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Structural Change and Performance of Grain Marketing Cooperatives

Reynold P. Dahl

The U.S. grain marketing system has undergone many structural changes in the 1980s. In no part of the system has structural change been more far-reaching and extensive than in farmer-owned cooperatives. The purpose of this paper is to analyze changes in grain marketing and induced structural adjustments in grain marketing cooperatives at the local, regional, and interregional levels. The impact of these structural changes on the competitive posture of cooperatives in the grain marketing system is also discussed along with structural adjustments anticipated in the 1990s.

The U.S. grain marketing system is a dynamic system that changes in response to market forces. This is an important strength of a private enterprise system in contrast to government owned and operated grain marketing systems that characterize many countries. But, changes in demand placed upon the U.S. grain marketing system resulting from changes in economic variables such as grain production, exports, transportation, and government programs are frequently abrupt and difficult to predict. Hence, investments in marketing infrastructure are often risky and sometimes painful. The grain marketing system can move from undercapacity to excess capacity in a short time span. This usually induces structural change in the system.

Grain and soybeans have typically ranked second only to dairy products in the business volume of all U.S. agricultural marketing cooperatives. In 1988, 1,484 grain marketing cooperatives in the United States had a total business volume of \$12.4 billion (Cooperative Business Volume). However, the share of grain and oilseed marketings by farmers handled by cooperatives declined in the 1980s. The reasons for this decline are discussed in this paper. But first, why and how did grain marketing cooperatives develop to achieve the important role they play in the U.S. grain marketing system?

Development of Grain Marketing Cooperatives

Market failure is frequently cited as the economic justification for agricultural marketing cooperatives. The rapid development of local grain marketing coop-

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eratives (farmers' elevators) in the early part of this century is a classic case in point. The *Report of the Federal Trade Commission on the Grain Trade* (U.S. Federal Trade Commission) in 1920 described the reduction or elimination of competition for farmers' grain at country points. Large corporations had established chains of elevators along a given railroad line, commonly called "line elevators." These line elevators were in a position to exercise considerable power to force local buyers to come to price agreements with them under the threat of putting them out of business. Also, in states where independent elevators were more important than lines, both types of houses formed state grain dealers' associations through which competition was restricted.

The development of farmers' elevators was rapid after 1905, and by 1922 there were at least 5,000 such concerns in operation (Jesness). By the mid-1920s the share of grain marketings originated by local farmer cooperatives ranged from 35 to 45 percent (Bunker and Cook).

Regional grain marketing cooperatives developed after locals, but they also had their beginnings in the early 1900s. For example, the Equity Cooperative Exchange was organized in 1911. It was an outgrowth of feelings that conditions in the terminal markets were working hardships on grain farmers. The Exchange began operations in Minneapolis but was barred from membership in the Minneapolis Chamber of Commerce (the Grain Exchange). It moved its headquarters to St. Paul in 1914 where it built a terminal elevator. It also gradually acquired ownership of 85 country elevators by October 1921. There were many bitter encounters between the Equity Cooperative Exchange and the Minneapolis Chamber of Commerce (Jesness). This culminated in a cease and desist order to the latter organization issued by the Federal Trade Commission in 1923 (FTC Complaint).

The Equity Cooperative Exchange was reorganized as the Farmers Union Terminal Association, which became the Farmers Union Grain Terminal Association in 1936. The latter merged in 1983 with North Pacific Grain Growers, another regional cooperative, to become Harvest States Cooperatives, which today is the nation's largest grain marketing cooperative.

Regional grain cooperatives developed rapidly from 1925–35 as the Federal Farm Board and its Farmers National Grain Corporation (FNGC) provided financial support for regional cooperatives through which ill-fated price stabilization activities were conducted. The FNGC was dissolved in 1938, but regional grain marketing cooperatives reestablished themselves and went on to increase their share of grain marketings to 21–25 percent by the late 1970s (Bunker and Cook).

The Producers Export Company (PEC) was organized as an interregional grain marketing cooperative in 1958 in an attempt by 22 regional cooperatives to integrate their operations into grain export markets. PEC was established with resources sufficient only to operate as an export broker. The PEC system of having the member regionals of an export interregional manage and control port elevators was identified as a strategic problem in the late sixties, and PEC was dissolved. In 1968, seven regionals formed the Farmers Export Company, an interregional grain marketing cooperative, and built a new port elevator at Ama, Louisiana (Reynolds).

By 1977, cooperatives had increased their share of direct grain exports to 11 percent of total U.S. grain exports. They also indirectly sold through their own

port elevators another 6 percent, making cooperatives the seller or handler of 17 percent of U.S. exports of grains (Bunker and Cook).

