13 Elim. product line	0	0	0	0	0	0	1	4	1	1	0	0	0	7 (24)	10.78 (15) s
14 Close plant	0	1	0	1	0	4	6	0	0	1	0	0	1	14 (48)	9.29 (10) sm
15 Chg. mgmt. structure	0	0	1	0	2	0	0	1	2	2	1	0	1	10 (34)	10.53 (14)
Total	29	29	28	28	26	26	22	16	14	9	5	3	2		

\*Index =  $\sum R_i/N$ , where  $R_i$  = rank of alternatives by  $i$ th elevator and  $N$  = number of cooperatives in group. Values for unranked alternatives =  $(\sum (n+1) + \dots + 15)/15-n$ , where  $n$  = number of ranked alternatives (this procedure assumes a tie for last for unranked alternatives). The level of statistical significance between groups is represented by the first letter of the other groups to which a specific group is compared. An upper case letter represents a .01 level and a lower case letter represents a .05 level of statistical significance. It is not possible to recreate the index without the original data for each cooperative.

Source: Survey statement VII.

Attracting additional patrons is also incompatible with increasing margins, as over half would prefer. Increasing margins ranked highest in income potential among the 54% of the managers selecting this option. While this option has some potential during bullish markets, the existence of massive excess capacity makes it problematical. Unit train loading facilities were conservatively estimated to be operating at 17% of capacity in Iowa, 23% in Nebraska, and 43% in North Dakota (Cobia et al., p. 8). Rather than increase margins, elevators may have to reduce them, along with adding services or handling new crops to attract new patrons. Most managers identified increasing margins, yet only 37% considered adding new crops.

Several income-enhancing alternatives seem to be realistic and internally consistent (Table 31). These ranged from changing merchandising practices, which ranked near the top (second) in potential for enhancing income, to changing internal management structure, which ranked at the bottom (fifteenth). The other alternatives include better labor utilization (third), decrease costs in other ways (fifth), add or drop marketing services (sixth), mergers and acquisitions (eighth), change discount and premium practices (ninth), decrease transportation costs (tenth), handle new crops (eleventh), change blending and cleaning practices (twelfth), eliminate a product line (thirteenth), and close plant (fourteenth). The astute manager should concentrate on these alternatives according to the circumstances being faced.

#### Comparison by Production Region

Major differences in perception of alternatives to improve net income between production regions are changing merchandising practices and discounts and premiums, handling new crops, mergers and acquisitions, and changing internal structure (Tables 32 to 34). Managers in the spring wheat area

considered handling new crops as practical more often than did managers in other areas. Spring wheat elevators tended to handle a larger number of commodities than did elevators in other areas and were probably more alert to this option. Changing blending and cleaning practices and changing discount and premium practices rated higher for income potential in the spring wheat area than in the other areas, indicating the importance of quality differentials, premiums and discounts, and blending opportunities in handling commodities in the spring wheat production area.

Differences in excess capacity in each region may influence managers' perceptions. Managers in the spring wheat area, where excess capacity is lower, emphasized increasing margins more than did managers of the other areas. Managers in the winter wheat and corn production areas saw less potential for increasing margins. Corn belt managers saw the least income potential from increasing margins, possibly because of the substantially higher level of excess capacity in much of the Corn Belt. Excess capacity possibly prompted corn and winter wheat managers to see more potential in mergers and/or acquisitions.

Other differences among production regions may have affected managers' perceptions. Such differences include greater use of alternative merchandising practices and a higher degree of independence (less reliance on commission companies) in the corn and winter wheat areas versus the spring wheat area. Also, cooperatives in the spring wheat area tended to be single-purpose establishments more often than in the corn and winter wheat areas where cooperatives sell inputs as well as market grain. Adding and/or dropping marketing service and changing merchandising practices (both rated more important in corn and winter wheat areas than in the spring wheat area) were two alternatives thus affected.

#### Progressive-Conservative Comparisons

Major differences existed among groups of elevators sorted by progressiveness. The progressive group considered a greater range of alternatives. More than half of the progressive managers considered nine alternatives practical (Tables 35 to 37), while more than half of the conservative group considered only two alternatives as practical. More progressive managers considered all but two of the alternatives practical: changes in blending and cleaning practices and eliminating a product line. Thus, the progressive (profitable and innovative) elevators were more conscious of ways to increase income.

Compared to the other two groups, conservative managers believed more strongly that they could simultaneously increase margins and attract new patrons. Conservative managers ranked increasing margins third in potential for generating income and third in percentage who considered it practical while the progressive group ranked it fifth in potential and only eighth in percentage who considered it practical. Both conservative and progressive managers stressed the importance of attracting new patrons.

