United States General Accounting Office

GAO

Report to the Chairman, Committee on Agriculture, House of Representatives

June 1991

CHICAGO FUTURES MARKETS

Selecting Agricultural Futures Delivery Points Involves Trade-offs

GAO/GGD-91-84

GAO

United States
General Accounting Office
Washington, D.C. 20548

144045

General Government Division

B-243873.1

June 4, 1991

The Honorable E (Kika) de la Garza
Chairman, Committee on Agriculture
House of Representatives

Dear Mr. Chairman:

In response to your June 1990 letter, this report provides information about the selection of delivery points[1] for grain and soybean futures contracts[2] traded at the Chicago Board of Trade (CBT). Your letter reflects industry concern about whether CBT futures prices reflect cash market[3] values for grain and soybeans. After the July 1989 soybean emergency,[4] in which CBT tried to prevent a potential manipulation in that month's soybean futures contract,[5] industry associations reemphasized pricing concerns and raised additional concerns about whether CBT and the Commodity Futures Trading Commission (CFTC) were doing enough to prevent manipulation. On the basis of these concerns, CBT and CFTC are studying grain and soybean delivery point issues to determine what, if anything, needs to be done to improve the related futures contracts.

As agreed with the Committee, this report describes

- the trade-offs between the economic purposes and antimanipulation goals of the Commodity Exchange Act in selecting delivery points,[6]
- the difference in priority that CBT and CFTC assign to these goals,[7]

[1] A delivery point is a location specified in a futures contract as the place where delivery of the underlying commodity will be made or taken at contract maturity.

[2] A futures contract is a binding agreement to buy or sell a standardized quantity of a commodity at a certain price, place, and time.

[3] The cash market is a place where physical commodities are bought and sold in cash transactions.

[4] Background on this emergency is provided in the report Chicago Futures Market: Emergency Action Procedures (GAO/GGD-90-64, Apr. 9, 1990).

[5] Market or price manipulation can be described as any intentional act or conduct that causes or maintains an artificial price.

[6] As used here, the phrase "selecting delivery points" refers to those aspects of futures contract design relating to the delivery of commodities, such as the number and location of delivery points.

[7] CBT is primarily responsible for determining futures contract terms and conditions, including delivery point selection. CFTC has authority to review contract terms and conditions and approve them if they are consistent with the Commodity Exchange Act, or reject them if they are not.

- the issues surrounding the continued suitability of Chicago as a primary delivery point,[8] and
- the usefulness of current research in selecting delivery points.

Also, as agreed, we discuss CBT and CFTC views on the appropriateness of the Commodity Exchange Act's economic purposes and antimanipulation goals in today's markets.

Background

CBT futures contracts play a prominent role in grain and soybean marketing. In fiscal year 1990, according to CFTC's annual report, 86 percent of the almost 28 million grain and soybean futures contracts traded on U.S. futures exchanges were traded on CBT, the world's oldest and largest futures exchange.[9] CBT's grain and soybean futures contracts were originally an outgrowth of active cash markets in Chicago. Although Chicago continues to be the primary delivery point for these futures contracts, Chicago and other terminal markets[10] now play a much less important role in the cash markets because the cash markets have become increasingly decentralized.

According to a CBT economist, grain and soybean futures contracts are bought and sold by thousands of market participants, including farmers, elevator operators, grain and soybean processors, exporters, and speculators. Moreover, commercial participants use the prices of CBT grain and soybean futures contracts as a guide for setting the cash market

[8]As the primary delivery point, CBT intends that deliveries for grain and soybean futures contracts will generally occur in Chicago. The contracts also provide for delivery of the underlying commodity in Toledo. As an alternate delivery point, CBT intends that Toledo provide deliveries if the Chicago market cannot amass enough deliverable supplies to meet the demand for deliveries. Corn can also be delivered in St. Louis, but CBT records show that this delivery point is rarely used.

[9]The Kansas City Board of Trade, Mid America Commodity Exchange, and Minneapolis Grain Exchange contracts account for the remaining grain and soybean futures volume.

