

June 2007

SPOT CHEESE MARKET

Market Oversight Has
Increased, but
Concerns Remain
about Potential
Manipulation





Highlights of [GAO-07-707](#), a report to congressional requesters

Why GAO Did This Study

The Chicago Mercantile Exchange (CME) is home to the spot cheddar cheese market, which impacts the prices of virtually all cheese traded in the United States, producer milk prices, and milk futures contracts. The spot cheese market, formerly the National Cheese Exchange (NCE) in Wisconsin, has been and continues to be the subject of concerns about price manipulation. GAO was asked to examine (1) the market's structure and ongoing concerns about price manipulation; (2) market oversight and efforts to address potential manipulation; and (3) how the market impacts federal milk pricing. In response, GAO compared the markets at NCE and CME, analyzed trading data, collected information about the Commodity Futures Trading Commission's (CFTC) oversight, and met with industry participants, academics, and agency officials.

What GAO Recommends

GAO recommends that the U.S. Department of Agriculture (USDA) seriously consider all industry proposals, including one to eliminate the National Agricultural Statistical Service (NASS) survey of cheese prices, in the minimum federal milk pricing formula. If USDA continues to use the survey, GAO recommends that USDA audit the survey data. In written comments, USDA agreed to audit the survey data. USDA did not agree to proactively consider a proposal to eliminate the survey but would give due consideration to all industry proposals.

www.gao.gov/cgi-bin/getrpt?GAO-07-707.

To view the full product, including the scope and methodology, click on the link above. For more information, contact Orice Williams at (202) 512-8678 or williamso@gao.gov.

SPOT CHEESE MARKET

Market Oversight Has Increased, but Concerns Remain about Potential Manipulation

What GAO Found

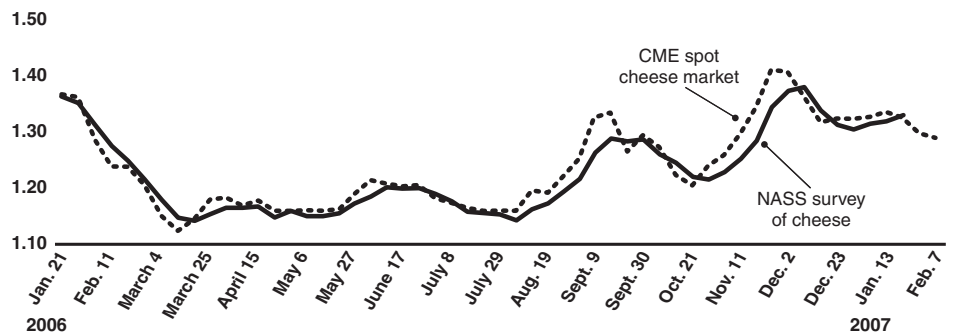
Because the CME spot cheese market remains a market in which few daily trades occur and a small number of traders account for the majority of trades, questions exist about this market's susceptibility to potential price manipulation. The structure and operations of the CME spot cheese market are comparable to NCE's, including trading rules, products traded, and market participants. However, there are differences, including daily trading at CME versus once-a-week trading at NCE.

CFTC and CME provide oversight of the CME spot cheese market that did not occur on NCE. Both engage in activities that may detect and deter potential price manipulation at this market. CFTC, as part of its responsibility for regulation of commodity futures markets, monitors cash markets, including the spot cheese market, and can act on indications of manipulative activity. In addition, CME conducts daily surveillance and regularly reviews trading data and market trends. According to CFTC and CME officials, they have both made efforts to address allegations of the potential for price manipulation by examining the activities of participants in the spot cheese market. As of June 2007, none of these reviews have led to an instance of CFTC taking legal action against a market participant.

CME's spot cheese market impacts federal minimum milk pricing through the NASS survey of cheddar cheese prices, which as shown below are highly correlated to the CME cheese prices. CME spot cheese prices are used to set long-term contracts, which are then captured by the NASS survey of cheese prices—a significant commodity component in USDA's minimum milk pricing formulas. According to USDA, the agency uses the survey, in part, because it captures more transactions than occur at the CME spot cheese market. However, in addition to largely capturing CME price data, it introduces a 1- to 2-week time lag between when data are reported by NASS and when certain transactions captured in the survey occur. Moreover the survey is not currently audited to ensure the accuracy of the information. These factors may contribute to milk prices paid by dairy market participants that are either not completely accurate or not current.

CME Spot Cheese Market and NASS Cheese Survey Block Cheese Prices

Dollars per pound



Source: USDA

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Abbreviations

AMS	Agricultural Marketing Service
CEA	Commodity Exchange Act
CFTC	Commodity Futures Trading Commission
CME	Chicago Mercantile Exchange
DMO	Division of Market Oversight
DOJ	Department of Justice
FMMO	federal milk marketing order
FTC	Federal Trade Commission
NASS	National Agricultural Statistical Service
NCE	National Cheese Exchange
SRO	self-regulatory organization
USDA	U.S. Department of Agriculture

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June 21, 2007

Congressional Requesters

For almost a decade, the Chicago Mercantile Exchange (CME) has been home to a spot cheese market, which impacts the prices of virtually all cheese traded in the United States as well as producer milk prices and milk futures contracts.¹ This spot cheese market moved to CME in 1997 amid allegations of price manipulation on the National Cheese Exchange (NCE) in Green Bay, Wisconsin.² NCE was a nonprofit corporation established to be a market where surplus supplies of cheese were bought and sold, and cheese had been traded there for over two decades. Cheese producers generally use CME spot cheese market prices to set their sales prices, according to industry participants. In turn, minimum prices for raw farm milk bought by many cheese manufacturers are set using a U.S. Department of Agriculture (USDA) pricing formula whose most significant commodity component is the weekly average of cheddar cheese prices drawn from a survey of large cheese manufacturing plants.³ Futures contracts for milk used in manufacturing cheese are also settled at expiration using the minimum price for milk as determined by the pricing formula.

Some industry participants had hoped that moving the spot cheese market would alleviate concerns about price manipulation. But during the last few years, trade press articles have described ongoing concerns in the dairy industry about potential price manipulation at the CME spot cheese market and the potential effects on certain milk prices. Generally, price manipulation is any planned operation, transaction, or practice that intends to and causes or maintains an artificial price—that is, a price that is higher or lower than it would have been if it had reflected the forces of

¹A futures contract is a highly standardized (as to quantity, quality, location, and delivery terms) agreement to buy or sell a commodity for delivery in the future and has as its purpose the offset or management of risk rather than actual delivery of a product.

²Spot markets involve the payment and physical delivery of a commodity. For cheese, this occurred at the NCE and now at the CME, in addition to other locations. References to spot markets in this report are only referring to the market at either NCE or CME.

³See 7 C.F.R. § 1000.50 (2007). Actual prices paid can exceed the minimum price. Raw milk is milk that has not been processed (pasteurized).

supply and demand. The Commodity Futures Trading Commission (CFTC), which provides regulatory oversight of the CME because of its futures markets and also has responsibility for enforcing a federal prohibition against manipulating the price of any commodity in interstate commerce, has received several complaints or allegations from industry participants and others about price manipulation on the CME spot cheese market. These concerns generally involve observed price fluctuations on the CME spot cheese market and the possibility that these fluctuations might result in prices that are too high or too low. Such concerns have revived suspicions about the market's susceptibility to manipulation and raised questions about the effectiveness of the move from NCE in addressing concerns about price manipulation and whether there is sufficient regulatory oversight of the market.

Given these ongoing questions and the importance of the CME spot cheese market in setting cheese and minimum milk prices in the United States, you asked us to review the market's operations, its susceptibility to manipulation, and the role played by various oversight and enforcement organizations in monitoring the spot cheese market. Specifically, we examined (1) the structure and operations of the CME spot cheese market compared to those of NCE and ongoing concerns about price manipulation on the CME spot cheese market, (2) how the market is regulated and efforts to address potential price manipulation, and (3) how the CME spot cheese market impacts federal milk pricing.