Progressive managers recognized more potential through increasing revenue by some means (most common means given was joint venture with other cooperatives). Increasing revenue by some means ranked sixth among progressives and twelfth among conservatives. Progressive managers saw more potential for improving labor utilization than conservatives (potential indices are 5.18 and 7.36, respectively). Conservative managers saw more potential for handling new crops and for improving cleaning and blending practices than did progressives, likely because progressive elevators already have realized those benefits. Conservative managers who considered adding or

dropping a marketing service practical<sup>6</sup> (20%) placed it fourth in potential, while the progressive managers who considered it practical (77%) placed it ninth in potential. Perhaps the conservatives saw potential in adapting marketing services the progressives already were using.

#### Comparisons by Size

Large elevators considered a broader range of alternatives than did the small elevators. At least half of the large elevators considered nine of the alternatives practical while at least half of the small elevators considered only three alternatives practical. A higher percentage of small elevator managers considered only two alternatives (change blending and cleaning practices and change discount and premium practices) practical than did large elevator managers.

Large elevators saw more income-enhancing potential than small elevators in eight alternatives, but the responses differed significantly for only 2 alternatives (decrease transportation costs and close plant). Large elevators tended to be unit train shippers more often than small elevators and, thus, saw more potential for transportation savings. Also, large elevators tended to have more satellite facilities and, thus, saw more opportunity for cost reduction through plant closing. Small elevators saw significantly more income-enhancing potential for three alternatives (change discount and premiums practices, change blending and cleaning practices, and eliminate a product line).

Since large elevators were unit train shippers more often than small elevators, they relied less on grain cleaning and quality segregation (cleaning and segregation slow down handling capacity). Small elevators were considering the potential income from improved cleaning and blending techniques as well as improved discount and premium practices. Small elevators also saw more potential from eliminating product line, possibly because they had more trouble covering unprofitable enterprises than large elevators.

#### SUMMARY

Widespread dependence by cooperatives in the country elevator industry on government storage income and other program activities in the 1980s, which when coupled with high levels of excess loadout capacity, placed these firms in a vulnerable position in 1987-1988, when most government grain was being withdrawn. This report covers a survey of 87 grain marketing cooperatives about the impact of changes in government programs, planned responses to the dilemma of excess capacity, loss of government storage income, and related factors. A short earlier report, *Strategies for Survival in the Country Elevator Industry*, was released in May, 1989, succinctly reported on the timely findings and recommendations.

The 87 cooperatives, located in seven states (Iowa, Kansas, Minnesota, Nebraska, North Dakota, Oklahoma, and South Dakota) are spread across the hard red spring wheat (32 elevators), corn (28 elevators), and hard red winter wheat (27 elevators) production areas. The responses were classified by production area, progressiveness, and size.

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<sup>6</sup>These rankings do not incorporate weights for unranked alternatives and, therefore, differ from those in Tables 35-37.

### Characteristics of Respondents

Descriptive statistics include measures of size (average of 730 patrons and 2.6 million bu. storage and 45 cars/day loadout capacity), management practices and policies (38% had a policy on open market position), and use of new technology (95% had minicomputers, but their use was mixed).

Corn belt and progressive cooperatives tended to have the most patrons, have the largest facilities, have the most employees, face the stiffest competition, offer the most incentives, and be the most innovative (in terms of merchandising methods, use of fax machines, and use of computerized accounting systems). Corn belt managers had the least experience while spring wheat managers had the least formal education. Spring wheat elevators tended to depend the most on commission companies for services and were least likely to have structured merchandising policies.

Net income averaged \$321,542 (only three elevators lost money), and return on equity averaged 11% and return on assets 6%.

### Impact of Government Programs

Managers ranked government storage and other government programs along with 5 other factors from 1 (most) to 7 (least) on their financial impact. The storage program was clearly the most important 1.8 or 77% more than the 3.2 index for the second factor, other government programs. The standard deviation was also the lowest, indicating more unanimity on that ranking than for any other factor. Other factors, in the order of their importance, were interest rates (3.6), farm crisis (3.8), unit train rates (4.1), mergers (5.4), and rail line abandonment (6.1).

These rankings were consistent with the government storage's contribution of 20% to the gross income of all elevators in 1987. This source of income gave the country elevator industry some breathing room during the period of extreme excess capacity and narrow margins or simply delayed need rationalization of the industry. Now that lucrative storage and handling fees from government grain are a thing of the past, cooperative country elevators need to make substantial adjustments.

PIK and particularly PIK and roll were beneficial to most elevators. Average income from PIK and roll in 1986 and 1987 was \$43,886 and \$33,499, respectively. PIK and roll also increased grain volume according to 71% of the elevators.

The government storage program enticed the elevators to add 279,793 bu. of temporary storage, 301,747 bu. of permanent storage, and 259,023 bu. of leased storage per elevator in the study. Spring wheat, conservative, and large elevators depended most on government storage payments.