Regional and interregional cooperatives went on to increase their annual grain volume from 1.8 billion bushels in fiscal 1977 to 3 billion bushels in 1981. In the latter year, the Agricultural Cooperative Service also reported 16 regional grain cooperatives and three interregional cooperatives (Thurston and Cummins). This was the zenith year both for the total volume of U.S. grain exports and also for regional and interregional grain marketing cooperatives. It also marked the beginning of a decade in which a downsizing of farmer-owned grain marketing cooperatives would occur. To understand the economics of these changes, one has to look at the stimulus to investment in marketing infrastructure resulting from the expansion of grain exports in the 1970s.

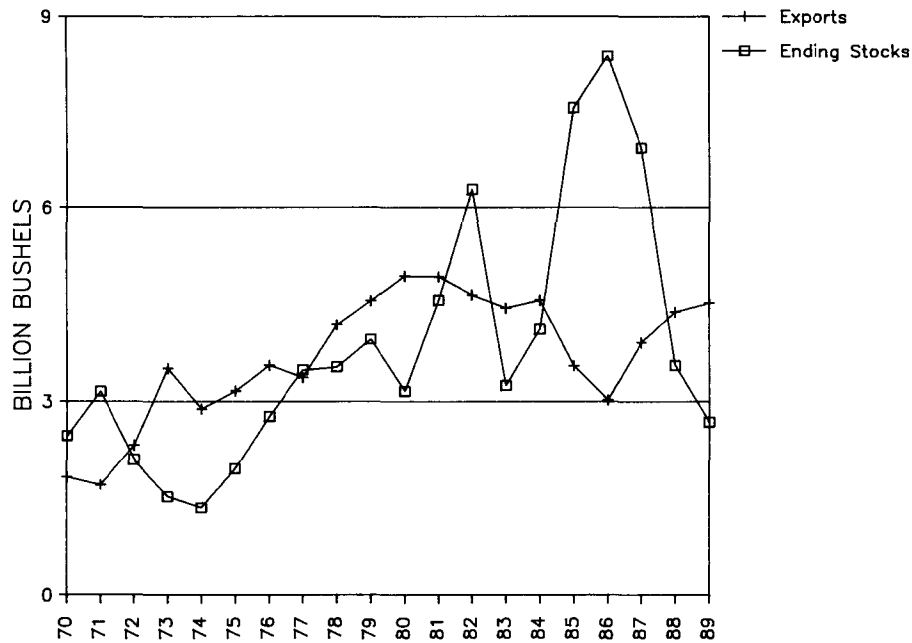
The Grain Export Boom of the 1970s

The 1970s will go down in history as the golden decade for American agriculture and its grain marketing system. After more than 25 years when surplus stocks and government price support operations dominated grain markets and marketing, the 1972–73 marketing year ushered in a new era. Grain production shortfalls, notably in the Soviet Union, but in other countries as well, increased the export demand for American grain. U.S. grain exports more than doubled from 1.7 billion bushels in 1971 to a record 3.5 billion bushels in 1973. Grain prices also more than doubled in 1973 as market prices rose above support prices. Grain exports continued to increase for the remainder of the decade, reaching an all-time record of nearly 5 billion bushels in 1980 (figure 1). The U.S. share of the world grain export market also rose to a peak of 60 percent in the same year.

The grain export boom of the 1970s put a severe strain on the marketing system, but it accommodated this tripling of grain exports during the decade with a minimum of disruptions. This was an accomplishment of considerable magnitude. Marketing margins increased as the demand for marketing infrastructure and services exceeded the supply. This stimulated investments in rail cars, barges, storage, and port facilities, much of which did not come on-line until the 1980s when grain exports began an extended period of decline.

Another important economic impact of the increase in grain exports in the 1970s was that it enabled the Commodity Credit Corporation (CCC), the price supporting agency of the U.S. government, to dispose of its grain stocks that had been accumulated in the post-World War II period under price support operations. Hence, CCC stocks no longer served as a lid on market prices, so grain price variability increased. Greater price variability increased hedging needs, which pushed the volume of futures trading in grain and grain products to a record level of 39.5 million futures contracts in 1980.

Marketing decisions and price risk management emerged as new and complex problems for farmers and their grain marketing cooperatives in the 1970s. Many cooperative managers were not well equipped or trained to operate in this new market environment. Most of their experience had been during the post-World War II period when CCC-owned grain stocks were high and rising, and cooperatives earned most of their income through storage and grain handling for the CCC. They did not have to be concerned with markets, cash-futures price relationships, and hedging.