To address these objectives, we reviewed industry and academic literature regarding market operations and obtained information from CFTC, CME, and market participants on the structure and operations of the CME spot cheese market. We reviewed existing studies that assessed market characteristics associated with price manipulation, examined available trading data, and obtained officials' views on potential manipulation. We did not attempt to determine whether manipulation had occurred on the CME spot cheese market; instead, we identified the characteristics of this market that were consistent with those of markets considered susceptible to price manipulation. We obtained and analyzed information about CFTC and other oversight and enforcement organizations on their roles in monitoring the CME spot cheese market. Finally, we obtained and reviewed relevant laws and regulations related to milk pricing in the United States as well as interviewed various agency and industry officials about the role of CME spot cheese market prices in milk pricing. We conducted our work between September 2006 and June 2007 in Chicago; Washington, D.C.; and two locations in Wisconsin in accordance with generally accepted government auditing standards.

Results in Brief

Several aspects of the structure and operations of the CME spot cheese market are comparable to those that existed at NCE, and certain market conditions at the CME spot cheese market continue to raise questions about the potential for price manipulation. For example, the CME spot cheese market, which has technical, market-specific rules based in part on NCE rules, offers trading in some of the same products and has many of the same industry participants as NCE. The CME spot cheese market involves daily anonymous trading, whereas NCE traded cheese once a week and trader identities were publicly known. Certain factors that were prevalent on NCE and that are often associated with the potential for price manipulation still exist, such as low trading volume and a small number of traders who make the majority of trades. Although the CME spot cheese market averages only a few transactions per day, CME spot cheese market prices are used by the dairy industry in establishing the prices that are used to set long-term contracts between market participants. While a significant portion of the cheese industry participates in the CME spot cheese market, the majority of trading at the CME spot cheese market is concentrated among a small number of traders, primarily large companies and cooperatives in the cheese and dairy industry. Therefore, certain participants may have the ability to influence prices through transactions on the CME spot cheese market. Factors such as daily trading may, though, decrease opportunities for a sustained influence on prices. For example, unlike at NCE, where a price would remain in effect for 1 week, trading on a daily basis at CME provides more opportunities for market participants to counter any trades that may be at prices above or below what they consider to be market value.

The CME spot cheese market is not regulated by CFTC or USDA, but CFTC and CME provide oversight and assess allegations of price manipulation. The Commodity Exchange Act (CEA), which establishes the U.S. regulatory scheme for commodity futures markets and is CFTC's enabling legislation, prohibits manipulating the price of any commodity in interstate commerce and provides CFTC with authority to enforce this prohibition. Moreover, because cheese prices established on CME could impact prices in a related futures market for milk, CFTC's Division of Market Oversight (DMO) has a surveillance interest in the trading activity on the CME spot cheese market. Accordingly, CFTC has examined allegations of price manipulation in the CME spot cheese market. Moreover, mainly because of the link between the CME spot cheese market and milk futures contracts, CFTC surveillance staff regularly obtain data on price movements and periodically review trends in the CME spot cheese market to identify potential manipulative activity in related futures contracts. In addition, CME conducts daily oversight of the market

and may take disciplinary actions to enforce its rules, which include prohibiting price manipulation of the CME spot cheese market. CME officials noted that CME has a network of surveillance and investigative staff observing trading, reviewing activities of market participants, and verifying the accuracy and completion of transactions on the spot cheese market. Both CFTC DMO and CME officials told us that they had examined activities of participants in the spot cheese market. These examinations may be in response to complaints and unusual price movements identified by staff members. To date, none of these examinations have led to an instance of CFTC taking legal action against a market participant.

The CME spot cheese market impacts federal minimum milk prices through the USDA National Agricultural Statistics Service (NASS) survey of cheddar cheese prices, which is highly correlated to CME cheese prices. Prices obtained through the NASS survey of cheese prices are a major commodity component in USDA's minimum milk pricing formulas. The survey, as it was intended by USDA, captured more transactions than those that occurred at NCE, and it currently captures more transactions than occur on the CME. USDA officials told us that the agency still uses the survey for this reason. However, the industry, which under federal law, would need to approve any changes to the use of the NASS survey of cheese prices in the milk pricing formulas, has recently recommended alternative proposals including using CME spot cheese prices instead in setting minimum milk prices. Although USDA's Agricultural Marketing Service (AMS) is in the process of obtaining industry input, ongoing reliance on the survey raises three issues. First, USDA does not audit the data collected in the NASS survey of cheese prices and therefore cannot ensure the accuracy of the data used to calculate the minimum prices of certain types of milk. Second, although the NASS survey of cheese prices is intended to capture more transactions than those used in CME trading, industry participants said they use CME cheddar cheese prices as the reference price for most of the cheese they sell. As a result, the survey results and CME spot cheese market prices rarely differ significantly. Third, the survey is not particularly timely. One to 2 weeks can elapse between when some transactions occur and when NASS survey results capturing those transactions are released. This time lag can contribute to dairy market participants paying minimum prices for certain milk that do not fully reflect current market conditions.

As AMS continues to collect information and evaluate the proposals put forth by the industry concerning the NASS cheese survey, it must balance the interests of the industry and ensure that the information captured is

accurate. This report recommends that USDA, in conjunction with the industry, take steps to reduce the redundancy that exists in the NASS survey of cheese prices and improve the timeliness associated with its survey of cheese prices. Specifically, we recommend that USDA give serious consideration to all proposals, in consultation with the industry, including the industry proposal to use the CME spot cheese market prices instead of the NASS survey of cheese prices in the minimum federal milk pricing formula. However, if USDA continues to use the NASS survey of cheese prices, we recommend that USDA implement an auditing program for the survey in a timely manner to ensure the accuracy of the information provided. We provided a draft of this report to CFTC, USDA, and CME. We received written comments from USDA, which are discussed later in this report and reprinted in appendix II. We also received technical comments from CFTC, USDA, and CME, which have been incorporated where appropriate. In its response, USDA agreed with our recommendation intended to ensure that AMS implements a program to audit data reported to NASS in its survey of cheese prices. However, the agency disagreed with our recommendation to proactively consider, in consultation with the industry, the industry proposal to use CME spot cheese market prices instead of NASS survey of cheese prices in the minimum federal milk pricing formula. Specifically, USDA stated that it is outside of its authority to proactively consider proposals to change federal milk marketing order provisions. USDA stated that it would give due consideration to a current proposal to use CME spot cheese market prices. We were not and are not recommending that USDA take action outside of its current authority and have, therefore, clarified our recommendation. In addition, USDA stated that the continued use of the NASS survey seems prudent given that concerns remain about potential manipulation at the CME spot cheese market. As we note in our report the NASS survey of cheese prices largely duplicates prices from the CME spot cheese market and does not address concerns about price manipulation.

Background

At any given time, participants in the cheese industry may have an interest in buying or selling cheese for immediate delivery. Historically, they could do so by identifying a buyer or seller through their contacts and relationships in the industry or by participating in various centralized markets throughout the United States where industry participants gathered to buy and sell cheese. From 1974 to 1997, NCE was the central

market of, and functioned as a surplus market for, cheese.⁴ It also served as the primary price discovery mechanism for cheese produced in the United States.⁵

In general, before 1987 cheese prices on NCE experienced little volatility, because USDA purchased cheese to ensure that cheese prices did not fall below a certain level. After mid-1988, the volatility of cheese prices increased sharply because of lower price supports for milk, and NCE's role in price discovery took on additional importance until it closed in 1997.⁶ While price volatility does not indicate that manipulation is occurring, the increased volatility in cheese prices, the corresponding effect on milk prices, and a perceived lack of oversight of NCE raised concerns about potential price manipulation. Following a series of investigations and congressional hearings involving NCE, a joint committee composed of a dairy industry trade group and NCE solicited proposals for a new site for the spot cheese market. CME was selected and the spot cheese market began operating there in May 1997. CME, the largest futures exchange in the United States, is a publicly traded corporation that offers a marketplace where various commodities such as dairy products are traded through futures contracts or spot markets. Various financial instruments are also traded on CME.

Like NCE, the CME spot cheese market functions as a surplus market for cheddar cheese. Industry participants consider the CME spot cheese market a public price discovery mechanism, and prices are published daily. Contracts for the sale of all varieties of cheese in the United States are generally set using the prices of cheddar cheese established at CME as the reference price. For example, a contract may specify that cheese will be sold based on the previous week's average price of cheddar cheese set at the CME. The contracts often include a premium or a discount on the current price of cheddar cheese on CME based on factors such as the quality and type of cheese and other costs such as transportation.