[10]Terminal markets are the points of greatest accumulation in the movement of agricultural commodities and the points where elevators store commodities for later shipment to processors or exporters. In the past, most agricultural commodities flowed from farms to rural elevators and then to terminal markets, where they were accumulated and stored for later shipment to export markets or domestic processors.

prices of those commodities. Some participants use the CBT futures contracts to sell or purchase grain or soybeans, but most contracts are offset[11] rather than held until delivery.[12]

The Commodity Exchange Act, as amended, governs the trading of futures contracts. Congress originally passed the Grain Futures Act of 1922 in response to concerns about falling commodity prices, farm depression, and speculative excesses on the grain exchanges. Renamed the Commodity Exchange Act in 1936, the act recognized the positive economic purposes of futures markets and stated that regulation of these markets is necessary to prevent these purposes from being disrupted by manipulation. As amended in 1974, the act established CFTC as the regulator of the futures markets, required that futures contracts be traded on an exchange that CFTC has designated as a contract market, and established standards that a contract and the exchange on which it is traded must meet to qualify for designation as a contract market. These standards include the requirement that delivery point selection should tend to prevent or diminish manipulation. The economic purposes of futures trading recognized in the act, along with this antimanipulation requirement, are the two goals of the Commodity Exchange Act that CBT and CFTC consider in addressing delivery point selection issues.

The Economic Purposes Goal of Futures Trading: Price Discovery and Hedging

Price discovery and hedging are the economic purposes of futures trading, according to section 3 of the Commodity Exchange Act. In the process of price discovery, futures contract buyers and sellers exchange bids and offers based on information about the supply and demand for the cash commodity and agree upon, or discover, the current futures contract price. Commercial participants in grain and soybean markets then set their cash bids or offers above or below the current CBT futures contract price to reflect differences between futures and cash market delivery times and locations.[13] The prices discovered at CBT can be useful to cash market participants only if futures and cash market prices are

[11]A position is offset when a seller of futures contracts buys an equal number of futures contracts with the same delivery month or when a buyer sells an equal number of futures contracts with the same delivery month.

[12]According to CFTC's fiscal year 1990 annual report, an average of about 295,000 contracts per year from fiscal years 1984 to 1990, or 1 percent of all grain, soybean, and soybean product contracts traded, are settled by delivery.

[13]For example, in a locality that normally ships its grain to buyers in Chicago, the cash market price of corn in January is likely to be below the March futures contract price by the cost of shipping grain to Chicago plus the cost of storing grain from January to March.

generally predictably related. This relationship is maintained by the attempts of participants in the futures markets to profit from differences between futures and cash market prices. Futures contract sellers will choose to make delivery when the futures contract price is higher than the cash price, and futures contract buyers will choose to take delivery when the futures contract price is lower than the cash price.[14] Thus, discrepancies between cash and futures prices result in buy and sell orders that bring the futures contract price into alignment with the cash price. The tendency for futures and cash market prices to approach one another, usually in the delivery month, is called convergence.[15]

Convergence of futures and cash market prices is also vital to hedging, the other major economic purpose of futures trading. Hedging enables commercial participants to reduce the risk of adverse cash price movements by buying or selling futures contracts as a temporary substitute for planned cash market transactions.[16] Futures contracts gain or lose value on the basis of the difference between the futures contract price when the contract was bought or sold and the futures contract price at contract maturity. If futures and cash market prices converge, futures contract gains or losses are more likely to offset hedgers' gains or losses resulting from changes in cash market prices during the same period. If prices do not converge, hedgers are not as likely to be fully protected against cash price changes.

Successful price discovery and hedging require that the futures contract price converges to a cash market price that is related to the cash market prices potential futures contract users face. For this reason, grain and soybean delivery points traditionally have been located at cash markets with major flows of these commodities, i.e., at locations where the forces

[14]When determining the relationship of the futures contract price to the cash market price, buyers and sellers also consider transaction costs, including the costs of storing the commodity, loading it out of storage, and transporting it to its final destination for processing or export.

[15]Convergence can also be obtained through cash settlement, but cash settlement may not be feasible in the grain and soybean markets. With cash settlement, a contract is settled in cash on the basis of the value of a cash market price index on the last day of trading in the contract. As discussed below, such indexes could be difficult to develop in the grain and soybean futures markets because accurate cash market prices may not be readily available.