Figure 1.—U.S. Grain Exports and Ending Stocks

Grain Exports Decline, Excess Capacity Emerges in the 1980s

The decade of the 1980s got off to an inauspicious start with President Carter's embargo on grain exports to the Soviet Union. Also, the world slid into a prolonged recession in which world grain trade declined. U.S. grain exports bore the brunt of this painful adjustment. Aided by a strong dollar and the price umbrella provided by our government programs, other grain exporting countries increased their production and provided stiffer competition for U.S. grain exports. Our grain exports declined nearly 2 billion bushels from their record high of 5 billion bushels in 1980 to 3 billion bushels in 1986. Competition for the reduced volume drove marketing margins down, and the new investments in rail cars, barges, and port elevators resulted in a surplus of such marketing infrastructure, which became burdensome.

As exports declined in the 1980s, stocks of grain accumulated, despite sizable acreage idled under federal farm programs. Most of these stocks were stored under government programs such as the farmer-owned reserve, regular price support loan, and CCC ownership. Grain stocks reached an all-time high of 8.4 billion bushels at the end of the 1986–87 marketing year (figure 1). The grain marketing system was again back in the business of storing and handling grain

for the government in a big way. The income from such operations increased offsetting declines in income, in part at least, from grain merchandising associated with reduced exports and marketing margins. Harvest States Cooperatives, for example, reported a record gross income from storage and handling of \$24.6 million in 1987. This was a substantial contributor to their net earnings from all operations of \$11 million in the same year (Harvest States Cooperatives 1988). This was typical of the operation of many local grain marketing cooperatives during the same period.

The world grain situation has changed again in the last three years, resulting in an increase of U.S. grain exports to 4.5 billion bushels in 1989. This is still 500 million bushels below their record level in 1980. The drought of 1988 dramatically reduced U.S. grain production, resulting in an unprecedented reduction in ending U.S. grain stocks from their record level of 8.4 billion bushels in 1986–87 to an estimated 3 billion bushels in 1989–90 (figure 1).

This brief recap of trends in grain exports and stocks over the past two decades illustrates how quickly and dramatically the load placed on the grain marketing system can change. How has the structure of grain marketing cooperatives changed in response to these changes in demand?

Economics of Structural Change

Cooperatives' share of farm marketings of grain and soybeans has been substantial for many years, but their share declined in the 1980s. The Agricultural Cooperative Service estimates that cooperatives' share of grain marketed by farmers declined from 36 percent in 1982 to 30 percent in 1988 (Kraenzle). This was largely attributable to the downsizing of operations at the regional and interregional levels. However, structural change also occurred in local grain marketing cooperatives.

Unit Train Rates Change Local Cooperative Structure

Grain cooperatives developed first at the local or country level, and it is here where cooperatives have achieved their greatest market penetration. Local grain cooperatives have traditionally performed three important economic functions: grain assembly, grain storage, and farm supply merchandising.

The principal marketing function performed by early local grain cooperatives was grain assembly. They bought grain from surrounding farms and assembled it in quantities large enough to ship to terminal markets in single rail cars. Rail remained the dominant transportation mode until trucks came into heavy usage after World War II. Trucks also enabled some large farmers to bypass the local cooperative and ship directly to terminals. Grain transport by river barge also came into heavy usage at this time. Truck and barge transportation of grain dovetailed well together. Both took sizable volumes of business away from the railroads.

The railroads' response to increased truck-barge competition was to offer special multicar (unit train) rates on shipments of 25, 50, 75, or more cars. These unit train rates were considerably lower than single car rates and provided a powerful incentive for country elevators to modernize their load-out facilities to take advantage of these lower rates. The unit train rates also stimulated the investment in new subterminal elevators in the country specifically designed to

receive grain from other elevators, and sometimes directly from farmers, and ship it out in unit trains. Multicar shipping country elevators and the new subterminals expanded rapidly in the 1970s. Investments were facilitated by record earnings of local elevators during this period, providing equity capital for improvements.

A North Dakota study reported that by 1984 there were 544 multicar rail loading facilities, over half of which were cooperatives, in the four-state area of Iowa, Minnesota, Nebraska, and North Dakota. This represented considerable excess unit train loading capacity in all these states, particularly in Iowa, which had 5.83 bushels of unit train loading capacity for every bushel of grain shipped out of the state by rail or truck (Cobia, Wilson, Gunn, and Coon).

The impact of excess capacity on local grain marketing cooperatives in the Eighth Farm Credit District is analyzed by Ginder (1985) who points out that about 20 percent of the firms controlling more than 25 percent of the industry assets were in a financially stressed condition in late 1984. He cautioned that if these firms are forced to liquidate, asset markets for grain origination will be depressed.