⁴The spot cheese market is commonly referred to as a surplus market. A market with these characteristics can also be called a residual market, which is defined as a market on which only a small proportion of the total production or consumption of a product is actually traded on the market.

⁵In the process of price discovery, buyers and sellers exchange bids and offers based on information about supply and demand for the cash commodity and agree upon, or discover, the current price.

⁶Volatility is a measure of the degree to which prices fluctuate over time.

One of the federal programs designed to assist dairy farmers is the federal milk marketing order (FMMO) program, which is designed in part to improve the income of dairy farmers by stabilizing market conditions and establishing minimum milk prices.⁷ Under this program, USDA uses national dairy market price information—including cheese prices—to set the minimum prices that processors must pay for unprocessed milk in specified marketing areas or orders. FMMOs established a four-tier classified pricing system for setting minimum milk prices on a monthly basis, based upon the intended use of the milk. In general, FMMO class prices are determined by formulas that use wholesale dairy product prices. For example, the Class III milk formula uses monthly averages of weekly average butter, cheese, and dry whey prices to set the minimum price of milk that is used in the production of cheeses.⁸ According to one industry participant, pricing a commodity based on the prices of products that the commodity is used to produce is unusual. Prior to using the NASS survey as a component to calculate minimum milk prices, USDA used cheese prices from NCE directly as an input in its milk pricing formula. As concerns were raised from industry sources and others about manipulation of cheese prices at NCE, USDA developed the NASS survey of cheese prices as an alternative to using NCE prices. In 1997, USDA stopped using NCE prices in its minimum milk pricing formulas and began using data provided by the NASS survey of cheese prices. USDA has continued to use the NASS survey of cheese prices in certain milk pricing formulas as trading in the spot cheese market occurred at the CME.

⁷U.S.C. § 608c, as amended.

⁸Dry whey is a byproduct produced from the water and solid components that remain when cheese is manufactured.

Certain Structure and Operations of CME Spot Cheese Market Are Similar to Those of NCE, and Certain Characteristics Result in Ongoing Concerns about the Potential for Price Manipulation

The CME spot cheese market shares a number of operational and structural similarities with NCE and has certain characteristics that could make the CME spot cheese market susceptible to price manipulation. Like NCE, CME is primarily a surplus market where small amounts of blocks and barrels of cheddar cheese meeting certain technical specifications are traded. Many market participants that traded at NCE also trade at the CME spot cheese market. Moreover, certain market conditions at the CME spot cheese market, including a small number of trades and a small number of traders who make a majority of trades, continue to make this market particularly susceptible to manipulation.

Some Operational Aspects of the CME Spot Cheese Market Resemble Those at NCE

NCE and CME share many similarities, including certain trading rules, products traded, the volume of cheese traded, and market participants, but there are differences. According to CME officials, technical rules specific to the CME spot cheese market were developed from the rules used to operate NCE and rules already established by CME for an existing spot butter market. For example, CME trades the same cheese products that were traded on NCE—carloads of 40-pound blocks and 500-pound barrels of cheddar cheese.⁹ The CME spot cheese market continues to be a surplus market for cheese on which relatively small amounts of cheese are traded relative to the overall size of the U.S. cheese market. Unlike some commodities, most cheese in the United States is traded through long-term contracts, which generally use the CME spot cheese market price as the reference price and previously used the NCE price.

NCE had between 30 and 40 members, including major participants in the cheese and dairy industry, such as large agricultural cooperatives, cheese manufacturers, and processors of cheese. These members accounted for the vast majority of cheese handled and processed in the United States. Likewise, major cheese and dairy industry members participate on CME, including many companies that traded cheese on NCE. CFTC officials estimated that 13 of the 31 CME spot cheese market participants accounted for 60 percent of all cheese produced, processed, or marketed

⁹Additionally, the NCE traded 640-pound blocks. A carload of cheese is between 40,000 and 44,000 pounds.

in the United States in 2004.¹⁰ These participants in the spot cheese market represent diverse segments of the cheese and dairy industries, including dairy cooperatives representing many farmers and industry participants that produce, manufacture, and process large quantities of cheese.

However, two differences exist between the CME spot cheese market and NCE. First, the names of participants involved in NCE trading were made public. Each member could designate up to five individuals as traders, and the buyer and seller were reported for each trade. Trading at the CME spot cheese market is conducted through a network of professional brokers, the standard practice in many commodities, and the buyer and seller are not publicly reported.¹¹ However, according to some dairy industry participants, they generally know which brokers represent specific buyers and sellers. Second, trading on NCE occurred only once a week for one 30-minute session. Trading takes place at the CME spot cheese market every weekday for at least 2 minutes and up to 16 minutes, depending on the interest of market participants.

Thinness of the CME Spot Cheese Market, Combined with Other Factors, Contributes to Questions about Possible Price Manipulation

Despite the move to CME, the spot cheese market remains a thin market, which in combination with the presence of a small number of traders that make a majority of trades and the spot cheese market's pricing structure contributes to questions about the potential for price manipulation. A thin market generally has either few transactions; transactions that represent only a small proportion of the total transactions, including those that are priced off that market; or both.¹² CME and CFTC DMO officials, some market participants, and academics generally agree that the CME spot cheese market is a thin market. Little trading occurs on the CME spot cheese market, and the trading that does take place consistently represents a small proportion of the total volume of cheese produced in the United States. According to CFTC officials, from 1998 to 2005, the volume of cheese traded at CME generally represented less than 2 percent of all cheddar cheese and less than 1 percent of all cheese produced in the

¹⁰This study was undertaken at the initiative of CFTC surveillance staff to review CME spot cheese market participants in 2004 and 2005. The most recent year for which data were available is 2004.

¹¹A commodity broker is an individual who is paid a fee for executing an order to buy or sell a commodity for a customer.

¹²According to CFTC officials, not all markets in which transactions represent a small proportion of all transactions would be considered thin.

United States annually.¹³ This characteristic is not unique to the CME spot cheese market, as other agricultural commodity markets, such as the CME spot butter market, are also thinly traded. In addition, as shown in table 1, on average only one or two transactions were completed during each trading session in the barrel market, and the average was less than one for most years, indicating that on some days no cheese was traded. The one exception was 1997, when the average number of transactions on the barrel market was more than eight, because the market did not have daily trading at that time. Similarly, on average, fewer than three trades during each trading session were completed in the block market each year.

Table 1: Average of Number of Transactions Per Trading Session by Barrel and Block on the CME Spot Cheese Market, 1997-2006

Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	Total
Average barrel	8.2	1.8	1.4	2.2	0.8	0.8	0.4	0.9	0.7	0.7	1.2
Total barrel	296	216	358	566	189	191	98	229	184	170	2,497
Average block	4.4	3.3	3.5	2.3	1.9	2.5	2.2	2.9	2.6	1.4	2.5
Total block	157	383	873	599	479	626	536	728	657	348	5,386

Source: GAO analysis of CME data.

Academic analyses and cheese and dairy industry participants have raised a number of concerns associated with thin markets being susceptible to manipulation. These concerns include the following:

- Dominant traders may be able to attempt to manipulate prices more easily in thin markets.
- Prices in thin markets may not reflect supply and demand, even without manipulative behavior by dominant traders.