[16]For example, a farmer who owns soybeans and plans to sell them at a later date can protect, or hedge, against a decline in their value by selling an equivalent number of futures contracts. If both futures and cash market prices fall, losses in the value of the cash market soybeans are offset by gains in the value of the futures contracts. The futures contracts gain in value to the farmer, or seller, because the farmer has contracted to sell soybeans for delivery at a price above the current cash market value.

of supply and demand generally reflect the broader cash markets. However, delivery points are less likely now than in the past to reflect broader cash market supply and demand forces because cash markets have become increasingly decentralized.

The Antimanipulation Goal

Section 5 a(10) of the Commodities Exchange Act required delivery to be made at such a point or points and at such quality and locational price differentials[17] as will tend to prevent or diminish price manipulation and other related conditions.[18] If this requirement is not met, CFTC, after giving an exchange the opportunity to adjust its delivery point rules or defend them at an administrative hearing, can direct the exchange to change its delivery point rules. Congress added this section to the act in 1974 to allow CFTC to more directly effect changes in futures contract terms to prevent market manipulation. This section responded to concerns, including ours,[19] that Chicago did not provide enough deliverable supplies to prevent manipulation of corn and soybean futures contract prices.[20] One concern was that market participants could use the delivery mechanism to create artificial futures contract prices. For example, traders might try to manipulate prices by purchasing a large number of futures contracts and most or all of the commodity at every delivery point, making it unavailable to futures contract sellers for delivery. The resulting artificial shortage could push futures and cash market prices at all delivery points to unjustifiably high levels, resulting in profits for buyers of futures contracts and losses for sellers.

In theory, one way to prevent this scenario would be to add delivery points, thus increasing deliverable supplies[21] to a quantity too large to

[17]When participants make delivery at a location other than the primary delivery point, the price they receive is the futures contract price adjusted by the locational price differential—a discount or premium specified in the futures contract.

[18]These related conditions—market congestion or abnormal movement of the commodity in interstate commerce—are similar to manipulation in that the resulting futures and cash market prices at futures delivery points do not reflect the general supply of and demand for the physical commodity.

[19]Our concerns and related recommendation are provided in the Interim Report On The Commodity Exchange Authority And Commodity Futures Trading (B-146770, May 3, 1974).

[20]When these concerns arose in 1973, Chicago was the only corn and soybean futures delivery point.

[21]Deliverable supplies are stocks of commodities located in warehouses at the delivery points that can be used to make delivery on futures contracts.

control.[22] Deliverable supplies could also be increased by more frequent use of alternate delivery points. This might be accomplished by reducing the discounts for deliveries at alternate delivery points.

Results in Brief

Delivery points play a critical role in meeting both the economic purposes and antimanipulation goals of the Commodity Exchange Act. However, delivery point features selected to serve primarily the economic purposes goal—price discovery and hedging—may differ from those selected to serve primarily the antimanipulation goal. For example, increasing the number of delivery points may have the negative effect of creating uncertainty in price discovery and hedging; however, increasing the number of delivery points may also have the positive effect of discouraging manipulation by increasing the supply of grain and soybeans readily available for delivery. Thus, decisions about delivery points involve trade-offs between meeting the economic purposes and antimanipulation goals of the Commodity Exchange Act.

CBT and CFTC assign different priorities to the economic purposes and antimanipulation goals of the Commodity Exchange Act and disagree on the extent to which delivery point selection should serve the two goals. CBT officials told us that they place a higher priority on achieving the act's economic purposes goal. That is, they believe futures contracts must first offer delivery points that maximize opportunities for price discovery and hedging. They believe limitations exist to changing delivery point features—such as the number, location, or price differentials of delivery points—to prevent manipulation and that surveillance and disciplinary action programs may be better suited to preventing manipulation. They said that changing delivery point features may interfere with the economic purposes of futures trading. They believe that the Commodity Exchange Act overemphasizes manipulation because it established antimanipulation as a specific delivery point selection goal but did not also establish price discovery and hedging as delivery point selection goals. CBT officials also believe that the act should be amended to explicitly require that delivery points be selected to foster price discovery and hedging, as well as to discourage manipulation.

[22]Deliverable supplies are limited by the physical capacity of warehouses and the increasing cost of transporting grain and soybeans to the delivery point as supplies are moved from more remote locations. Adding more delivery points can increase deliverable supplies if the new delivery points provide additional storage space and supplies and have lower transportation costs to and from delivery points than the existing points.

