

Terminal Elevator Operations

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. . . This business of terminal elevator operations is a business that involves millions and millions of consumers here and over the world, millions of grain growers and hundreds of millions of dollars. It is a servant of the grower of grain, of the flour miller and other processors, of the importers of wheat and other cereals over the world, and of consumers of bread and other grain products. It is swayed by domestic and world forces, by the vagaries of the weather and crop and political developments in our own land and in every part of the world. As you know, terminal houses have been loading wheat for shipment to Pakistan as part of a recent 1,000,000-ton gift of this nation. Every continent receives wheat and other grain from America. A year ago, following a drought in Argentina, one of the world's ranking wheat exporters, terminal elevators in this country were even loading wheat for that country of South America.

First, let's take a look at the scope or capacity of the terminal elevators of the United States. That is highly important in considering questions concerning the adequacy of storage space for grain under the tremendously large and vital price support program of the government. Let's look upon this point with realism, the realism that comes from knowledge and understanding, and not with prejudice. Second, let's examine briefly the varied nature of the terminal elevator operations, the indispensability of the hedging facilities in futures which they employ and which enables them to serve all interests so economically. Let's examine their different services. Also, in this discussion, the evolution of the grain elevator industry and its future should receive consideration. With only a bare outline of these matters, we will further the mutuality we need for the progress of this branch of the grain industry and, in turn, the common economic progress of our nation.

Functions of a Terminal Elevator

The terminal elevator has a three-fold function. First, it provides storage space where grain may be safely held between the time it is harvested and shipped from country points and the time it is distributed for domestic and foreign consumption. Second, the terminal elevator serves as a wholesale distributor, selling grain in carlots and shiploads when buyers come into the market. In addition, the terminal elevator prepares grain for the most economic storage by conditioning it, thereby conserving its value. As the terminal elevator is the main link between the farmer and the consuming public, the large terminal elevator centers are close to the main production areas, and at hubs or centers of transportation. Some are located at railroad centers alone while others are at points with both rail and water facilities. A most recent factor in the location of elevators is the rapid development of the movement of grain by trucks. Such markets as Chicago and St. Louis are finding that the truck movement is almost as important as the volume of grain received by rail. On the 1953 crop to date, a substantial part of the movement of wheat to the Texas Gulf ports has been by truck.

The aggregate of the commercial grain storage capacity of the United States now approximates probably 2,250,000,000 bushels, the largest in the history of this country. I include all "off-farm" commercial-type grain storage. The figure of 2,250,000,000 is conservative. It is based upon a survey made by the United States Department of Agriculture in the latter part of 1951. The results of that survey, announced in December of 1951, placed the "off-farm" commercial-type grain storage capacity at 2,175,942,000 bushels This included both terminal and country warehouses and public and private storage and even some flat storage. . . . It is well to note that the survey covered capacities for the storage of wheat, oats, barley, shell corn, field seeds, dry beans, and peas, rice, and other grain. The storage structures owned by the Commodity Credit Corporation were not included.

By states, Texas with 217,481,000 bushels, Kansas, with 206,948,000, Illinois, with 201,365,000, and Minnesota, with 191,089,000, ranked at the top in the commercial storage capacity in that survey. There is, of course, a similarity between terminal elevator operations and other commercial elevator storage activities.

Wheat is the grain most widely and most largely handled by terminal elevators. The reason for this lies in the fact that fully 90% of the annual harvests of wheat are channeled through terminal elevator operations either into flour or for export and other uses. A small percentage of the wheat crop is retained for seed and for feed, with the feed use exceeding that for seeding purposes. On the other hand, corn, by far the largest grain crop, remains mostly on the farms where grown from year to year. Market records show that 85% of the corn crops never leave the farms or localities where produced, with the remaining 15% distributed for commercial feed manufacture for cornmeal and breakfast foods, for syrup, for starch, for spirits, and for many other purposes. Terminal elevators handle that 15%.

Because wheat is the major grain in terminal elevator operations and also because the handling of this grain parallels that of the other cereals, I shall confine my outline largely to the bread grain.