In another North Dakota study, Clow and Wilson point out that unit train rates increased competition for grain, which forced country elevators to either become larger or consolidate with other elevators and operate as a multiplant firm. Many cooperative elevators consolidated in the 1980s, and new subterminals were constructed. The consolidated elevators acted as feeder stations for new cooperative subterminals. This multiple-plant system enabled the cooperative subterminals to obtain sufficient volumes of grain for unit train shipments. By 1987, there were 22 multiple-plant elevators operating in North Dakota and 116 elevators in the state with unit train loading capability. A cost analysis in this study showed that a multiple-plant firm must handle up to seven times more grain than a single-plant firm in order to use all their grain storage capacity and reach their minimum average costs (most efficient scale). At no time has the average been close to the needed 22 million bushels for multiple-plant firms.

Excess capacity in unit train shipping facilities and increased competition for grain squeezed grain merchandising margins. This was mitigated to some extent by increased storage income as carryover stocks accumulated under government programs in the 1980s. Grain storage capacity in the United States increased as export demand declined and stocks accumulated under government programs. The total of on-farm and off-farm (commercial) grain storage capacity reached 22.2 billion bushels (nearly two years of total U.S. yearly grain production) on December 1, 1989. This was up from 17 billion bushels in 1978, an increase of 31 percent for the decade. But, the precipitous drop in grain stocks as a result of the 1988 drought has resulted in excess storage capacity and reduced storage income for grain marketing cooperatives (Gunn and Cobia).

Cash Trade at Grain Exchanges and Terminals Declines

Regional cooperatives were organized to market farmers' grain at grain exchanges in terminal markets such as Chicago, Kansas City, and Minneapolis. An important function of these exchanges in earlier years was the marketing of single rail cars of grain on the basis of samples consigned from country elevators to commission firms at the exchanges. Regional cooperatives func-

tioned as commission firms for affiliated local cooperatives. But, buying and selling grain on a sample basis has largely been replaced by forward "to arrive" cash contracts between country elevators and grain merchants where price, grade, premiums, and discounts for quality are agreed to in the contract. The consignment method of marketing grain has virtually disappeared. Grain commission firms have also largely disappeared or changed their operations to become grain merchants assuming title to the grain they handle. As the marketing of grain by sample diminished, cash grain trade at smaller exchanges such as Duluth, St. Louis, Omaha, and Toledo declined even more sharply than at the primary futures exchanges at Chicago, Kansas City, and Minneapolis.

Today most cash grain is traded by telephone. Merchants and processors, including regional cooperatives, telephone bid prices each day to country elevators, usually for forward delivery. Forward selling enables country elevators to fix the price as they purchase grain from farmers and have time to schedule load-out and shipping. Regional cooperatives have few captive customers among their affiliated locals. Their price bids must be competitive with investor-oriented firms (IOFs) or they lose the business.

Changes in transportation have been even larger dynamic factors contributing to the decline of cash grain trade at terminal markets and accelerating the move to a decentralized grain marketing system. The increased volume of grain shipped by truck bypassed terminal rail markets and was not traded at grain exchanges whatsoever. Grain was trucked directly to processors or to river terminals for shipment by barge on interior waterways.

Innovative new multicar rates offered by railroads to compete with increased truck-barge competition were point-to-point rates that did not include the transit privilege. Transit was an integral part of the railroad rate structure under which grain could be stopped at intermediate points between origin and final destination for inspection, storage, or processing without additional charge. The thru rate applied under transit billing. As more multicar rates were offered by the railroads, the transit privilege was eroded and virtually eliminated.

The demise of the transit privilege and deregulation of the railroads as authorized by the Staggers Act of 1980 sharply reduced the flow of grain from country points to grain exchanges in terminal markets for resale. Most grain now moves directly from gathering points in the country to domestic users such as flour mills or to export elevators without moving through a terminal market for resale. Trading in individual cars of grain is now most likely to occur near origin points in the country rather than at a terminal market (*Changing Face of Breadstuffs*).

In addition to diminishing the role of grain exchanges in the marketing of cash grain, railroad deregulation has diminished the role of terminal elevators at these markets, particularly terminal elevators built many years ago to handle rail grain. Many of these elevators are now obsolete for grain merchandising and are suitable only for long-term storage, primarily of government-owned grain.

Deregulation of the railroads and the associated unit train rates have been the principal forces tending to decentralize the grain marketing system. Subterminal elevators have taken over the function formerly held by many older rail terminal elevators. They are also likely to replace many country elevators. One analyst projects that country elevators that are still operating 20 years from now will be subterminal elevators (*Grain Terminals Must Adapt to New Role*).