In contrast, CFTC emphasizes the antimanipulation goal over the economic purposes goal of futures trading. CFTC is unwilling to allow trading in a futures contract that, in its judgment, is frequently threatened by manipulation and, thus, requires an excessive level of regulatory intervention. Therefore, CFTC strongly encourages CBT to select delivery points that prevent manipulation, even if in doing so price discovery and hedging are not maximized. Unlike CBT, CFTC officials believe that the Commodity Exchange Act currently places the appropriate emphasis on the economic purposes versus antimanipulation goals.

It seems to us that the difference between CBT and CFTC priorities is not necessarily harmful to the markets because it helps ensure that both goals are considered when delivery points are designated or changed.

Regarding the continued suitability of Chicago as the primary delivery point for grain and soybean futures contracts, CBT and CFTC officials both recognize that the Chicago cash markets for grain and soybeans have declined in importance. They also recognize that this decline raises the question of whether the forces of supply and demand in Chicago reflect the broader cash markets for these commodities. According to CBT officials, Chicago's declining role in the cash markets may not be a sufficient reason for changing Chicago's status as the primary delivery point because Chicago is still a major transportation center with access to large processing and export centers, and it has a large storage capacity. CBT officials believe that these qualities keep delivery costs low enough to ensure that grain and soybean prices reflect the broader cash market forces of supply and demand. Some market participants agree with CBT, and some do not.

CBT and an industry association commissioned academic studies on delivery point issues. Although these studies did not resolve delivery point issues, they generally supported the need for CBT and CFTC to assess alternatives for improving how delivery points for grain and soybean futures contracts meet the economic purposes and antimanipulation goals of the Commodity Exchange Act.

Objectives, Scope, and Methodology

To describe the trade-offs between the economic purposes and antimanipulation goals of the Commodity Exchange Act in selecting delivery points and the differences in the priorities CBT and CFTC assign to these goals, we interviewed CBT and CFTC officials, academics, representatives of major grain and soybean industry associations, and members of the CFTC Agricultural Advisory Committee.[23] We also reviewed a variety of materials and sources concerning delivery points, including the Commodity Exchange Act, CFTC regulations, CBT rules, CBT and CFTC internal studies, and CBT committee records.

To describe the continued suitability of Chicago as the primary delivery point for grain and soybean futures contracts, we reviewed studies of cash grain and soybean flows that CFTC and an academic research group prepared. We also obtained the views of CBT, CFTC, U.S. Department of Agriculture, and academic experts.

To describe the usefulness of current research in selecting delivery points, we reviewed other studies that CBT[24] and the National Grain and Feed Association commissioned and discussed the results with the studies' authors, CBT officials, academics, and representatives of major grain and soybean industry associations.

In reviewing delivery point issues, we focused on the number and location of delivery points, as well as the locational price differentials assigned to them, because academic experts and CBT, CFTC, and industry association officials agreed that these aspects of delivery points are important to both the economic purposes and antimanipulation goals of the Commodity Exchange Act.

This report is limited to the soybean, wheat, and corn futures contracts traded at CBT because they are the subject of current concerns about delivery points. When we refer to grain in this report, we are referring to wheat and corn only. We reviewed data from the creation of CFTC in 1974 to the present because this period offers most of the available data on delivery points and all the information on major changes to delivery points for CBT futures contracts.

Our work was done at CBT and at CFTC headquarters and Chicago offices from March 1990 through April 1991 in accordance with generally accepted government auditing standards.

[23]The CFTC Agricultural Advisory Committee is composed of representatives from agriculture industry organizations; it advises CFTC of industry concerns.

[24]At the time of our review, the CBT-commissioned study was only available in draft form. Our review is based on a draft we received on April 22, 1991.

Delivery Point Selection Requires Trade-offs Between Commodity Exchange Act Goals

Trade-offs exist in attempting to meet the economic purposes and antimanipulation goals of the Commodity Exchange Act because, according to CBT and CFTC officials, price discovery and hedging may be impaired by actions taken to reduce opportunities for manipulation. For example, although adding delivery points may increase uncertainty about price convergence for some market participants, it may also reduce the opportunity for manipulation.