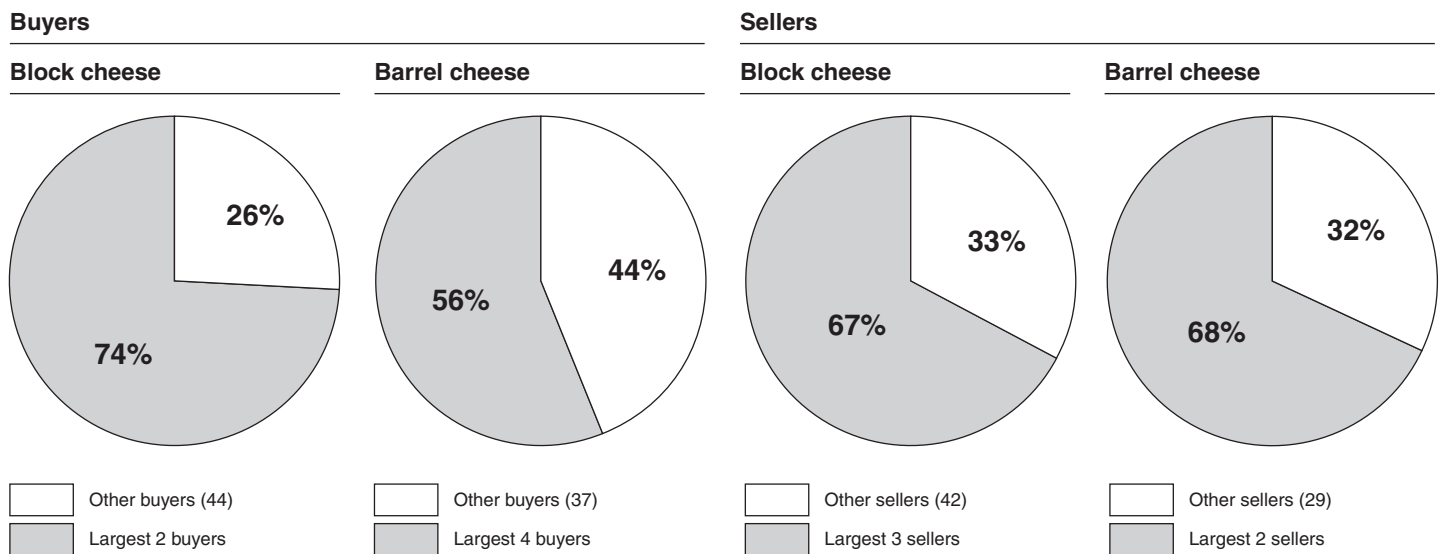
As noted, thin markets raise concerns about the potential for manipulation because of the small number of participants and transactions involved in the market and the ease with which prices can be impacted. For example, in thinly traded markets each individual participant's activity tends to be more influential than it would be on a market with more transactions and more participants. As a result, it may be easier for a market participant to move prices in a preferred direction over a short period of time with

¹³In 1999 trading represented slightly more—less than 2.5 percent of all cheddar produced in the United States.

relatively few completed or unfilled transactions. Further, individual transactions to buy and sell cheese that set the market price may not accurately reflect supply and demand.

Further, the CME spot cheese market has a small number of traders who make the majority of trades, another factor that contributes to questions about possible price manipulation. Relatively few market participants account for the majority of trading at the CME spot cheese market, as shown in figure 1. Between January 1, 1999, and February 2, 2007, two market participants purchased 74 percent of all block cheese, and three market participants sold 67 percent of all block cheese. During the same time period, four market participants purchased 56 percent of all barrel cheese, and two market participants sold 68 percent of all barrel cheese.

Figure 1: Percentage of Trading, by Largest Block and Barrel Market Participants, January 1, 1999, to February 2, 2007



Source: GAO analysis of CME data.

In addition, the CME spot cheese market’s pricing structure, in combination with a thinly traded market and a small number of traders who comprise the majority of trading, contributes to questions about the potential for price manipulation. As on many other financial markets, prices at the CME spot cheese market are based on completed

transactions and on unfilled higher bids and uncovered lower offers that are posted by market participants.¹⁴ During a trading session an unfilled bid that is higher than the previous bid or transaction price can result in a higher price. Similarly, an uncovered offer that is lower than the previous offer or transaction price can result in a lower price. For example, on the CME spot cheese market:

- Between January 1, 1999, and February 2, 2007, the closing price for block cheese fluctuated based on unfilled bids and uncovered offers on at least 17 percent of the trading days.¹⁵ During the same time period, the barrel market closing price fluctuated based on unfilled bids and uncovered offers 28 percent of trading days.
- Between March 1, 2004, and April 16, 2004, block cheese prices increased from \$1.49 to \$2.20 per pound, or 48 percent, on the CME spot cheese market based primarily on unfilled bids to buy cheese, with only four carloads of block cheese bought or sold during this period.
- Between October 26, 2004, and November 19, 2004, block cheese prices rose from \$1.57 to \$1.80 per pound, or 14 percent, with completed transactions for only three carloads of cheese completed during this period.

This pricing structure is not unique to the CME spot cheese market, and price changes based on unfilled bids and uncovered offers may reflect conditions consistent with supply and demand. However, this pricing structure may increase opportunities to ultimately change the price of milk without reference to the actual costs of buying and selling cheese.

Finally, although there may be characteristics that raise concerns about price manipulation, certain characteristics of the CME cash cheese market may reduce the risk of price manipulation. According to CME officials and industry participants, the risk of incurring the expenses associated with

¹⁴A completed transaction on the CME spot cheese market is an agreement between a buyer and a seller for the purchase of a specific quantity of cheese at a given price. An unfilled bid is an indication of willingness to buy a specific quantity of cheese at a given price that remains open and is not accepted by a seller. An uncovered offer is an indication of willingness to sell a specific quantity of cheese at a given price that remains open and is not accepted by a buyer.

¹⁵Additionally, there may have been days in which there were completed transactions, but the closing price was based on an unfilled bid or uncovered offer.

the actual buying or selling of cheese may deter some market participants from attempting to manipulate prices at the CME spot cheese market. Any CME spot cheese market participant who makes a bid or offer risks acceptance of that bid or offer and the obligation to buy and accept delivery of cheese or to sell and make delivery. Completed transactions for the purchase or sale of cheese can involve a significant expense. While a relatively small number of traders make the majority of trades, market participants represent a significant amount of potential volume of trading. CFTC has found that many large participants in the cheese and dairy industry with diverse interests monitor the CME spot cheese market and are prepared to participate in it. These large industry participants could, for example, buy cheese on the CME spot cheese market if prices fell below a company's manufacturing costs or sell it if prices rose to a profitable level, potentially countering any attempted manipulation. Several industry participants we interviewed said that they believed that price manipulation on this market would be difficult to sustain, given the number of competing interests. Additionally, the change from once-a-week trading on the NCE market to daily trading on the CME spot cheese market may make sustaining attempted price manipulation more difficult because a trader may have to be active in the market on a daily basis in order to influence prices. Despite allegations of price manipulation, industry participants we interviewed stated that they generally did not believe manipulation was occurring. In addition, industry participants told us that they never stopped using the CME price as a reference price in their long-term contracts.

CFTC and CME Provide Increased Oversight of the CME Spot Cheese Market

Both CFTC and CME engage in activities that may detect or deter potential price manipulation at the CME spot cheese market.¹⁶ Regular monitoring by CFTC DMO and CME represents a significant change from the level of oversight of NCE, which had received limited monitoring from CFTC and NCE staff. CFTC, as part of its responsibility for the regulation of commodity futures markets, monitors cash markets that affect futures markets, such as the CME spot cheese market. CFTC surveillance staff review trading activities on the market for manipulative activity, including manipulation that may impact the Class III milk futures. Moreover, CFTC Division of Enforcement can act on indications of manipulative activity

¹⁶CFTC DMO has regulatory responsibility, among other things, to provide market surveillance for futures markets. As a part of this responsibility, CFTC DMO monitors markets to identify situations that could pose a threat of manipulation and initiate preventative actions.

through CFTC's authority to enforce the CEA, which specifically prohibits the manipulation of prices of physical commodities in interstate commerce.¹⁷ CME conducts daily surveillance of the CME spot cheese market based on its established rules and internal procedures. Both CFTC enforcement staff and CME investigate and, if appropriate, can take enforcement actions in response to potential manipulative conduct on the CME spot cheese market. However, proving price manipulation is difficult.