Despite the strong performance of the elevators in 1987, the loss of government storage income combined with CRP, rail abandonment, and other developments had many elevator managers concerned about the future. Elevator managers ranked 15 alternatives for practicality and income-enhancing potential. The results indicate that the four alternatives (attracting new patrons, changing merchandising practices, improving labor utilization, and increasing margins) were viewed as having the most income-enhancing potential. Selected alternatives, such as attracting new patrons and increasing margins, will be difficult to realize because of excess elevator capacity and competitive pressure from other elevators.

Most managers reported that changes in farm programs had no impact on their acquisition (70%) or selling (85%) methods. Some of them commented that these changes influenced the timing and volume, but not the method. Others observed that farm program changes had forced farmers to become more knowledgeable and active in merchandising their grain. A third of those managers reporting a change in acquisition methods (30%) indicated that PIK and roll increased the use of cash purchases. Others reported that forfeited grain had an influence, mostly an increase in forward pricing. An equal number said that changes in government programs caused them to increase DPC or NPE.

Few (15%) managers thought that changes in government programs influenced selling practices. Those who commented (8) indicated that changes caused them to use more basis and to-arrive trading.

More than half (64%) of the managers felt that government programs had not had an impact on their margins from 1980 to 1987. Of those who commented (31), eight said that government programs had benefitted or improved margins and nine said that lower margins were due mainly to government programs. An additional seven indicated that storage income substituted for lower margins. Yet others said that increased in handle from government programs offset lower margins.

#### Summary by Groups

Managers in the spring wheat area reported that the 1983 PIK program increased handle twice as often as those in the other regions (63% vs. 31%). They also reported a higher share of gross income originated from government grain storage payments (24% vs. 20% for corn and 13% for winter wheat). They also allocated net income by individual grain rather than by a blend (72% vs. 29% for corn and 62% for winter wheat).

More managers from the corn area cooperatives reported declines in handle because of the 1983 PIK program (64%) than in the other regions (6% for spring and 26% for winter wheat areas). Corn production area elevators increased storage capacity in response to government storage payments the most (782,000 bu. vs. 41,000 bu.) and used internal financing the most to do it (72% vs. 47%). They participated the least in CCC auctions (18% vs. 65%) and the most in catalog sales (93% vs. 85%).

Winter wheat cooperatives relied the least on government programs. They were least active in the 1986-87 PIK and roll (67% vs. 98%) and depended least on government storage income (13% vs 22%). They also allocated more of the net income from government storage back to patrons (26% vs. 5%) rather than to unallocated reserves.

Conservative elevators were the least active in the 1986-87 PIK and roll (56% participation vs. 69% intermediate and 87% for progressive). As a result, they generated the lowest level of income from this activity (an average of \$13,709 compared to an average of \$50,000 for the other two groups). They relied the most on government storage income (26% vs. 17%) and participated the least in CCC auctions and catalog sales (28% vs. 59% and 72% vs. 93%). Fewer small elevators participated in CCC auctions and catalog sales (35% vs. 59% and 72% vs. 95%). More of them participated in CCC auctions (66% vs. 52% for medium and 35% for small), and all of them participated in catalog sales (100% vs. 90% for medium and 72% for small).



RECOMMENDATIONS<sup>7</sup>

Most recommendations should not be applied across the board because each case is unique. What is appropriate for one elevator would not be appropriate for the neighboring one. Managers should consider the following suggestions in light of their particular circumstances to survive the current crisis.

Excess capacity afflicting the country elevator industry will have an extraordinary impact on the competitive environment. In a competitive industry, firms normally leave or exit under pressure of excess capacity, resulting in a rationalization of the system. However, rationalization of excess capacity is particularly burdensome for the country elevator industry because of the difficulty of disposing of fixed assets. They are highly specialized, have little or no alternative uses, and, therefore, have a very low salvage value. Since disposing of fixed assets is difficult, barriers to exit are exceptionally high. Thus, excess capacity is likely to continue to force competitive pressures on existing firms. In such an environment, survivors can pursue two generic strategies: become a cost leader and/or develop market niches.

Competing as a cost leader requires an aggressive attack on costs and simultaneously attracting volume to cover those costs. The current crisis makes such an effort more critical. All elevators should work on cost containment. Though this goal should be a constant one, it now becomes more critical. Several desirable expenditures may have to be delayed until the current crisis subsides, for example, selected capital improvements, advertising, charitable contributions, and releasing an employee or two. If such actions are not taken, in some cases, there will not be an elevator around to hire anyone or make any charitable contributions.

Mergers and acquisitions are one of the most painless ways to reduce the duplication of equipment and services and overlapping memberships associated with excess capacity. However, management is often restricted from exploiting these economies when members of merging cooperatives insist, as a condition of the merger, that not only their particular station remain open but that prices at satellite stations equal those at the main station (Cobia et al., p. 86). Clow and Wilson found that merged multiplant grain marketing cooperatives often performed poorer than did single plant firms, likely because managers were restricted from exploiting potential economies.