These changes have heavily affected regional grain marketing cooperatives that were originally established to market grain at terminal locations. Some have integrated their operations back toward the country through the ownership of local elevators and subterminals, thus becoming combination federated and centralized regional cooperatives. They have also integrated forward toward export markets through the acquisition and control of grain export marketing infrastructure. Problems encountered in the latter area induced many structural changes in the 1980s.

Structural Changes in Interregional and Regional Grain Marketing Cooperatives

One interregional grain marketing cooperative failed during the 1980s and another was restructured. In addition, two farmer-owned regional cooperatives were dissolved; two transferred their marketing operations to joint ventures with IOFs; and several mergers involving regional grain marketing cooperatives occurred in the decade. Sizable losses in equity capital were incurred by the system, and the competitive posture of farmer-owned cooperatives in the grain marketing system was weakened. The economic reasons behind these structural changes and their performance implications deserve more analysis than they have received to date.

The Collapse of Farmers Export Company

Farmers Export Company (FEC), a federation of regional grain marketing cooperatives, was organized in 1968 for the purpose of marketing farmers' grain for export. For many years, farmer-owned local and regional grain cooperatives had aspired to integrate their operations further up the marketing chain by developing the capability to make direct sales of grain for export. The USDA's Farmer Cooperative Service reported in the mid-1970s that local grain cooperatives received about 40 percent of farmer grain sales, but regional cooperatives handled only half that amount and directly exported only 7 to 8 percent of U.S. exports. It recommended that cooperatives strengthen their capability for direct export sales (Thurston et al.).

FEC was to be the major vehicle through which this strategy could be implemented. It expanded rapidly in the 1970s. At the peak of its operations in 1980, it owned two major gulf port terminals in Ama, Louisiana, and Galveston, Texas. It also leased a 3 million bushel Philadelphia elevator and another port elevator at Portland in the Pacific northwest. In addition, it had agents and offices in several major foreign cities.

However, by 1981, even before the decline in U.S. grain exports, FEC experienced difficulties and began to downsize through the sale of port facilities. In 1985, it was liquidated through the sale to the Archer Daniels Midland Company of its remaining assets, which consisted mainly of its export elevator at Ama, Louisiana, its first major investment in the early 1970s.

The collapse of FEC was attributed to several factors, such as the lack of a global trading partner and lack of a commitment to market cooperatively through FEC as a central entity (Hofstead). Another cooperative leader also emphasized lack of commitment as follows:

One was the failure of members to fully support FEC. In fact, at least one regional acquired Gulf elevator assets in direct competition with grain flowing to FEC, of which it was part owner. (Torgerson)

The same problem was discussed even more pointedly in *Fortune* as follows:

The bitter rivalries among the members kept them fighting about which facilities were needed. They seemed to have Mafia-like designs on one another's territories and business. A couple also had designs on Farmers Export's foreign markets.

AGRI Industries plunged heavily into the export business on its own, and last year shipped 185 million bushels overseas through other facilities. In June, the big Iowa co-op leased an export terminal (which it is now trying to buy) in Lake Charles, Louisiana, that can't help but divert business away from the Farmers Export terminal in Ama, 175 miles away. In September, just as Farmers Export's burned-out elevator in Galveston was getting back into operation, AGRI announced plans to acquire a large competing elevator in Houston. The \$36 million deal was closed in December. (Rowan, p. 156)

It was also reported that the demise of FEC was hastened by losses on large speculative positions in futures involving old crop–new crop price spreads in soybeans and corn. Operating personnel in FEC were quoted as saying they were forced into such speculative trading to cover substantial overhead incurred from large investments in fixed assets (Rowan).

Ginder (1988) classifies the reasons for the decline in cooperative presence in the export grain marketing system into factors inside and outside the system. He asserts that problems outside the system may have been more important than the system's internal problems. Factors outside the system he cites are: (1) a decline in FOB-based sales typical of the era when PL-480 shipments dominated U.S. exports, (2) an increase in cost and freight (C & F)- and cost insurance and freight (CIF)-based sales, (3) changes in ocean freight, (4) change in any origin or optional bids, and (5) changes in U.S. agricultural support policy.

The importance of the external factors may be questioned especially when compared with the internal factors discussed above. Cooperatives expanded into export marketing with the objective of permitting more CIF grain export sales. Other factors he mentions were hardly new to grain export market participants, including grain marketing cooperatives (Thurston et al.).

The USDA's Agricultural Cooperative Service reported the collapse of Farmers Export as "ending another chapter in the continuing saga of grain farmers' efforts to achieve a farmer-controlled grain marketing system through vertical coordination" (Torgerson). But, it also marked the beginning of structural adjustments in other farmer-owned grain marketing cooperatives that were to follow.