Terminal Elevators Vast Storehouses

For an idea as to the relative scope of terminal elevator operations in wheat, it is well to turn to one of the most recent reports on supplies in the United States. This report, issued by the United States Department of Agriculture, covered the combined carry-over of wheat in all positions at the end of the 1952-53 crop year on July 1, 1953. The total carry-over in all positions was given as 559,349,000 bushels, the third largest in history. Of that total, the largest single quantity, 239,330,000 bushels, was held by terminal market elevators. This was somewhat over 40%. The next largest total was in interior mills, elevators, and warehouses, 180,407,000 bushels. Farms held 72,840,000 bushels. The total in the hands of merchant mills was 58,408,000 bushels. In the bins of the Commodity Credit Corporation, there were 8,364,000 bushels. It is well to note that the Commodity Credit total thus given represents only the grain in the bins owned by that agency, not its ownership of wheat as of July 1. That ownership, which included wheat in various other elevators, aggregated about 385,000,000 bushels.

That 239,330,000-bushel quantity on the terminal elevator stocks of wheat as of July 1 is large, but it does not fully reflect the totals of this business in wheat alone. It should be remembered that the July 1 holdings represent, as stated, the carry-over at the end of a crop year. The carry-over as of July 1 was out of total supplies of 1,291,447,000 bushels of wheat in the 1952-53 crop years. The peak of stocks in elevators is usually reached in the fall, or following the winter and spring wheat harvests, after which domestic and export demands reduce the accumulations. Under the price support program of recent years, the end-of-the-year stocks have been increasing, especially in years of abundant production and diminished exports.

Now for a few words concerning the individual terminal elevator markets. Some understanding of their varied interests is desirable in resolving problems of wheat and other grain storage and, incidentally, also in general grain market and price studies.

Southwestern Terminal Storage

Kansas City, where I am associated with the Continental Grain Company in the terminal elevator business, is the main terminal market point for hard winter wheat originating in Kansas, Nebraska, and Colorado. The total terminal elevator capacity of Kansas City is 62,000,000 bushels, of which about 75% is operated by merchandisers and storers and the remainder by flour mills. As Kansas City is an important railroad center, the terminal merchandiser who accumulates grain from diverse origins is in a position to ship this grain to most eastern points on billing that will transit at Kansas City without penalty to the shipper. This gives Kansas City a definite competitive advantage over other market centers in the winter wheat area.

Other important terminal centers in the area tributary to Kansas City are St. Joseph, Omaha, Hutchinson, and Wichita. Grain purchased basis these points works without rate penalties either to Kansas City and other points east or to the most southern terminals at Enid and Fort Worth or the important Gulf ports of Galveston, Houston, and Port Arthur.

Enid is the main terminal center for grain grown in Oklahoma. I mention Enid partly for the fact that it has developed a unique position in elevator storage. Its terminal elevator capacity is 43,000,000 bushels, of which 33,000,000 are owned and operated by a single cooperative. That cooperative has just

announced plans to add 16,000,000 bushels more storage capacity at Enid. This is particularly interesting in view of the fact that the production of wheat in the entire state of Oklahoma in the last five years has averaged about 66,000,000 bushels annually. This means that the cooperative elevator at Enid will be able to store 75% of the wheat raised in the state.

In Texas, Fort Worth is the largest terminal center with elevator capacity of 28,000,000 bushels. The port elevators of that state are important.

Chicago Grain Storage Total Impressive

In this market of Chicago, the total elevator capacity is 54,000,000 bushels. So far as wheat is concerned, the interest in Chicago storage is mainly in the red or soft variety, which is grown in the central part of the country and in the Southeast and in the Atlantic states. Corn is actually the most important grain dealt in and shipped from Chicago. The Chicago houses are connected with the ports of Buffalo and Albany in the East and New Orleans in the South by water transportation. One-fifth of the grain shipped from Chicago during 1952 went by lake steamer or down south by the way of the Illinois waterways.

To the south from Chicago, the largest aggregate of storage at any point is at St. Louis with 24,000,000 bushels of elevator capacity. St. Louis is the most important red wheat center of the United States. It is in an enviable position because of the Mississippi River transportation facilities to the important gulf port of New Orleans. The barge rate from St. Louis to New Orleans is less than 50% of the comparable rail rate, and exporters at St. Louis therefore have an advantage over Texas ports. In the year ended June 30, 1953, New Orleans cleared 83,315,000 bushels of grain, including 21,000,000 of wheat, 47,000,000 of corn, and 15,000,000 of soybeans. Of this total, 32,277,000 bushels consisted of corn, wheat, and soybeans that reached New Orleans by barge. This tells a story of the use of the cheaper mode of transportation.