The desire to keep local stations open because of community pride and preservation of nearby service is understandable. Insisting on it ties the managers' hands, potential savings are wasted, the entire cooperative suffers, and the net price members receive is reduced, including those located near stations that should be phased out of active service. Excessive excess capacity implies that several stations should be closed.

Another sensitive area is employment, which may have to be reduced, at least temporarily, to save the elevator. In some cases, reducing hours, such as closing at 5 p.m. or on Saturdays, may be all that is needed. In others, the hard decision to release employees must be faced. Although releasing an employee is difficult, closing the entire operation is more difficult.

The current crisis provides an excellent opportunity to eliminate an unprofitable service or product line. For some, liability insurance may make carrying a line of ag chemicals unprofitable. A few members might complain about losing unprofitable services, but they likely would complain even more

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<sup>7</sup>Recommendations made in this section are based on previous research, reviewers' comments, and industry periodicals as well as findings of the survey.

if the cooperative closed. Another option is to change pricing policy by pricing each service to contribute equally to net margins. This avoids one service subsidizing another and is also in harmony with the cooperative principle of business-at-cost.

Not every elevator can or ought to be a cost leader. Market niches provide opportunities for elevators to develop a reputation for consistent quality and/or aggressive marketing. Premium prices and attracting new patrons can be realized by providing a unique and reliable product and/or service. Attracting new patrons was the most popular alternative (among managers) to enhance income. Elevators have to find ways to attract patrons away from competitors. Obvious answers such as lower margins for the elevator will not lead to survival (unless the elevator is clearly a cost leader). A reputation with producers to effectively market grain will help to attract new patrons and to maintain present ones. Filling orders promptly, being alert to market opportunities, and aggressively soliciting grain to capitalize on those opportunities will attract patrons from less progressive elevators.

Many elevator managers may want to consider using more creative grain acquisition and selling strategies. Grain acquisition strategies, such as forward contracting, no price established (or delayed pricing contracts), and minimum price contracts, may attract more volume. Use of computerized linear programming (LP) models would provide managers with information for optimum blending procedures and on what premiums can be paid and what discounts should be charged in light of characteristics of current grain stocks and market price differentials. Many elevator managers, particularly those nearing retirement, who may not want to become skilled in these areas, may wish to hire marketing consultants to help get started.

Marketing niches on the selling side are becoming increasingly important. Consumer and, as a result, government concern over food quality and food safety are being fueled by food scares, improved measurement, and research linking health with certain foods and contaminants (Kiplinger). Processors are already acting on these concerns. Anderson reports that mills are ranking grain shippers according to quality. He asks, "Are you a #1 select, a #2 preferred, or a #3 approved, elevator shipper to mill? This could mean a lot of money... ." An alternative for many elevators will be to penetrate markets by developing reputations for quality. Some elevators, particularly those in the spring wheat area, can develop specialty crop market niches, such as durum and edible beans. However, market niches may be limited and are not an answer for the entire industry.

## GLOSSARY

- CCC Catalog: An inventory listing of a CCC commodity, specifying lot number, location, quantity, grade, and loadout charges, that is available to be purchased back with PIK certificates. Special catalogs, such as position swaps or low grade for cash, are sometimes issued.
- COT: Certificate of transportation. Shippers bid on certification, which gives rights to delivery of rail cars.
- Catalog auctions: Individual lots of a commodity that CCC makes available to be sold to the highest bidder. Bids are made by phone or FAX.
- DPC: Delayed price contract (See NPE).
- Farmer-owned Reserve: A program designed to provide protection against sharp price movements. Farmers can place eligible grain in storage for a noninterest, nonresource loan that can be forfeited without penalty. Or, the grain can be sold and the loan paid off.
- MPC Minimum price contract: Similar to forward contract except that the contract price rises when the commodity price exceeds the minimum price stated in the contract.
- NPE (No price established): Elevator takes the grain, but the price is not determined until a later date. Could be a DPC (delayed price contract) or basis contract.
- PIK certificates, generic certificates: A fixed dollar face value certificate with an 8-month life that is backed by CCC commodity assets. PIK certificates are issued by USDA in lieu of cash payments to farm commodity program participants and sellers of agricultural products. They can be used in various ways, such as exchanges for crops held under loan, and can be exchanged as premiums or discounts to face value, or redeemed at face value.
- PIK and roll: Transactions made by farmers with grain on loan which capitalized on disparities between loan rates, redemption rates, market price, and/or substitution among wheat classes.
- Swap: PIK and roll, involving the redemption of grain under loan with PIK certificates.
- To-arrive contract: Price on grain to be delivered in 20 days at designated location.
- Weekly catalog sales: A CCC catalog of individual lots that are available for sale at CCC determined prices. Generally, the warehouse has first choice for from 2-3 weeks. Afterward, third parties may purchase the lot by telephone on a first-come, first-served basis.