CFTC Monitors Trading Activity to Identify and Address Potential Price Manipulation on the CME Spot Cheese Market

In recent years, CFTC DMO staff have monitored the CME spot cheese market on a regular basis both to review that prices of related Class III milk futures contracts are consistent with forces of supply and demand and in response to complaints alleging manipulative conduct. CFTC DMO is particularly concerned about manipulative activities in cash markets when prices on those markets could affect the integrity of futures contract prices. The price paid for a Class III milk futures contract is based on the monthly Class III milk price released by USDA, which is heavily influenced by the price of cheese at the CME spot cheese market. Also, because the CEA prohibits manipulating the price of any commodity in interstate commerce, CFTC can take action under its enforcement authority to investigate price manipulation of any commodity, regardless of whether it is related to a futures contract. According to CFTC DMO officials, however, CFTC surveillance staff would be unlikely to monitor commercial activities involving a commodity without a related futures market.

CFTC surveillance staff regularly obtain and analyze data on the activities of the CME spot cheese market participants to assist in the detection and also prevention of price manipulation in related futures markets. In 2005, CME began providing CFTC with daily trading data and information on the CME spot cheese market on a monthly basis.¹⁸ CFTC monitors traders with large positions in Class III milk futures and the trades that these large traders make in the CME spot cheese market. As part of its monitoring, CFTC focuses on answering the following questions:

¹⁷CFTC Division of Enforcement investigates and prosecutes alleged violations of the CEA and CFTC regulations. The prohibition against price manipulation in interstate commerce is set forth at 7 U.S.C. § 13b.

¹⁸Prior to 2005, CFTC made individual requests to CME for data on the CME spot cheese market.

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1. Is the Class III milk futures price consistent with supply and demand factors in the cheese industry?
 2. How is the monthly Class III milk price released by USDA behaving compared to the CME spot cheese market and other cash prices?
 3. Are the largest Class III milk futures traders engaged in trades on the CME spot cheese market that affect the monthly Class III milk price released by USDA?
 4. Do the Class III milk futures traders have an incentive to engage in losing trades on the CME spot cheese market in order to benefit a large futures position?

In its market surveillance activities, CFTC surveillance staff may use many sources of daily market information. Some of this information is publicly available, including data on the overall supply, demand, and marketing of the underlying commodity; futures, option, and cash prices; and data on trading volume and open contracts.¹⁹ Some of the information is highly confidential, including data from exchanges, intermediaries, and large traders. CFTC Chicago surveillance staff generally review CME spot cheese market transactional data from CME, which include the identities of buyers and sellers and timing of trades, when they see unusual price movements and to summarize the data for informational purposes. CFTC surveillance staff may also interview industry participants, and interviews may include discussions about basic market fundamentals, the traders' involvement in specific commercial transactions, or the traders' observations about anything unusual about the CME spot cheese market or other cash transactions.

CFTC DMO staff have prepared summary documents analyzing the market four times since 1999, including analyses of participants, volume, and price fluctuations. Generally, they have found that the majority of the cheese industry is represented at the CME spot cheese market and that trading on

¹⁹An option is a contract that gives the buyer the right, but not the obligation, to buy or sell a specified quantity of a commodity or other instrument at a specific price within a specified period of time, regardless of the market price of that instrument. Open contracts are the total number of futures contracts long or short in a delivery month or market that has been entered into and not yet liquidated by an offsetting transaction or fulfilled by delivery. A short position on a futures contract is taken by a trader who agrees to sell a commodity at some point in the future. A long position on a futures contract is taken by a trader who agrees to purchase a commodity at some point in the future.

the market is concentrated among a small number of participants. CFTC has filed no complaints related to price manipulation on this market. These reviews represent another change from NCE, which, according to CFTC officials, CFTC did not monitor regularly. CFTC did review trading activities on NCE in 1997 prior to approving a market for trading in certain milk futures. This review did not identify significant deficiencies or suggest that the market was susceptible to manipulation. In contrast, after a 4-year investigation in which confidential and proprietary information was gathered, University of Wisconsin economists found that the organization of NCE appeared to facilitate market manipulation, but could not definitively conclude that manipulation had occurred, and that NCE was not an efficient price discovery mechanism between 1988 and 1993.²⁰ Market participants told us that CFTC monitoring of the CME spot cheese market addressed some of their concerns about limited oversight of trading at NCE.

In addition to identifying unusual activities or manipulative conduct through its monitoring activities, CFTC also responds to complaints and concerns raised by industry members and the public. CFTC surveillance staff in Chicago collaborate with CME officials to examine trading activities. Since 1999, CFTC Chicago DMO staff have done nine special reviews of trading activity at the CME spot cheese market in response to specific complaints or fluctuations in market prices. These complaints dealt with issues including an allegation that a market participant failed to pay in a timely manner for cheese purchased on the CME spot cheese market, allegations of price manipulation on that market, and concerns about price volatility on that market. According to CFTC officials, the CFTC market surveillance analyst responsible for the Class III milk futures market reviewed these complaints, analyzed the time period or market participants involved in the allegation, and responded to the party that complained. None of these reviews resulted in any legal action taken by CFTC against a market participant. According to trade press reports, CFTC is currently investigating the trading activity of one participant in the CME spot cheese market for potential manipulation of the market. Unless otherwise authorized, CFTC regulations require enforcement investigations to be nonpublic. Therefore, CFTC does not confirm, deny, or comment about possible ongoing investigations.

²⁰Bruce Marion, Willard Mueller, et. al. "Cheese Pricing: A Study of the National Cheese Exchange," University of Wisconsin (March 1996).

According to CFTC DMO officials, CFTC generally would not take an active role in oversight of the CME spot cheese market without a related futures market because of its interpretation of its responsibilities under CEA and limited resources. However, other federal agencies have responsibilities relating to the manipulation of cash cheese prices even in the absence of a related futures contract. The U.S. Department of Justice (DOJ) has responsibility for investigating possible violations of the antitrust laws and taking appropriate legal action in the courts. DOJ's authority includes taking action based on unreasonable restraints of trade such as price fixing or manipulation. In addition, the Federal Trade Commission (FTC) is charged by statute with preventing unfair methods of competition and unfair or deceptive acts or practices in or affecting commerce. In order to avoid duplicating efforts to pursue allegations of anticompetitive behavior or price fixing, the two agencies developed and maintained a liaison arrangement to determine who would take the lead on any cases involving the CME spot cheese market.

Certain other federal and state agencies that observed or monitored trading at NCE no longer do so at the CME spot cheese market. In the past, USDA officials observed trading and published prices established at NCE but do not observe CME spot cheese market trading. Prices are now publicly reported. USDA officials did not provide oversight of NCE and have no oversight role of CME. NCE was also subject to the Wisconsin Department of Agriculture, Trade and Consumer Protection's jurisdiction over unfair competition and trade practices. According to CME officials, no state agency has a role in overseeing CME or the CME spot cheese market.

In addition to monitoring trading in the futures markets and related cash markets, CFTC has general authority, provided by the CEA, over designated contract markets.²¹ CME, as a designated contract market, must demonstrate to CFTC that it meets CEA criteria for the prevention of market manipulation, fair and equitable trading, the conduct of trading facilities, and the financial integrity of transactions. In addition to providing market surveillance, CFTC DMO approves and oversees the futures exchanges, including CME, and reviews exchange rules.²² CFTC also assesses the effectiveness of compliance and market surveillance

²¹A designated contract market is a market designated by CFTC to trade futures and options under the CEA. See 7 U.S.C. § 7.

²²See 7 U.S.C. § 7(b).

capabilities and reviews new futures contracts to assess their susceptibility to manipulation. To ensure the market's financial integrity, CFTC Division of Clearing and Intermediary Oversight reviews the audit and financial surveillance activities of self-regulatory organizations (SRO), including CME.²³ According to CFTC officials, they have not approved CME spot cheese market rules. However, CFTC conducted a rule enforcement review of CME that covered the time period October 2004 to October 2005.²⁴ This review, which did not specifically include the CME spot cheese market rules, included an examination of the compliance of a number of CME's programs with CEA, including the audit trail, trade practice surveillance, disciplinary, and dispute resolution programs. CFTC did not make any recommendations for improvements in these areas.

Proving actual or attempted price manipulation is difficult, according to CFTC officials.²⁵ They noted that CEA does not have a specific definition of manipulation. Rather, it has been left to the courts to develop the law through cases or decisions. Accordingly, as established by federal courts and CFTC, proving manipulation requires being able to show the following:

- The market participant had the ability to influence market prices.
- The market participant specifically intended to influence prices.
- Artificial prices existed.
- The market participant caused an artificial price.²⁶

Proof of an attempted manipulation requires sufficient evidence of (1) an intent to affect the market price and (2) some overt act in furtherance of

²³Self regulatory organizations include exchanges and registered futures associations that enforce financial and sales practice requirements for their members.