Agri-Trans Corporation Restructured

Agri-Trans Corporation was organized as a river barge transportation company in the mid-1970s by CF Industries and five regional cooperatives, several of which were also owners of Farmers Export. Its purpose was to ship grain

down river to Gulf export terminals. Then fertilizer was barged up river. By 1981, it owned 465 barges and nine river towboats. As grain exports declined in the 1980s, barge rates on the river plunged. Many new barges had been built and added to the barge fleet, resulting in excess capacity. This created financial problems for Agri-Trans, and its owners wrote down their investments (Cooperative Action; Harvest States Cooperatives, 1985). Agri-Trans Corporation was restructured in 1986 when it entered into a joint venture with the American River Transportation Company (ARTCO), which is the managing partner. ARTCO is a subsidiary of the Archer Daniels Midland Company (ADM).¹

Two Regionals Dissolved

The Producers Grain Corporation of Amarillo, Texas, closed grain operations in 1982 with AGRI Industries, a regional grain marketing cooperative headquartered in Des Moines, Iowa, taking over five terminal elevators under a six-year lease.

Far-Mar-Co, a regional grain marketing cooperative headquartered in Hutchinson, Kansas, was also liquidated in 1985. Earlier, Far-Mar-Co had merged with Farmland Industries, Inc. of Kansas City, becoming a subsidiary of this regional farm supply cooperative. Far-Mar-Co was one of the owners of Farmers Export and had purchased its export elevator in Galveston, Texas, in 1981 when Farmers Export began to downsize its operations. This purchase increased Far-Mar-Co's debt load, which became increasingly burdensome as grain exports declined and excess export marketing capacity emerged in the early 1980s. Far-Mar-Co's wheat and milo storage facilities, including the Galveston elevator, were sold to the Union Equity Co-op Exchange, headquartered in Enid, Oklahoma. The latter is a regional grain marketing cooperative that exports sizable quantities of hard red winter wheat.

Two Regionals Transfer Marketing Operations to Joint Ventures with IOFs

On September 5, 1985, GROWMARK, a regional farm supply and grain marketing cooperative headquartered in Bloomington, Illinois, and the Archer Daniels Midland Company (ADM) headquartered in Decatur, Illinois, and one of the world's largest grain processors, announced a plan to consolidate their grain marketing and river operations in a new ADM subsidiary called GROWMARK Grain. GROWMARK transferred ownership of its seven river terminals to the new "ADM subsidiary" in exchange for ADM common stock. Substantially, all ADM and GROWMARK terminals on the Illinois and Mississippi rivers are now referred to as "ADM/GROWMARK."

According to the plan as described, both firms have equal representation on the GROWMARK Grain board of directors. The co-op is also represented on ADM's board of directors. Kenneth P. Baer, then executive vice president and chief executive officer of GROWMARK, described the advantages of the joint venture as follows: "ADM needs and wants our system's grain origination capability, and we need ADM's ability to provide equity capital, their processing capability, and their worldwide marketing expertise." (GROWMARK and ADM Announce Plans for Joint Venture).

AGRI Industries and Cargill, Inc. also formed a joint venture beginning March 15, 1986, called AGRI Grain Marketing. As described in a letter to members, AGRI leased its four river elevators to the joint venture. Cargill leased one river elevator and assigned a second river elevator, in which it has a lease interest, to the joint venture, which became an independent organization with a joint governing board. Despite Cargill's 51 percent controlling interest, the joint venture was designed to operate on an equal basis including AGRI Industries members and Cargill grain and processing operations. All transactions are supposed to be at market prices to ensure this equality. The joint venture's staff came from a merger of AGRI staff and some of Cargill's Commodity Marketing Division's staff in Des Moines. Both these entities ceased operations as separate independent marketing firms in Iowa.

With the integration of AGRI's grain merchandising and related functions into the new joint venture, AGRI Industries became a holding company "functioning as a cooperative enterprise in supporting member services and other cooperative programs" (Coonrod).

Two Mergers of Regional Grain Marketing Cooperatives

The Grain Terminal Association, St. Paul, Minnesota, and North Pacific Grain Growers, Inc., Portland, Oregon, merged to form Harvest States Cooperatives on June 1, 1983. The new cooperative, headquartered in St. Paul, Minnesota, became the nation's largest grain marketing cooperative with revenues of \$2.9 billion in the fiscal year ending May 31, 1989. Harvest States has grain export facilities on the Great Lakes at Duluth/Superior and the Pacific Northwest at Kalama, Washington. It serves farmers in the Upper Midwest, Pacific Northwest, and adjoining areas. Besides grain marketing, Harvest States Cooperatives has sizable investments in value-added grain processing operations, including soybean and sunflower seed processing; consumer food products distributing salad dressing and other vegetable-oil-based products to supermarkets; durum milling producing semolina for pasta products; barley malting; and livestock feed manufacturing.