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I. Description of Firm

A. Name \_\_\_\_\_ Phone \_\_\_\_\_

B. Location \_\_\_\_\_

C. Manager \_\_\_\_\_ D. Railroad \_\_\_\_\_

E. This elevator is a: locally owned co-op \_\_\_\_\_; federated co-op \_\_\_\_\_; line elevator \_\_\_\_\_

F. Types of Patrons	Approx. number	Status (Y/N)	
		Ownership	Voting
(1) Farmers: members	_____	_____	_____
(2) nonmembers	_____	_____	N
(3) Locally owned co-op elevators	_____	_____	_____
(4) Other elevators	_____	_____	_____
(5) Other (truckers, etc.)	_____	_____	_____

G. Location and approximate capacity of major facilities:

Location	Storage Cap.	Loadout Capacity (cars/shipment, 12 hours)
_____	_____	_____
_____	_____	_____
_____	_____	_____

II. Management & Personnel Structure

A. Total number of employees at your firm (including manager)  
Full-time \_\_\_\_\_ Part-time (peak) \_\_\_\_\_

B. General Manager:

1. Years at this cooperative \_\_\_\_\_ Years

2. Years of grain elevator management experience \_\_\_\_\_ Years

3. Years of formal education? \_\_\_\_\_ Years

4. How much training in merchandising (including the use of futures markets) have you had?

Type	Number/hours/credits	
a. Seminars	_____	c. Informal _____
b. University	_____	d. Other _____

5. What incentive programs do you have and how are bonuses established?

a. % of net income	_____	c. Other	_____
b. Retirement plans	_____	d. None	_____

6. Does your cooperative subscribe to a marketing service? Yes \_\_\_ No \_\_\_  
If so, what.

7. Do you have a structured merchandising policy established by board of directors?

8. Please indicate who provides the following services.

	Self	Commission Firm	Other
a. Merchandising (%)	_____	_____	_____
b. Short Term Financing (%)	_____	_____	_____
c. CCC/Govt prog trg. (%)	_____	_____	_____
d. Accounting	_____	_____	_____

9. Do you have a fax machine? Yes \_\_\_\_\_ No \_\_\_\_\_

10. Do you have a computerized accounting system? Yes \_\_\_ No \_\_\_  
 If so, check appropriate blanks.

Type	Not used	If used	
		Local	Commission firm
Daily grain position record (DPR)	_____	_____	_____
Grain accounting	_____	_____	_____
General ledger	_____	_____	_____
Receivable aging	_____	_____	_____
Patronage allocation and checks	_____	_____	_____

III. Profile of Services

A. Which of the following commodities do you currently handle, in approximately what proportions, and what margins were attempted and maintained in 1987?

Crop	Propor.	Attempted	Obtained	Crop	Propor.	Attempted	Obtained
HRS wheat	___%	\$.___	\$.___	Durum	___%	\$.___	\$.___
Barley	___%	\$.___	\$.___	Oats	___%	\$.___	\$.___
Sunflower	___%	\$.___	\$.___	Corn	___%	\$.___	\$.___
Soybeans	___%	\$.___	\$.___	Other	___%	\$.___	\$.___
Sorghum	___%	\$.___	\$.___	Total	100%		
HRW wheat	___%	\$.___	\$.___				

B. Approximate % merchandise gross margins is of total gross margins \_\_\_%

C. Major changes in credit policy and bad debt loss experience since 1980.

Change in credit policy/year      Credit/Sales ratio      Bad debt loss experience

D. What other services does your cooperative perform for patrons?

Storage	_____	Fert. app.	_____
Seed cleaning	_____	Grinding	_____
Drying	_____	Soil testing	_____
Brokerage	_____	Pooling arrangements	_____
Financing services	_____	Other	_____

IV. Competitive Environment for Merchandising Grain.

A.	Nearby competing elevators	Co-op (Y/N)	Distance from you	Approx. loadout/mode capacity	Comments
1.	_____	_____	_____	_____	_____
2.	_____	_____	_____	_____	_____
3.	_____	_____	_____	_____	_____
4.	_____	_____	_____	_____	_____

B. What type of services are being offered by major competing elevators.

	Elevator				Elevator			
	1	2	3	4	1	2	3	4
Storage	_____	_____	_____	_____	Drying	_____	_____	_____
Seed cleaning	_____	_____	_____	_____	Fert. App.	_____	_____	_____
Soil testing	_____	_____	_____	_____	Grinding	_____	_____	_____
Brokerage	_____	_____	_____	_____	Other	_____	_____	_____