Chicago has connections with the East, the major consuming area, through the most extensive railroad networks in the nation and the Great Lakes, which actually bind the Chicago terminals to the Atlantic ocean. An ocean steamer occasionally undertakes this trip. The equalization of railroad rates with lake rates in recent years has diminished lake transportation from Chicago. Railroad rates are subject to the approval of the Interstate Commerce Commission but the rates on the Great Lakes fluctuate with the demand for tonnage and the supply of vessels. The lake traffic is of some interest because of the fact that, in the winter months, lake vessels are used for the storage of grain, such storage being less than the rates in commercial elevators.

Other Large Grain Storage Centers

Buffalo, an important export and milling center, has an elevator capacity of 53,000,000 bushels. Last year, in 1952, a total of 147,467,000 bushels of grain was unloaded at Buffalo from lake steamers. This included 91,924,000 bushels of wheat and 33,904,000 bushels of oats, the latter mostly imported from Canada. Buffalo also handles Canadian wheat. It is connected with the large elevator at Albany, New York, on the Hudson by the Erie Canal.

The major terminal elevator operations in the spring wheat states are in Minneapolis and St. Paul and Duluth and Superior. Minneapolis and St. Paul have a total capacity of 98,000,000 bushels. Duluth shipped out 92,000,000 bushels of grain in 1952 by lake steamer, including 69,444,000 bushels of wheat, with the remainder coarse grains.

Milwaukee is another important terminal center in the Middle West, but not from the standpoint of wheat. The main products stored there are the ingredients of the nation's brewery capital.

Across the Rockies, in the Pacific Northwest, Portland, Astoria, Seattle, and Longview have port elevator facilities and provide both domestic and export services on grain. The wheat crops in the Pacific Northwest are mainly soft white and hard winter.

**Grain Elevator
Operations
Multifold**

If I attempted to present a detailed outline of the actual physical operations of terminal grain elevators, this entire afternoon would not suffice. The unloading into the elevators, which is now possible in some houses with amazing speed through the use of automatic car dumps which cost around \$300,000 each, the so-called "suckers" that are used in the unloading of boats and barges, which are comparable to a vacuum sweeper, the segregation of grain by classes, by sub-classes, by grade, and sometimes even by grading factors, and also on the basis of protein content and type; the "turning" to prevent heating; the blending, the clipping, the aspirating, the drying and washing and scouring operations are all technical and complex. Ability and experience are required for these operations. The techniques that have been developed operate to the advantage of the grain grower, the miller, the importer, and consumers in general. The competition in the sale of wheat and other grain is of a nature that has enabled and continues to enable the producer to share heavily in the benefits of the highly efficient grain handling by elevators.

The licensing, the grading, and the weighing at public elevators are under federal and state supervision, and provide added safeguards for the various interests which the terminal elevators serve. The boards of trade also provide supervision.

**Banks Regard
Hedged Grain as
Desirable
Collateral**

A very close link exists between the financial aspects of elevator operations and what I have termed the indispensability of the futures hedging machinery, in which Chicago is the leader. Consider, for example, the meaning of a decline of 1¢ a bushel in the holdings of the commercial elevators of the United States on the basis of stocks of 2,000,000,000 bushels, or 80% of their capacity. On such stocks every cent, every penny, means a difference of \$20,000,000. The elevator with a capacity of 1,000,000 bushels and a wheat stock of 800,000 bushels faces a difference of \$8,000 in value every time the market declines or advances a cent. A drop of 10¢ means \$80,000 to that house, and would mean \$20,000,000 on total holdings of 2,000,000,000 bushels. On an average of \$2.50 a bushel, the carry-over wheat stocks in commercial elevators alone represented around \$600,000,000. A very large part of this wheat consisted of supplies owned or about to be owned by the Commodity Credit Corporation, but in the course of a year the elevators of the United States, along with the mills, must finance the carrying and distribution of more than 500,000,000 bushels of wheat that move into domestic consumption alone, to say nothing of the quantities moving by export and other purposes.

Where does the money come from to pay for this wheat? The answer is, largely from banks. The banks, it can be said today with tremendous pride over the machinery of the grain trade, regard wheat loans as among the finest and most desirable in all of their financing.

With the millions and millions involved even in small fluctuations in process on markets, why the desirability of wheat loans in the eyes of banks? The answer is, the futures market.