Ohio Farmers Grain and Supply Association merged with Landmark, Inc. to become Countrymark, Inc. in 1985. Countrymark then purchased the assets of Agra Land, the cooperative that had emerged in 1983 after the Chapter 11 bankruptcy reorganization of Michigan Farm Bureau Services. Mid-States Terminals, Inc. then became a wholly owned grain subsidiary of Countrymark, Inc. (Benschneider).

A more recent structural adjustment involving Countrymark, Inc. and the Indiana Farm Bureau Cooperative Association (I.F.B.C.A.) is a joint management arrangement announced by these two regional cooperatives. This, according to their board chairman, may lead to the eventual joining of these cooperatives. Countrymark and I.F.B.C.A. are major federated agricultural supply and grain marketing cooperatives serving farmers in Ohio, Michigan, and Indiana (Joint Venture Set by Countrymark, Indiana Farm Bureau Cooperative).

A Changed Cooperative Grain Marketing System

The cooperative grain marketing system in 1990 is vastly different from that of a decade earlier when U.S. grain exports peaked. The downsizing of

Table 1.—Percentage of Total Export Elevator Storage Capacity Controlled by Exporter Group, 1981 and 1989

Exporter Group	1981 ^a	1989 ^b
5 Major Multinationals ^c	50.3	46.0
Farmer-owned Cooperatives	21.4	15.3
Others ^d	28.3	38.7
Total	100.0	100.0

^aNeilson C. Conklin and Reynold P. Dahl, "Organization and Pricing Efficiency of the U.S. Grain Export System." *Minnesota Agricultural Economist*, Agric. Ext. Service, University of Minnesota, No. 635, May 1982, p. 3.

^bExport Elevator Directory, U.S. Dept. of Agriculture, Federal Grain Inspection Service, Jan. 1989.

^cIncludes Cargill, Continental, Bunge, Dreyfus, and Garnac.

^dIncludes public elevators and elevators operated by port authorities.

interregional and regional grain marketing cooperatives during the decade was necessitated by heavy investment in grain marketing infrastructure during the grain export boom. Excessive leverage made it difficult or impossible for some of these cooperatives to ride out the lean times of the 1980s. The share of total export elevator storage capacity controlled by cooperatives declined from 21 percent in 1981 to 15 percent in 1989 (table 1). Also, most of this capacity is now located on the Great Lakes, the export point through which the smallest amount of U.S. grain exports moves. Cooperatives no longer control export space at the Mississippi Gulf through which the largest share of U.S. grain exports flows.

The share of port capacity held by the five major multinational grain exporting firms (Cargill, Inc.; Continental Grain Company; Bunge Corp.; Louis Dreyfus Corp.; and Garnac Grain Co., Inc.) also declined from 50 percent to 46 percent during the same period. On the other hand, the share of port storage capacity held by "other" firms increased from 28 percent to 39 percent. Two of the larger multiple port facility firms in the "other" category include the Archer Daniels Midland Company and Con Agra, Inc. Both have expanded their grain operations in recent years.

Most knowledgeable students could hardly conclude that the U.S. system of regional grain marketing cooperatives has become stronger over the past decade. But, the strongest part of the farmer-owned grain marketing system traditionally has been in grain origination through local cooperatives. Many local grain marketing cooperatives have grown in size and scope of operations through internal growth, mergers, and consolidations. Their larger operations and capabilities of handling unit train shipments indicate that they have taken on more of the characteristics of subterminals shipping directly to domestic users or ports for export. Hence, many are not as dependent upon the services of a regional cooperative in marketing single cars of grain as in years past. This presents a challenge to the regionals in the provision of other services to their federated locals.

Structural Change in the 1990s

The number of grain marketing cooperatives in the United States declined from 2,475 in 1978 to 2,050 in 1988 (Richardson et al.). A continuation of this trend can be expected in the 1990s. Excess capacity in unit train loading facilities may also result in the further restructuring of local grain marketing cooperatives. Value-added activities, such as the contract feeding of livestock, are also being tried by some local grain marketing cooperatives in parts of the Corn Belt. Such activities demand a new set of management skills in addition to those required for grain and farm supply merchandising.