V. Patronage Refunds

A. Basis for patronage refunds for grain:

1. Volume or dollar \_\_\_\_\_
2. Blend or individual grain \_\_\_\_\_

B. Allocation of net income from services for 1987.

1. Relative importance and method of allocation

Service	% of net income	Method of allocation	
		Unallocated reserves	Not separately Separately
a. Tot. Services	_____	_____	_____
Separately by service:			
b. Storage (member)	_____	_____	_____
c. Storage (govt.)	_____	_____	_____
d. Drying	_____	_____	_____
e. Cleaning	_____	_____	_____
f. Other	_____	_____	_____

2. Is the net income from nonmembers service patronage handled differently from that of members?

3. How is net income from unrelated sources allocated?

VI. Response to Government Farm Programs: 1980 to 1987

A number of government programs were implemented during the 1980 to 1987 period. These include Payment-in-kind (PIK), PIK and Roll of 1986 and 1987, Conservation Reserve Program (CRP), Commodity Credit Corporation (CCC) grain auctions and the rise and fall of grain storage. Also, institutional changes (e.g. unit-train rail rate, rail contracting and Certificate of Transportation (COT)) have had an influence on the country grain elevator industry.

A. Rank (1-7, 1=most, 7=least) the following events on their financial impact on your cooperative during this period.

Interest rates _____	Farm crisis _____
Govt. storage prog. _____	Intro. of unit train _____
Farm programs (other than storage) _____	Mergers _____
Rail abandonment _____	Other _____

B. Unit Trains

1. Did your cooperative add unit-train loading facilities during this period?

2. What capital improvements were undertaken to make unit-train possible?

3. How has the competitive nature of your trade area changed as a result of unit-train loading?

C. 1. What were the grain acquisition methods used in 1980 and 1987?

Method	1980	1987
Cash purchases	____%	____%
Forward contract	____%	____%
No price established (NPE) or Delayed price contract (DPC)	____%	____%
Minimum price contract	____%	____%
Other _____	____%	____%
Total	100%	100%

2. Which of the above changes in grain acquisition methods are attributable to the 1980 to 1987 changes in government farm programs as opposed to other factors?



D. Grain merchandising (selling) methods.

1. What were the methods used in 1980 and 1987?

	1980	1987
Spot market	___%	___%
To-arrive	___%	___%
FOB country	___%	___%
Basis trading (Hedging)	___%	___%
Other	___%	___%
Total	100%	100%

2. Which of the above changes in grain selling methods are attributable to the 1980 to 1987 changes in government farm programs?

3. What was the change in margins during the 1980-1987 period that were prompted by farm programs as opposed to other factors?

E. Impacts of the 1983 PIK program on your cooperative during the 1983-1985 period.

1. Did your firm have an increase or decrease in grain throughput?

2. Was there a noticeable decline in the sale of supplies?

F. Was your cooperative actively involved in PIK and Roll in 1986-1987?  
Yes \_\_\_ No \_\_\_

1. If so, describe your strategy (e.g., long distance, durum swaps).

2. How did PIK and Roll influence your grain handle?

3. Approximate elevator income from PIK certificates and swaphandling:

1986 \$ \_\_\_\_\_ 1987 \$ \_\_\_\_\_

G. Storage

1. How much did you expand storage capacity to take advantage of CCC storage programs during the 1980-1987 period?

Temporary \_\_\_\_\_ bu Leased \_\_\_\_\_ bu

Permanent \_\_\_\_\_ bu

2. Percent of new storage construction that was internally financed \_\_\_\_\_%

3. What type of quality problems did you have with grain in storage?

H. 1. Has your firm participated in any CCC Commodity weekly auctions?  
Yes \_\_\_ No \_\_\_

2. How much grain did you purchase from the CCC grain catalog?

None \_\_\_\_\_ 250,000-500,000 \_\_\_\_\_

Less than 250,000 \_\_\_\_\_ More than 500,000 \_\_\_\_\_

3. How much was purchased out of your storage by someone else?

4. To what extent were you an active purchaser of noncatalog and off grade CCC stocks?

5. What problems did you encounter with your CCC stocks purchases and sales (e.g. discounts)?

6. To what extent are you purchasing off-grade CCC stocks from your own CCC inventory?

I. What impacts has the Conservation Reserve Program (CRP) had on your cooperative?

loss of grain base \_\_\_\_\_ acres

decrease grain handle \_\_\_\_\_ %

decrease input sales \_\_\_\_\_ %

J. For BN shippers: Have you participated in the C.O.T.?

Yes \_\_\_\_\_ No \_\_\_\_\_ If so, number and usual size of shipment.

VI. Changes you anticipate making in light of reduced storage payments and reduced volume due to CRP.

1. Which of the following strategies are practical?
2. Rank each of the feasible strategies (1=most likely) in terms of use and potential impact.