Pricing uncertainty results because the futures contract price tends to converge with the cash price at the lowest price delivery point,[25] and that point may shift as market conditions change at each of the delivery points. As noted earlier, market participants need some predictability in the relationship of futures contract prices to cash market prices. The more uncertain the delivery point at which convergence will take place, the less predictable the relationship between futures and cash market prices. Increased uncertainty reduces the ability of, and incentives for, market participants to use futures contracts for price discovery and hedging.

CBT and CFTC Assign Different Priorities to Commodity Exchange Act Goals

While officials at both CBT and CFTC are concerned about the economic purposes and antimanipulation goals of the Commodity Exchange Act, CBT and CFTC assign different priorities to meeting them. According to CBT officials, CBT selects delivery points that maximize the economic purposes goal while providing sufficient protection against manipulation. In contrast, CFTC officials said that in evaluating the adequacy of delivery points they emphasize preventing manipulation over maximizing the economic purposes of futures trading. The different priorities of CBT and CFTC are reflected in their views on whether Commodity Exchange Act delivery point provisions need to be changed to reflect current market conditions. CBT officials said the act's delivery point provisions should be changed; CFTC officials did not believe they should be changed.

CBT Assigns Higher Priority to the Economic Purposes Goal

CBT officials said that the exchange's primary business goal is to develop and maintain futures contracts that will trade successfully. To trade successfully, such contracts must provide price discovery and hedging benefits to a significant number of market users. CBT officials said that the Commodity Exchange Act overemphasizes manipulation because it

[25]That is, the futures contract price tends to converge with the cash market price at the delivery point where the futures contract price, adjusted by the locational price differential, provides the greatest incentive to deliver. Where no locational price differentials exist, this point would generally be the delivery point with the lowest cash price.

establishes antimanipulation as a specific delivery point selection goal but does not also establish price discovery and hedging as delivery point selection goals. They believe that delivery point selection should be evaluated on the basis of its contribution to price discovery and hedging. These officials recommended that the act be amended to require that delivery points be selected to foster price discovery and hedging as well as to discourage manipulation. According to these officials, improvements in the technology to monitor futures trading have significantly reduced the need to rely entirely upon delivery point selection to prevent manipulation.

To maintain the predictability of futures pricing, CBT has kept Chicago as the primary grain and soybean delivery point by choosing locational price differentials that generally discourage delivery at the alternate points. For example, Toledo soybean deliveries are discounted at 8 cents per bushel. CBT intended for this discount to deter soybean deliveries at Toledo by normally lowering the price received for futures contract deliveries to below the cash market price at this point.

CBT officials said that although they recognize that the Commodity Exchange Act required the exchange to select delivery points that tend to prevent or diminish manipulation, they question the value of using multiple delivery points as an antimanipulation strategy. They said that no matter how many delivery points are added, control of the total supply of grain and soybeans remains within the financial capability of potential manipulators.[26] Moreover, even when adding delivery points would help prevent futures contract buyers from manipulating the market, CBT officials said that the new delivery points may encourage manipulation by futures contract sellers. With multiple delivery points, sellers—who have the right to select the delivery location—can threaten buyers with deliveries at the least desirable location, inducing buyers to offset their futures positions at artificially low prices. This allows the manipulating sellers to buy futures contracts at artificially low prices when they offset the futures contracts they originally sold.

CBT officials said that market surveillance and disciplinary action programs can better meet the act's antimanipulation goal while maximizing the economic purposes of futures trading. They said that these programs provide an effective deterrent against manipulation, as evidenced

[26]According to CBT officials, at the low point of each year, the total value of the entire U.S. soybean supply usually falls to about $1 billion. CBT officials said that many businesses and individuals have the financial strength to purchase this supply, thereby gaining control of soybean prices. They also said that such manipulation is also possible with corn and wheat supplies.

by CBT having had to take action against attempted manipulations only once every 5 to 10 years.

In mid-1990, CBT proposed that CFTC approve St. Louis as an alternate delivery point for soybean futures contracts at a 4-cent per bushel discount. CBT officials said they made this proposal to address industry concerns that additional delivery locations were needed to prevent market manipulation. CBT proposed St. Louis to provide additional deliverable supplies if Chicago supplies were not sufficient to meet the demand for futures deliveries, without disrupting the contract's price convergence to the Chicago price. In July 1990, CFTC returned CBT's proposal as materially incomplete because, as discussed below, CBT did not demonstrate that the 4-cent discount for St. Louis deliveries was consistent with normal cash price differences between Chicago and St. Louis. As of April 19, 1991, CBT had not resubmitted a proposal for changing soybean delivery points.