The grain merchandiser who buys wheat at the height of the harvest movement in anticipation of coming demands and the miller and other buyers, including exporters, use the futures market to hedge their purchases until final disposition is made of the grain. The futures prices are based upon so-called contract grades. The grades and qualities of wheat that command premiums over the contract grades cannot be hedged with complete or absolute insurance because of fluctuations in the premiums on the higher or special grades. On the Kansas City market, for example, hard wheat is currently quoted at prices as much as 19¢ a bushel over the current future. Herein is an element of risk that the merchandiser, miller, and other interests assume even with hedging, but the hedging facilities are, I repeat, of tremendous importance and value.

Imagine the margin differences which the merchandiser would have to ask of the producer in buying wheat if the merchandiser had no hedging facility and had to protect himself against fluctuations. Under such conditions, the rank of wheat loans in banks would be totally different.

**Elevator
Business
Undergoes
Constant
Changes**

The terminal elevator business has undergone evolutions. The advent of the harvester-thresher, or combine machine, speeded the harvesting of the wheat crops, and we no longer see on the fields for weeks and even months, stacks of sheaves of wheat awaiting the old-time threshing machine. The wheat is rapidly threshed in a single operation. As a result, the need for storage facilities has multiplied at terminals. The capacity of 2,175,942,000 bushels that was reported late in 1951 showed an increase of 42% over the commercial capacity on March 1, 1941, which was 1,535,000,000 bushels. An increase of almost 500,000,000 bushels occurred in the commercial capacity between 1943 and 1951.

**Defaulted Loan
Grain Poses
Storage Problem**

In the increases since 1941, another factor has been the operations of the Commodity Credit Corporation in the support of wheat and other crops, a historic development in the grain trade of the United States that was instituted in 1938. The Commodity Credit Corporation created an enormous demand for storage facilities by supporting prices in relation to parity, which to a very large extent has replaced former supply and demand factors in price making. Relationships between nearby and deferred futures, or carrying charges, formerly dominated in determining elevator holdings, but the government agency is now the dominant factor, providing loans without recourse and taking over wheat and other grain from the growers when they cannot obtain better than supports on the open market. The Commodity Credit Corporation storage payments on grain held for producers and for its own account are prescribed under the Uniform Grain Storage Agreement, which is applicable throughout the United States although the charges vary somewhat according to areas. Storage charges on grain delivered on futures contracts are prescribed and approved by the grain exchanges and, in some cases, by the Commodity Exchange Authority.

The most recent Commodity Credit Corporation report showed that its inventory of wheat was about 412,200,000 bushels. The carry-over as of July 1,

1953, of 559,349,000 bushels included about 450,000,000 bushels of wheat owned by the government agency itself. These figures tell the story of the influence of the Commodity Credit Corporation in the demands for storage space and the consequent expansion in storage facilities, including terminal elevators.

Notwithstanding that expansion, a cry is going over the land that the storage facilities are not adequate. That cry, partly political, brought a recent reversal in the initially declared policy of the new administration against bin buying or additions to the existing ownership of bins by the Commodity Credit Corporation. Only recently, purchases of 15,070 bins of a total capacity of 89,405,475 bushels were announced. These bins will bring the total Commodity Credit Corporation ownership of bins to a capacity of about 635,000,000 bushels.

Government Urges Added Terminal Storage Facilities

Unprecedented measures have been announced in recent weeks to stimulate increases in the grain storage capacity of the country, especially commercial storage. Congress enacted legislation which the President signed providing for full 100% tax amortization on new commercial storage by trade interests and cooperatives over a five-year period, or 60 months. In addition, the United States Department of Agriculture has announced that the Commodity Credit Corporation will guarantee over a period of six years occupancy of new storage at a rate of 40% to 75%, with the annual storage rate for unused space to be 75% of the applicable annual area rate under the Uniform Grain Storage Agreement. Never before in American history have such inducements to new storage construction been offered by the American government. Previously, in the interest of defense, the government had offered rather restricted tax write-offs amounting to 40% of the total expenditures instead of the full elevator cost, as at present. Also, the government is offering farmers loans covering 80% of the cost, with interest at 4%, for new storage construction.