At the regional level, we will probably witness more joint ventures between cooperatives and between cooperatives and IOFs. Value-added grain processing operations will also receive greater emphasis. Harvest States Cooperatives provides an interesting case study. It downsized its grain marketing operations, but expanded its value-added grain processing operations in the 1980s to make it less vulnerable to the ups and downs of the grain business. For example, the Feed Division has expanded into more products such as pet food manufacturing under private labels for food chains. Harvest States also purchased an IOF called Holsum Foods, which manufactures margarines, salad dressings, peanut butter, and shortening. This is a vertical extension of its Honeymeade Processing Division, which produces and refines soybean oil and meal. Holsum Foods is one of the largest importers of bulk olives and also produces about 80 percent of the preserves sold by Kraft. Finally, the Amber Milling Division of Harvest States Cooperatives grinds durum into semolina and durum flour. Pasta consumption in the United States has been increasing at an average annual rate of 7 to 9 percent for several years. The expected annual growth rate in the 1990s is 5 to 6 percent (Pistoria).

Partnership with IOF in Durum Milling

The increased demand for pasta was the motivating force behind a recent expansion in Harvest States durum milling operations. It formed a partnership with the Miller Milling Company, an IOF, of Huron, Ohio, where its mill will be expanded from 6,000 hundredweight to 12,000 hundredweight per day. Harvest States is the operating partner and retains the majority interest in the partnership. With this expansion, Amber Milling becomes the second largest durum miller in the United States, grinding about 14 million bushels of durum per year (Division Report of Amber Milling).

Two Regionals Invest in Wheat Flour Milling

Union Equity Cooperative Exchange and Harvest States Cooperatives recently acquired a combined 10 percent ownership of Cereal Food Processors. This closely held IOF headquartered in Mission Woods, Kansas, is the nation's fifth largest flour miller and operates nine flour mills in six states, as well as a dry corn mill. This alliance will expand the cooperatives' operations in the value-added product sector and enhance the milling company's access to high quality wheat. The presidents of the two cooperatives will be elected to the board of directors of Cereal Foods (Cereal Foods into Alliance with Two Cooperatives). The wheat flour milling industry has shown impressive growth over the past

two decades. The per capita consumption of wheat flour in the United States increased from 110 pounds per capita in 1971 to 129 pounds per capita in 1989.

Another joint venture between Harvest States Cooperatives and Union Equity Cooperative Exchange called Harvest Equity, Inc., based in Lincoln, Nebraska, is also worthy of mention. This company specializes in cross-country grain trading and currently provides the only cooperative alternative in its geographic market (Harvest Equity, Inc. Establishes New Market Inroads).

Conclusions

The grain export boom of the 1970s put a severe strain on the marketing system. Marketing margins increased as the demand for marketing infrastructure exceeded the supply. This stimulated investments in rail cars, barges, storage, and port facilities. Much of this new equipment came on-line when grain exports declined in the 1980s, resulting in excess capacity, reduced marketing margins, firm consolidation, and downsizing. Structural change has been extensive in farmer-owned cooperatives.

The cooperative grain marketing system in 1990 is vastly different from that of a decade earlier when U.S. grain exports peaked. One interregional cooperative failed and another was restructured; two regional cooperatives were dissolved; two regionals transferred their marketing operations to joint ventures with IOFs; and several mergers involving regional grain marketing cooperatives occurred in the decade. The system had sizable losses in equity capital, and the share of grain marketed by farmer-owned cooperatives declined.

Changes in grain marketing, transportation, and railroad deregulation have resulted in a decline in grain exchanges and terminal grain markets in the marketing of cash grain. The grain marketing system has become more decentralized, with grain moving directly from gathering points in the country to domestic users or to ports for export. Many local grain marketing cooperatives have expanded to handle unit train shipments. Others have consolidated to form subterminals that are replacing many country elevators and are also taking over the function of older rail terminal elevators. These changes had a large impact on regional grain marketing cooperatives that were originally established to market grain for local affiliated cooperatives at terminal locations.

Structural change in the cooperative grain marketing system will likely continue in the 1990s. The number of local grain marketing cooperatives will continue to decline. The precipitous decline in grain stocks in 1988-89 resulted in a reduced income from storage and handling government-owned grain stocks for most local cooperatives. Excess capacity in unit train shipping in many areas has also squeezed grain merchandising margins.

Both local and regional cooperatives will place more emphasis on value-added operations such as grain processing and contract feeding of livestock that are less subject to the ups and downs of grain merchandising. We will probably witness new innovations in joint ventures between cooperatives and between cooperatives and IOFs in the 1990s. The economics of joint ventures and their implications for cooperatives and agribusiness organization will demand increased study by students of agricultural cooperation in years ahead.

Note

1. This information was obtained by personal interview. The author is not aware of any published information on this joint venture.

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