CFTC Assigns Higher Priority to the Antimanipulation Goal

The Commodity Exchange Act assigned CFTC responsibility for reviewing proposed delivery points and locational price differentials to ensure that they tend to prevent or diminish opportunities for manipulation. CFTC officials said that they are satisfied with the act's emphasis on using delivery points to deter manipulation. CFTC officials also said that while trade-offs may exist between the economic purposes and antimanipulation goals, limits exist to these trade-offs, i.e., if the markets were subject to excessive manipulation, participants would not use them, and the economic purposes goal would not be realized.

When reviewing proposed delivery points, CFTC focuses on the futures contract's potential for manipulation due to inadequate deliverable supplies. The act gives CFTC specific powers, within certain procedural limitations, to change delivery point rules to reduce manipulation, including the power to direct the exchanges to add delivery points. According to CFTC officials, CFTC determines whether, given cash market conditions, the exchange has taken all reasonable steps to deter manipulation by providing for adequate deliverable supplies. CFTC officials said they agree that deterring manipulation by increasing deliverable supplies may have limitations. However, they said that these limitations do not excuse CBT from making all reasonable efforts to increase deliverable supplies for futures contracts. They also said that although market surveillance and disciplinary programs address the antimanipulation goal, these programs cannot substitute for selecting delivery points that provide sufficient deliverable supplies to prevent or diminish manipulation.

CFTC's policy on locational price differentials was designed to ensure that alternate delivery points contribute effectively to deliverable supplies. CFTC's policy, which was issued in 1977, required that locational price differentials reflect normal commercial price differences by falling within the range of commonly observed differences in the cash market prices between the primary and alternate delivery points. According to this policy, differentials have a direct bearing on a futures contract's susceptibility to manipulation. The larger the discount at an alternate delivery point, the greater the opportunity for distorting prices at the primary delivery point before the alternate point becomes economically attractive to use.

CFTC approved the current discounts for alternate delivery points under CBT grain and soybean futures contracts between 1973 and 1979. CFTC officials said that deliverable supplies in Chicago do not currently appear large enough to deter manipulation attempts, so they are now reviewing whether the discounts for deliveries at the alternate points should be adjusted to increase deliveries at these points.

In its July 1990 letter returning CBT's proposal to designate St. Louis as an alternate delivery point for soybeans, CFTC said that the proposed St. Louis discount did not fall within the range of commonly observed cash price differences between Chicago and St. Louis. CFTC noted that, with the 4-cent discount, deliveries were only expected in St. Louis 5 percent of the time. CFTC asked CBT to assess whether its existing locational price differentials for grain and soybean futures contracts fall within the range of normal differences in cash market prices between Chicago and the alternate delivery points. At the same time, CFTC also asked CBT to report on how it is exploring the feasibility of other methods of increasing deliverable supplies, including adding new delivery points.

CFTC officials are now studying delivery point issues but have taken no position on whether changes are needed. One CFTC commissioner told us that CBT must significantly change delivery points to restore confidence in CBT grain and soybean futures contracts. Another commissioner said that he generally favors adding delivery points to the grain and soybean futures contracts to increase the feasibility of delivery and to reduce the possibility that manipulation could occur where deliveries are impeded by limited facilities at existing delivery points.

We believe that CBT's emphasis on the economic purposes goal and CFTC's emphasis on the antimanipulation goal of the Commodity Exchange Act are not necessarily harmful to the markets because the dual focus helps ensure that both goals are considered as delivery points are selected. For example, regarding whether delivery points should be added to grain and soybean futures contracts, the dual focus encourages, first, an awareness that such additions may undermine the ability of market participants to use the futures markets to discover cash market prices for the underlying commodities, thereby reducing the usefulness of the futures markets for many market participants. Second, the dual focus encourages an appreciation that adding delivery points may increase deliverable supplies, reduce some of the potential for manipulation, and enhance market integrity, thereby providing incentives for participants to use the futures markets.