Practical? (Y/N)	Rank	Action	Comments
_____	_____	a. Increase margins.	_____
_____	_____	b. Change merchandising practices.. (e.g. capture change in basis within month or season.)	_____
_____	_____	c. Change in blending and cleaning practices.	_____
_____	_____	d. Change in discounts and premiums.	_____
_____	_____	e. Increase revenue by _____	_____
_____	_____	f. Decrease costs through better labor utilization.	_____
_____	_____	g. Decrease costs through plant closing.	_____
_____	_____	h. Decrease costs through rail and transportation.	_____
_____	_____	i. Decrease costs through _____	_____
_____	_____	j. Attracting new patrons.	_____
_____	_____	k. Addition or dropping marketing service to patrons.	_____
_____	_____	l. Eliminate product line.	_____
_____	_____	m. Handling new crops.	_____
_____	_____	n. Merger/Acquisition.	_____
_____	_____	o. Change internal cooperative structure. (departmental, hierarchy.)	_____

VII. Could we have a copy of your income, balance sheet (statement of expenses), and product breakdown?

For last fiscal year \_\_\_\_\_

For 1980-1987 \_\_\_\_\_

SUPPLEMENTAL SHEET

Response to Government Farm Program: 1977 to 1981

Introduction of the Farmer-owned reserve (FOR) took place in 1977. The rationale of the FOR was to take surplus grain stocks off the market. These stocks would be owned and stored by the producers.

A. What changes in grain purchase methods were prompted by the FOR?

	<u>From</u>	<u>To</u>
Cash purchases	___%	___%
Forward contract	___%	___%
Other	___%	___%
Total	100%	100%

B. What changes in grain merchandising methods were prompted by the FOR?

	<u>From</u>	<u>To</u>
Spot market	___%	___%
To-arrive	___%	___%
FOB country	___%	___%
Other	___%	___%
Total	100%	100%

C. What was the change in margins prompted by the FOR?

D. How would you contrast the competitive environment during the 1977-1981 period with that of today.

E. What additional impacts did the implementation of the Farmer-Owned Reserve in 1977 have on your cooperative? Did you gain or lose any storage income? What changes (including merger & added product lines) did you make in response to FOR which may have required any capital improvements?

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APPENDIX B  
Tables of Significant Differences Among Groups for External Impacts and  
Income-Enhancing Alternatives

Appendix Table B1. Significant differences between manager's ranking of the financial impact of specified external factors, 87 selected grain marketing cooperatives, grouped by production region, 1988<sup>a</sup>

Factors <sup>b</sup>	Factors						
	1	2	3	4	5	6	7
1 Gov't. storage prog.---							
2 Other farm programs	T C S	---					
3 Interest rates	T C S W		---				
4 Farm crisis	T C S W	T s		---			
5 Intro. of unit train	T C S W	T C W	t c -s W	-S W	---		
6 Mergers	T C S W	T C S W	T C S W	T C S W	T C S	---	
7 Railroad abandonment	T C S W	T C S W	T C S W	T C S W	T C S W	T c s w	---
	1	2	3	4	5	6	7

<sup>a</sup>T = all elevators combined, S = spring wheat, C = corn belt, W = winter wheat, upper case letter = significant at .01 level, lower case letter = significant at .05 level, and negative sign means factor with lower number is significantly higher than factor with higher number.

<sup>b</sup>See Table 24 for average rankings.

Source: Survey Statement VI.A.

Appendix Table B2. Significant differences between manager's ranking of the financial impact of specified external factors, 87 selected grain marketing cooperatives, grouped by progressiveness, 1988<sup>a</sup>

Factors <sup>b</sup>	Factors						
	1	2	3	4	5	6	7
1 Gov't. storage prog.	---						
2 Other farm programs	T P I C	---					
3 Interest rates	T P I C	P	---				
4 Farm crisis	T P I C	T p	i	---			
5 Intro. of unit train	T P I C	T I C	t I c		---		
6 Mergers	T P I C	T P I C	T p I C	T P I C	T P I c	---	
7 Railroad abandonment	T P I C	T P I C	T P I C	T P I C	T P I C	T p	---
	1	2	3	4	5	6	7

<sup>a</sup>T = all elevators combined, P = progressive, I = intermediate, C = conservative, upper case letter = significant at .01 level, lower case letter = significant at .05 level, and negative sign means factor with lower number is significantly higher than factor with higher number.

<sup>b</sup>See Table 24 for average rankings.

Source: Survey Statement VI.A.

Appendix Table B3. Significant differences between manager's ranking of the financial impact of specified external factors, 87 selected grain marketing cooperatives grouped by size (storage capacity) fall 1988<sup>a</sup>

Factors <sup>b</sup>	Factors						
	1	2	3	4	5	6	7
1 Gov't. storage prog.	---						
2 Other farm programs	T S M L	---					
3 Interest rates	T S M L	l	---				
4 Farm crisis	T S M L	T l		---			
5 Intro. of unit train	T S M L	T S L	t s		---		
6 Mergers	T S M L	T S M L	T S M L	T S M l	T S M l	---	
7 Railroad abandonment	T S M L	T S M L	T S M L	T S M L	T S M L	T L	---
	1	2	3	4	5	6	7

<sup>a</sup>T = all elevators combined, S = small, M = medium, L = large, upper case letter = significant at .01 level, lower case letter = significant at .05 level, and negative sign means factor with lower number is significantly higher than factor with higher number.