The cry over the alleged inadequacy of the existing storage facilities stems in part, if not largely, from the fact that where farmers this season were unable to obtain storage space acceptable to the government under the loan programs, and sold their wheat on the open market, prices in instances were as much as 70¢ per bushel below the support levels. I regret deeply that F. V. Heinkel, president of the Missouri Farmers' Association, charged that such sales represented "a steal of the farmers' wheat crop." This charge was made in July, and the open market price subsequently got down to 79¢ under the loan. As a matter of fact, as this paper is being written, the open market price on wheat is still far, far below the government support level.

A Plea for Fair-Mindedness

To you who are teachers in agricultural economics or students and to all others here, I wish to emphasize as strongly as possible the fact that the loan program, which is highly artificial, applies only on wheat moving from the grower who complies with the production and storage requirements of the Department of Agriculture. After the wheat moves out of the loan program, or out of the hands of the farmer into channels other than the loan program, there is no direct support other than the rather uncertain influence of the relationship of open market prices to the support levels and the support derived from the export subsidy program. With the present limited export business, the subsidy program influence is not great.

The elevator operators and all other buyers of wheat from farmers must be guided by open market prices, not supports, and to accuse them of “a steal” when buying below the support levels is indeed unjust and sheer demagoguery. There is no ground for that accusation. The market itself says that clearly and emphatically.

The agitation over discounts below the loan or support levels on grain recently prompted the Department of Agriculture not only to reverse itself on bin purchases for the Commodity Credit Corporation but to extend loans on a reduced basis to wheat in distress positions, even on the ground and also to rust-damaged wheat. The government support program was never so liberal as this season.

Some elevator operators have been accused of failing to give to farmers or their agents sufficient space for wheat to enable them to impound their grain in facilities that would make them eligible to the full loans on wheat at 90% of parity. In this connection, it is important to keep in mind that the commercial elevators are now carrying more Commodity Credit Corporation wheat and loan wheat still owned by farmers than ever before. Equally important is the fact that the elevator operator who, as I said, is a wholesaler or distributor of grain, must carry stocks to meet the requirements of his mill customers, his export connections, and all other buyers.

In carrying such stocks, the elevator operator renders a service to the producer. The latter cannot expect the elevator man to give up all of his space and abandon his merchandising business. Some of that merchandising requires prolonged accumulation of special types and grades of grain. That accumulation creates a demand that adds to the returns of the growers on the open market. Besides, the elevator operator has had experience with seasons of short harvests and unavailability of grain for his public storage business, and must look to merchandising as a source of income.

It is well to draw attention to the fact that one who proposes to enter the commercial elevator business now faces a cost of around \$2,000,000 for the erection of wheat storage facilities of a capacity of 1,500,000 bushels. In 1939, or just prior to World War II, the same elevator of the same capacity could have been erected for \$900,000.

Not only the uncertainties of the harvest from year to year arising from weather, insect enemies, and plant diseases, but the inauguration of the program on restrictions of production act as a brake upon expansion in elevator storage facilities. The farmers have only recently approved marketing quotas on the 1954 crop, which involve a reduction in plantings to 62,000,000 acres as against the actual plantings of 78,553,000 acres for the 1953 crop and a penalty on excess sales, or of grain produced on land in excess of the individual allotments.

**Export Potential
May Be Less**

Still another consideration is the export trade which, too, is highly uncertain. In the past crop year, the exports of wheat, including flour, amounted to 316,000,000 bushels. In the 1951-52 crop year the total exports were 470,347,000 bushels. In 1949-50, the clearances were only 179,213,000. Under the International Wheat Agreement, which Great Britain has rejected, the export guarantee of the United States may be only around 200,000,000

bushels. The elevator business handles the export movement, and its volume and its need for storage are dependent upon the extent of the foreign demand. Here, of course, is a problem which all who propose additions to elevator facilities must weigh with extreme caution.

In the latest studies on wheat supplies, it has been frequently stated recently that a carry-over of 300,000,000 or 350,000,000 bushels is adequate under normal conditions. This season's carry-over exceeded that by more than 200,000,000 bushels. Will future controls of production bring such an adjustment in supplies? If so, what of the use of terminal and other elevator facilities?

. . . I sincerely hope that my few remarks will encourage understanding and realism on the subject of terminal elevator operations. This forum is intended to add to that. With more understanding and with the Golden Rule in mind, the problems in the grain industry that have arisen will be resolved with mutual benefits and without waste of public funds and idleness of expensive storage facilities. With such solutions our common goal, the common goal of all industry and trade, which is the furtherance of our economic progress and that of the nation, will be more fully and more promptly attained.