CBT and CFTC Are Assessing the Continued Suitability of Chicago as a Primary Delivery Point

According to CBT records, the exchange specified Chicago as the primary delivery point for grain futures contracts in 1877 and for soybean futures contracts in 1936.[27] Chicago's status as the primary delivery point evolved from its history as the major cash market center and terminal market for these commodities. In the 1850s, vast quantities of grain were warehoused and sold in Chicago. By the 1930s, when CBT began trading soybean futures, Chicago had become a cash market for that commodity as well.

Today, because of railroad rate deregulation and federal programs that encouraged construction of on-farm and rural storage facilities, grain and soybean flows have become increasingly decentralized. As a result, Chicago is no longer the preeminent cash market. Much of the grain and soybeans produced today flow directly from farms to final export or processing sites rather than to terminal markets for later shipment to other points. According to some market participants, most of the supply of grain and soybeans now shipped to and stored in Chicago is limited to that required to make delivery on futures contracts.

CBT and CFTC officials have recognized that the decline of Chicago's cash market for grain and soybeans affects the suitability of Chicago as the primary delivery point for grain and soybean futures contracts. CBT officials said that they believe Chicago may still be the best primary delivery point because it is a major transportation center, is close to production and processing centers, has ready access to export channels, and has a large storage capacity. They believe these qualities keep the cost

[27] In 1877 and 1936, Chicago was the primary and only delivery point for grain and soybean futures contracts, respectively.

of making or taking futures delivery in Chicago low enough to discourage manipulation. They also believe that these qualities ensure that grain and soybean futures contract prices reflect broader cash market supply and demand forces. They also said that the continued designation of Chicago as the primary delivery point for grain and soybean futures contracts has helped maintain predictability in pricing. Some industry representatives agree with CBT, and some do not.

CFTC has not yet taken any formal action on the issue of whether Chicago should continue to be the primary delivery point for grain and soybean futures contracts. However, CFTC's July 1990 letter returning CBT's proposal to designate St. Louis as an alternate delivery point also directed the exchange to report on how it is considering the feasibility of increasing deliverable supplies, given Chicago's declining importance as a cash market center. At the time of the letter, CBT had already commissioned a study that could assist in addressing this issue. We reviewed recent academic studies because their results could be important in making decisions related to changing delivery points.

Academic Studies Did Not Resolve Delivery Point Selection Issues

CBT commissioned a study from the Mid America Institute for Public Policy Research in late 1989 to address several issues, including (1) how well current grain and soybean delivery points meet the economic purposes and antimanipulation goals of the Commodity Exchange Act and (2) what effect adding delivery points would have on meeting these goals. The National Grain and Feed Association commissioned a study with similar goals from the Food Research Institute at Stanford University in early 1990. These are the only recent studies on the performance of delivery points for grain and soybean futures contracts.

How Well Current Delivery Points Meet Commodity Exchange Act Goals

To address how well current grain and soybean delivery points meet the economic purposes goal of the Commodity Exchange Act, both the Mid America Institute and Stanford University studies addressed the adequacy of futures and cash market price convergence. As discussed above, if convergence is not occurring, futures contract prices are not useful for price discovery and hedging. Both studies raised concerns about futures contract price convergence to Chicago cash market prices.

The Mid America Institute study concluded that, from 1984 through 1989, CBT futures contract prices for corn and soybeans converged adequately to cash market prices, with limited exceptions. However, given the decline of Chicago cash markets, the study questioned the benefits of having futures contract prices converge to cash market prices that are increasingly less representative of the broader cash markets. The Stanford study, using data from 1964 to 1989, found diminished convergence of futures contract prices to Chicago cash market prices after CBT added Toledo as a delivery point in the 1970s. The study said that most of this decline in convergence would be expected with a multiple delivery point system. However, the study added that, holding constant the effect of adding Toledo, convergence in Chicago deteriorated from the 1960s to the 1980s.

To address how well current delivery points meet the antimanipulation goal of the Commodity Exchange Act, the Mid America Institute study focused on how changes in the cost of making corn and soybean deliveries in Chicago affect the potential profitability of manipulation. The study concluded that the declining cash corn and soybean markets in Chicago make manipulation easier by reducing the amount of deliverable supplies that manipulators need to control. However, the study also said that reduced transportation costs make it cheaper for other market participants to bring additional corn and soybeans to Chicago, thereby frustrating potential manipulation attempts.