<sup>b</sup>See Table 24 for average rankings.

Source: Survey Statement VI.A.

Appendix Table B4. Significant differences between income-enhancing alternative indices, by production region, fall 1988\*

	Alternatives														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	---														
2	t S	---													
3	TC SW	TC W	---												
4	TC W	TC -SW	c -S W	---											
5	TC SW	TC SW	T S W	T S	---										
6	TC SW	TC W	T W	T S		---									
7	TC SW	TC SW	Tc SW	T S			---								
8	TC SW	TC SW	T S W	T S		S		---							
9	TC SW	TC s W	TC SW	Tc S	C	c	c	C -S	---						
10	TC SW	TC W	TC s W	TC SW	TC W	TC	tC	C -S		---					
11	TC SW	TC SW	TC SW	T S	Tc	Tc S	t	c			---				
12	TC SW	TC SW	TC SW	Tc S	tC	tC s	c	C				---			
13	TC SW	TC SW	TC SW	TC SW	TC SW	TC S	TC S	TC	T S	t S	t s	t S	---		
14	TC SW	TC SW	TC SW	TC SW	TC s W	TC S	TC s W	TC W	T S	t S	t s	t s		---	
15	TC SW	TC SW	TC SW	TC SW	TC s W	TC S	TC s W	TC W	T S W	T S	T	T			---
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

\*T = all elevators combined, S = spring wheat, C = corn belt, W = winter wheat, upper case letter = significant at .01 level, lower case letter = significant at .05 level, and negative sign means alternative with lower index is significantly higher than alternative with higher number.

Source: Survey Statement VII.

Appendix Table B5. Significant differences between income-enhancing alternative indices, by progressiveness ranking, fall 1988<sup>a</sup>

	Alternatives														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	---														
2	t I	---													
3	T I C	T C	---												
4	T P I C	T P C	P	---											
5	T P I C	T P I C	T p I	T I C	---										
6	T P I C	T P I C	T P I	T I c		---									
7	T P I C	T P I C	T P I c	T I C			---								
8	T P I C	T P I C	T P I	T I c		i		---							
9	T P I C	T P I C	T P I	T I					---						
10	T P I C	T P I C	T P I	T P I C	T P	T p	t P	P		---					
11	T P I C	T P I C	T P I c	T p I C	T P	T	t p				---				
12	T P I C	T P I C	T P I	T P I	t P	t P i	P	P	p			---			
13	T P I C	T P I C	T P I	T P I C	T P I	T P I	T P I	T P	T p i	t i	t i	t i	---		
14	T P I C	T P I C	T P I C	T P I C	T P I	T P I	T P I	T P	T p i	t i	t i	t c		---	
15	T P I C	T P I C	T P I C	T P I C	T P I	T P I c	T P I	T P	T P i	T i	T i	T C			---
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

<sup>a</sup>T = all elevators combined, P = progressive, I = intermediate, C = conservative, upper case letter = significant at .01 level, lower case letter = significant at .05 level, and negative sign means alternative with lower index is significantly higher than alternative with higher number.

Source: Survey Statement VII.



Appendix Table B6. Significant differences between income-enhancing alternative indices, by size (storage capacity) fall 1988<sup>a</sup>

	Alternatives														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	---														
2	t l	---													
3	TS Ml	Ts M	---												
4	TS ML	TS M		---											
5	TS ML	TS ML	TS L	Ts m	---										
6	TS ML	TS ML	Ts L	T l		---									
7	TS ML	TS ML	TS L	Ts mL			---								
8	TS ML	TS ML	TS ML	TS M				---							
9	TS ML	TS ML	T L	T ML	L	l		L	---						
10	TS ML	TS ML	TS ML	TS ML	T	T M	t			---					
11	TS ML	TS ML	TS mL	TS ML	Ts	TS	ts		S		---				
12	TS ML	TS ML	Ts ML	T ML	t L	t l	l	L			---				
13	TS ML	TS ML	TS ML	TS ML	T mL	Ts ML	TS mL	T L	TS m	t	t-S l	ts	---		
14	TS ML	TS ML	TS ML	TS ML	TS Ml	TS M	TS M	Ts l	TS M	ts	t m	ts		---	
15	TS ML	TS ML	TS ML	TS ML	TS ML	TS ML	TS Ml	Ts L	TS m	Ts	T L	TS			---
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

<sup>a</sup>T = all elevators combined, S = small, M = medium, L = large, upper case letter = significant at .01 level, lower case letter = significant at .05 level, and negative sign means alternative with lower index is significantly higher than alternative with higher number.

Source: Survey Statement VII.