²⁴A rule enforcement review is an analysis of an exchange's overall compliance capabilities.

²⁵The prohibition against manipulation of prices of commodity futures and commodities in interstate commerce is set forth in the CEA at 7 U.S.C. § 13b.

²⁶In re Cox, [1986-1987 Transfer Binder] Comm. Fut. L. Rep. (CCH) 23,786 at 34,061 (CFTC July 15, 1987); see also Frey v. CFTC, 931 F.2d 1171 (7th Cir. 1991); CFTC v. Enron Corp., 2004 U.S. Dist. Lexis 28794 (S.D. Tex 2004).

that intent.²⁷ Like the test for manipulation, the test for attempted manipulation depends upon the facts and circumstances of a particular market and its participants.²⁸ We did not find any studies or court cases that have concluded that there has been manipulation on the CME spot cheese market or NCE.

An intent to raise or lower CME spot cheese market prices could be based on a variety of incentives. For example, farmers that produce milk used to manufacture cheese benefit when the price of cheese on the CME spot cheese market is high because the CME spot cheese market influences a broad array of cheddar cheese prices that are included in the pricing formula for Class III milk. Alternatively, a company that largely sells cheese purchased from others could benefit from low CME spot cheese market prices. This is because most cheese plants from which it buys would be using the lower CME cheese prices to set their contract price, but it would sell its cheese at a price not based on CME prices. These factors alone do not imply that price manipulation has occurred—in fact, price manipulation has not been proven—but these incentives appear to contribute to ongoing questions about the susceptibility of the market to manipulation relative to one with more trading or more market participants comprising the majority of trades.

Further, identifying actual or attempted manipulation on the CME spot cheese market can be difficult for a number of other reasons. First, because the CME spot cheese market functions as a market to dispose of excess supply or to fill temporary inventory needs, it may not always reflect prices that are consistent with supply and demand in the broader market as market participants attempt to manage short-term inventory needs through the CME spot cheese market. For this reason, determining what constitutes an artificial price can be difficult. In addition, companies may attempt to influence prices without considering their activity to be

²⁷See *In re Abrams*, [1994-1996 Transfer Binder] Comm. Fut. L. Rep. (CCH) ¶ 26,479 at 43,136 (CFTC) July 31, 1995). See also *In re Hohenberg Brothers*, [1975-1977 Transfer Binder] Comm Fut. L. Rep. (CCH) ¶ 20,271 at 21,477 (CFTC Feb. 18, 1977).

²⁸See *Cargill v. Hardin*, 452 F.2d 1154, 1163 (8th Cir. 1971), cert. denied, 406 U.S. 932 (1972) (Manipulation cases tend to be characterized by fact-specific, case-by-case analysis, which examines whether prices have been affected by factors other than the legitimate forces of supply and demand.); see also *Frey v. CFTC*, 931 F.2d 1171, 1175 (7th Cir. 1991). Accord *In re Indiana Farm Bureau Cooperative Association*, [1982-1984 Transfer Binder] Comm. Fut. L. Rep. (CCH) ¶ 21,796 at 27,281 (CFTC Dec. 17, 1982) (defining manipulation or attempted manipulation “has fallen to case-by-case judicial development”)

manipulative. For example, according to one industry participant, traders may act to influence the spread between the prices of barrel cheese and block cheese to keep it in line with general historical trends. Finally, USDA officials and industry participants told us that some market participants used the CME spot cheese market as a forum to “register an opinion” on what they believed cheese prices should be by making bids and offers with the intent to change the price of cheese to more closely align with their opinions of supply and demand conditions. Representatives of two market participants we interviewed said that they did not believe that this activity constituted manipulation on the CME spot cheese market. However, CFTC enforcement officials disagreed and believe that the types of behavior described above may constitute manipulative behavior.

CME Conducts Daily Surveillance of the CME Spot Cheese Market

CME rules govern its oversight of the CME spot cheese market. CME, as an SRO, is responsible for establishing and enforcing rules governing member conduct and trading; providing for the prevention of market manipulation, including monitoring trading activity; ensuring that futures industry professionals meet qualifications; and examining exchange members for financial strength and other regulatory purposes. CME rules authorize the managing director of regulatory affairs to enforce CME rules and gather all the information necessary to investigate abuses of trading practices. Through this authority, CME monitors trading activities, collects data on its markets, and inspects the books and records of members. In addition, the managing director of regulatory affairs may investigate and recommend institution of disciplinary proceedings for alleged violations of CME rules.

CME conducts surveillance and investigations of the CME spot cheese market through its market regulation division. CME’s market regulation division employs market surveillance analysts, one of whom is assigned to monitor the CME spot cheese market, among others. According to CME officials, the market surveillance analyst assigned to the CME spot cheese market monitors daily trading, maintains familiarity with traders and industry news and trends, and reviews large price changes resulting from uncovered bids or offers and determines the identity of market participants. The analyst reviews and analyzes spot call cheese trade activity in relation to Class III milk futures positions. The analyst, along with market regulation staff, handles inquiries and complaints from market participants and firms, contributes to contract specification changes and rule language updates, and regularly participates in problematic delivery-related issues. The analyst physically observes

trading at the CME spot cheese market on average three times a week. In addition, the analyst reviews the input of daily trading data into a CME database to ensure that trades are properly recorded and that clearing member firms verify their assigned transactions and provide buyer and seller identification and relevant delivery details.²⁹

In addition to employing market surveillance staff, CME assigns one investigator to regularly review the CME spot cheese market to identify potential violations of trading practices and determine if trader activity is adversely affecting Class III milk futures. According to CME officials, they have investigated trading activity related to delivery of cheese sold on the CME spot cheese market and have disciplined two traders. However, CME officials told us that CME has only rarely opened formal investigations into traders on the spot cheese market for rules violations. This surveillance is stricter than at NCE, which had rules against manipulating prices but no staff to oversee the market and generally did not investigate trading activities.

According to CME officials, CME market regulation staff also review traders' positions and activities in the CME spot cheese and Class III milk futures markets to determine if a trader's futures positions would benefit from price changes on the spot cheese market. For example, the market surveillance analyst may look for trading activity on the CME spot cheese market that might directly benefit a trader's futures positions, such as selling cheese in order to lower prices and benefit a short position in Class III milk futures. The market surveillance analyst for the CME spot cheese market also reviews trading data from both markets for large price changes and market trends.

Finally, CME annually provides a dairy forum for CME spot cheese market participants to meet and discuss potential improvements to the spot cheese market. Forum meetings have included discussion of such topics as electronic trading, anonymous trading, daily limits on trading, and technical specifications for products traded. Working committees have been formed based on these meetings, and CME staff told us that they would focus on potential improvements that received majority support as expressed at the forum. According to market participants, regular

²⁹Clearing member firms are entities through which futures and other transactions are cleared and settled. They are also charged with ensuring the proper conduct of each contract's delivery procedures and the adequate financing of trading.