To address the same issue, the Stanford University study assessed the adequacy of deliverable supplies. As discussed above, if the deliverable supply is small relative to indicators of the potential demand for deliveries, then the futures contract might be more easily manipulated. The Stanford University study compared deliverable supplies at Chicago and Toledo to the number of deliveries and large futures positions. The study concluded that deliveries and large futures positions frequently exceed deliverable supply at the beginning of the delivery month, indicating that deliverable supplies may be too low to adequately protect the markets from manipulation. The study said that the low deliverable supplies are a result of the unavoidable decline of terminal markets—the Chicago terminal market in particular.

The Effect of Adding Delivery Points on Meeting Commodity Exchange Act Goals

To address the effect of adding delivery points on meeting Commodity Exchange Act goals, both the Mid America Institute and Stanford University studies discussed delivery point alternatives. Both studies discussed and rejected cash settlement for CBT grain and soybean futures contracts as an alternative to physical delivery. The studies concluded that cash settlement would provide a strong incentive for market participants to report misleading cash market prices in order to manipulate futures contract prices. Market participants would have to be relied on to provide cash market prices for use in cash settlement because cash market prices are privately negotiated.

The Mid America Institute study concluded that shifting the primary delivery point for CBT grain and soybean futures contracts from Chicago to another terminal market would not strengthen—and might in fact weaken—the delivery mechanism. However, the study also concluded that making the cost of delivery comparable in Chicago, Toledo, and St. Louis[28] would improve the relationship of futures contract prices to non-Chicago cash market prices for corn and soybeans. The study said that the model used to support its conclusion incorporated fairly restrictive assumptions that may not reflect market reality, and, thus, the results must be interpreted with caution. However, the study concluded that the potential pricing benefits to hedgers of shifting to such a delivery point system are large enough to justify serious consideration. The study recommended testing modest measures, such as adding St. Louis as a delivery point, before trying to shift to a completely different delivery mechanism that is designed to allow delivery in active cash markets lacking storage space, such as those along the Mississippi River.

The Stanford University study concluded that adding more traditional terminal market delivery points to CBT grain and soybean futures contracts would not be effective because all terminal markets have experienced the same decline—or a greater decline—in cash market activity as Chicago. The report suggested that CBT study the possibility of developing new methods for making delivery that would allow active cash markets that lack warehouse space, such as those at the Gulf of Mexico, to be used as delivery points.

In summary, current research supports the need for CBT and CFTC to assess alternatives for improving how delivery points for grain and soybean futures contracts meet the economic purposes and antimanipulation goals of the Commodity Exchange Act. However, the studies did not provide conclusive answers to questions about how best to select delivery points.

Responsible CBT and CFTC officials reviewed a draft of this report and generally agreed with the information presented. They also provided technical clarifications that we incorporated where appropriate.

[28]Under this system, both Chicago and Toledo deliveries would be at the futures contract price while St. Louis deliveries would be at a 10-cent per bushel premium over the futures contract price.

We are sending copies of this report to selected Members of Congress and other interested parties. We will also make copies available to others upon request.

The major contributors to this report are listed in the appendix. Please contact me at (202) 275-8678 if you have any questions concerning this report.

Sincerely yours,

Craig A. Simmons
Director, Financial Institutions
and Markets Issues

Appendix

Major Contributors to This Report

General Government Division, Washington, D.C.

Cecile O. Trop, Assistant Director
Desiree W. Whipple, Reports Analyst

Chicago Regional Office

Daniel M. Johnson, Evaluator-in-Charge
Melvin Rodriguez, Site Senior
David R. Lehrer, Evaluator

Ordering Information

The first five copies of each GAO report are free. Additional copies are $2 each. Orders should be sent to the following address, accompanied by a check or money order made out to the Superintendent of Documents, when necessary. Orders for 100 or more copies to be mailed to a single address are discounted 25 percent.

U.S. General Accounting Office
P. O. Box 6015
Gaithersburg, MD 20877

Orders may also be placed by calling (202) 275-6241.

United States
General Accounting Office
Washington, D.C. 20548

Official Business
Penalty for Private Use $300

First-Class Mail
Postage & Fees Paid
GAO
Permit No. G100