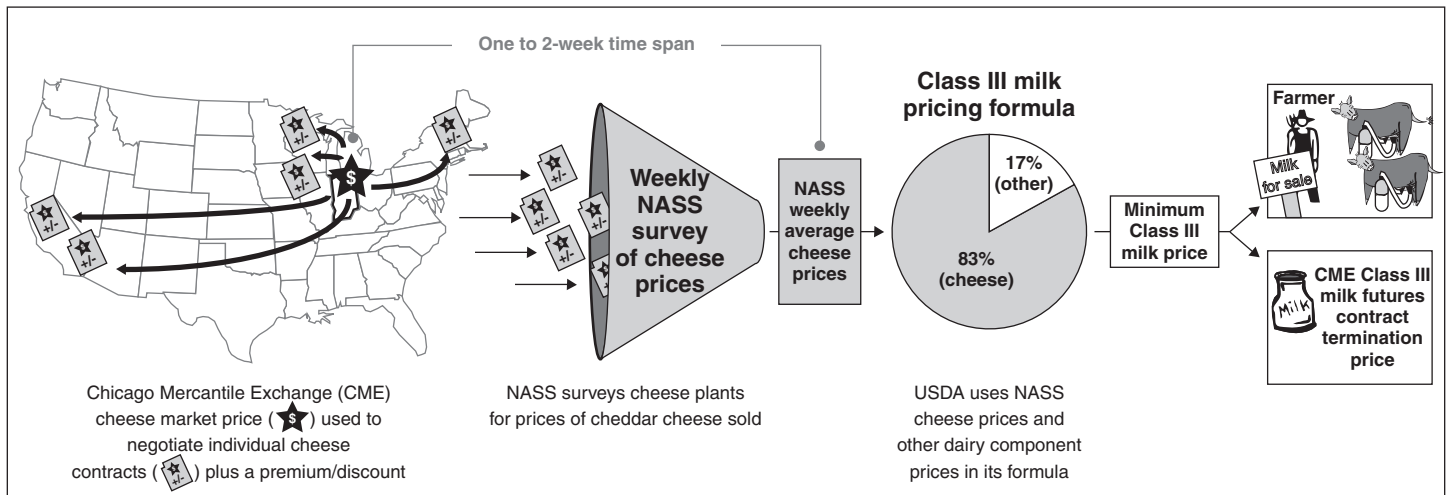
monitoring and oversight of the CME spot cheese market by CME officials has addressed certain industry concerns about potential price manipulation that existed when NCE operated the spot cheese market.

The USDA Survey of Cheddar Cheese Prices Largely Duplicates CME Cheese Prices and Introduces a Time Lag into Some Milk Prices

The NASS survey of cheese prices, which is a major determinant of some FMMO minimum milk prices, is not currently audited by USDA, largely duplicates reported CME cheese market prices, and introduces a 1- to 2-week time lag between when data are reported by NASS and when transactions captured in the survey occur.³⁰ USDA used to rely on the price of 40-pound blocks of cheddar determined on NCE in pricing milk, but developed the NASS survey of cheese prices in response to concerns, raised by industry and others, about a thin market and the potential for price manipulation on NCE. As stated by the Secretary of Agriculture at a hearing before a subcommittee of the U.S. Senate Committee on Appropriations in March 1997, USDA began conducting a national survey of cheddar cheese prices in response to concerns about the accuracy of reported prices at NCE. The NASS survey of cheese prices is intended to capture more transactions than those occurring on the CME spot cheese market. According to USDA officials, the NASS survey of cheese prices has continued to be used in the milk pricing formula. However, USDA's ongoing reliance on the survey raises three issues. First, USDA does not audit the data reported in the NASS survey of cheese prices to ensure the accuracy of the prices reported. Second, industry participants use the CME spot cheese market price as a reference price, and survey results and CME spot cheese market prices rarely differ significantly. Third, the timing of the survey introduces into certain milk prices a 1- to 2-week time lag between when data are reported by NASS and when transactions captured in the survey occur. Figure 2 provides an overview of how CME spot cheese prices influence milk pricing.

³⁰According to analyses by the University of Wisconsin, from January 2000 to January 2007, cheese prices have determined upward of 83 percent of the USDA price of Class III milk.

Figure 2: Influence of CME Spot Cheese Market Prices on Class III Milk Pricing



Sources: GAO; Art Explosion (map).

NASS Survey of Cheese Prices

The Class III milk formula uses monthly averages of weekly cheese, butter, and dry whey prices as reported by the NASS survey to set the minimum price of milk that is used in the production of cheeses. Each week, NASS surveys large cheddar cheese plants that produce and sell over 1 million pounds of cheese annually about the prices of the cheddar cheese they sold. The cheese must meet certain technical specifications, such as age and moisture content. According to USDA officials, these technical specifications match the technical specifications for cheese sold at the CME spot cheese market. They also said the survey consistently captures transactions from 30 to 40 of the largest cheddar cheese plants and excludes fixed price contracts with a duration of longer than 30 days.

Source: GAO.

USDA began using NASS survey cheese data as an input into milk pricing formulas after NCE closed. Since USDA began using data from the NASS survey of cheese prices in its milk pricing formula, the agency has held hearings in response to industry concerns about the pricing formulas for Class III milk. Some industry participants have put forth a number of proposals related to eliminating the use of the NASS survey of cheese prices in milk pricing, including proposals in 2000 and 2006, that recommended eliminating the use of the NASS survey and instead using CME spot cheese market prices in the milk pricing formulas.³¹ In 2000, in hearings on milk order reform, industry opinions varied on the use of CME cheese prices instead of the NASS survey of cheese prices, with some industry participants stating that they preferred the use of the NASS survey of cheese prices. USDA decided to continue to use the NASS survey of cheese prices, stating that the NASS survey prices are based on a much greater volume than using CME prices. As of June 2007, hearings were still being held regarding the more recently submitted proposal, which recommended using CME prices instead of NASS survey prices. A final regulation would be subject to industry approval requirements contained

³¹CME spot cheese market prices could be used in federal minimum milk pricing provided that the CME spot cheese market remains open for trading.

in the statute.³² USDA officials have told us that historically there has been a lack of consensus in the industry to make this change. Several milk producers and cheese manufacturers we interviewed stated that they generally supported the idea of no longer using NASS survey prices in the milk pricing formulas. In order to assess the potential impact of current proposed changes to the Class III milk pricing formulas, the USDA conducted preliminary economic analyses, which analyzed the change to historical Class III milk prices if CME spot cheese market prices had been used instead of the results of the NASS survey of cheese prices.³³ On the basis of this analysis, USDA concluded that using the CME spot cheese market prices instead of the NASS survey of cheese prices would lead to a difference of little significance.

Under the milk marketing orders, NASS collects dairy market prices, such as the NASS survey of cheese prices, for use in USDA's milk pricing formulas, which raises three issues.³⁴ First, USDA does not currently audit responses provided by survey participants. Under the Dairy Market Enhancement Act of 2000, mandatory price reporting requirements for dairy products used in setting milk prices were established.³⁵ Additionally, USDA was authorized to conduct audits of transactions reported by survey participants.³⁶ Auditing the transactions could help to ensure the accuracy of the information used to establish minimum milk prices under the FMMOs. However, USDA does not currently audit these transactions, which include transactions captured in the NASS survey of cheese prices. Agency officials told us that they had developed a proposed rule to conduct audits of the data. According to a USDA official, the proposed rule is currently under review by the Office of Management and Budget. Recently, USDA disclosed that there had been a reporting error in the data included in its survey of nonfat dry milk prices. According to USDA

³²See the Agricultural Marketing Agreement Act of 1937, as amended, 7 U.S.C. § 608c (8), (18).

³³USDA, *Preliminary Economic Analysis Class III and Class IV Prices*, Agricultural Marketing Service, February 2007. In this economic analysis, USDA uses an econometric model in which it substituted NASS survey of cheese prices for CME spot cheese market prices and projected the potential effect on milk prices.

³⁴In a 2004 report, GAO provided information on various dairy policy options. GAO, *Dairy Industry: Information on Milk Prices, Factors Affecting Prices, and Dairy Policy Options*, GAO-05-50 (Washington, D.C.: Dec. 29, 2004).

³⁵Pub. L. No. 106-32 (Nov. 22, 2000).

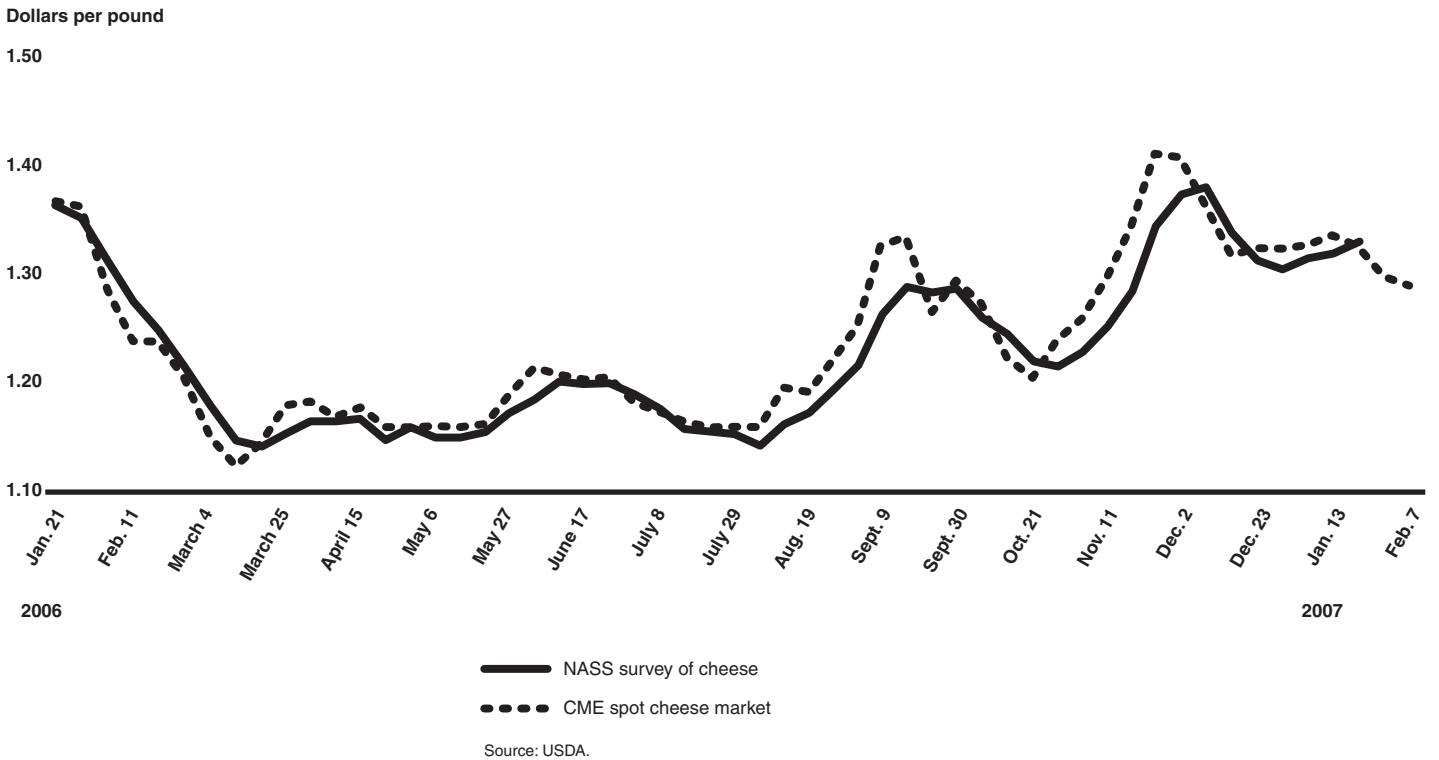
³⁶See 7 U.S.C. § 1637b(c)(3), as amended by Pub. L. No. 106-32 § 2.

officials, this error affected milk prices for farmers for at least 2 months and caused a market loss of at least \$6.4 million. Without auditing the data provided in the NASS survey of cheese prices, USDA cannot ensure the accuracy of the data that are used in the milk pricing formulas.

Second, although USDA officials told us that the NASS survey captured a wider range of cheese prices than using prices from the CME spot cheese market, the survey captures the weekly average CME spot cheese market price because cheese manufacturers use the CME spot cheese market price as a reference price plus or minus a premium or discount depending upon the specifications of the cheese. As a result, price manipulation on the CME spot cheese market, if reflected in the NASS survey, could lead to certain federal order minimum milk prices being artificially high or low. Despite surveying a broader range of transactions, the survey provides limited additional information beyond what is already available directly from the CME spot cheese market and results in a high correlation between the NASS survey of cheese prices and CME spot cheese market prices (see fig. 3). According to a University of Wisconsin study, the NASS survey has a 98 percent correlation with CME spot cheese market prices when adjusted to account for the difference in timing between collecting price information and publishing survey results.³⁷ USDA has generally not analyzed differences between the NASS survey prices and CME spot cheese market prices such as those in figure 3. Additionally, while industry participants recognize the role of the NASS survey of cheese prices in setting certain minimum federal order milk prices, industry participants we interviewed said the survey did not provide them with useful information. Industry participants told us that small differences between the two price series are likely due to premiums and discounts negotiated into contract prices, such as for transportation costs.

³⁷Ed Jesse, "Backcasting Formula-Based Federal Order Class Prices," University of Wisconsin (October 2004).

Figure 3: CME Spot Cheese Market and NASS Cheese Survey Block Cheese Prices



The third issue raised by USDA’s use of the NASS survey of cheese prices is that the results are not released for 1 to 2 weeks after certain transactions captured in the survey occur. California Department of Food and Agriculture officials told us that California does not participate in FMMOs. They also told us that California does not rely on the NASS survey, in part because of concerns about the timing of the survey. Additionally, although industry members we interviewed stated that the effects of the time lag may balance out over time, they said that the use of the NASS survey created short-term problems in milk pricing because of the time lag. For example, one industry member said that because of a timing lag that can occur during periods of rapidly declining cheese prices at the CME spot cheese market, USDA minimum milk prices may not fully reflect current milk prices. As a result, cheese manufacturers may be buying milk based on prices calculated using higher cheese prices from the preceding weeks but selling cheese at current lower market prices. This is due in part to the time lag in the NASS survey of cheese prices and could cause, in the short term, losses for the manufacturer. However, dairy farmers may benefit in this example. In periods of rapidly rising cheese

prices, the time lag could result in dairy producers receiving less for their milk than if current market conditions were reflected in the minimum milk prices. In this example, cheese manufacturers might benefit.

According to USDA officials, the effect of the time lag inherent in the NASS survey of cheese prices on Class III milk prices is diminished by two factors. First, USDA publishes the minimum Class III milk price on a monthly basis, and according to USDA officials, this dilutes the effect of the time lag on the Class III minimum milk price. Second, according to USDA, 75 percent of milk is sold with a premium over the Class III minimum milk price, and these “over-order” premiums reduce the effect of the time lag in the Class III minimum milk price.³⁸ However, monthly Class III minimum milk prices can sometimes be based on data that do not include a portion of or the entire last week of NASS survey of cheese data for that month. This can be compounded because industry participants sometimes base their cheese prices on the prior week’s CME spot cheese market price. As a result, the effect of the time lag would be present in the monthly Class III milk price. Moreover, according to some industry participants we interviewed, the Class III minimum milk price is used by industry participants as the base price onto which over-order premiums are applied. This means that if the minimum milk price is too high or too low because of the effect of the lag, the lag would be reflected in milk prices set by industry participants who start with the minimum price and add a premium. Therefore, the time lag may result in industry members paying or receiving prices for milk that no longer fully represent current market conditions.

Conclusions

The move from NCE to CME changed little about the structure or function of the spot cheese market but has increased oversight. The CME spot cheese market continues to be a surplus market where a few large participants buy and sell cheese and less than 1 percent of the cheese produced in the United States is traded. In addition, market participants continue to use CME spot cheese market prices to set most cheese prices in the United States. As a result, concerns about price manipulation will likely remain. However, monitoring of trading activity by CFTC DMO and CME represents a substantial increase in the level of oversight of the CME

³⁸Over-order premiums refer to charges that are negotiated by milk sellers (individual farmers and cooperatives) and milk buyers (fluid milk processors and dairy product manufacturers such as cheese makers) that are above the minimum milk price.

spot cheese market as compared to oversight of NCE. This has addressed some concerns about potential price manipulation on the CME spot cheese market. While not guaranteeing that price manipulation will be detected or prevented, regular and targeted reviews may help to ensure the integrity of and confidence in the market.

The CME spot cheese market also impacts minimum milk prices through the NASS survey of cheese prices, which largely captures the CME spot cheese price but with a 1- to 2-week lag. USDA developed the NASS survey of cheese prices, in part to address industry and other concerns about a thin market and potential price manipulation. However, despite surveying a broader range of transactions, the industry uses the CME spot cheese market as the primary mechanism for price discovery and for pricing the majority of cheese sold. As a result, the NASS survey continues to capture largely redundant spot cheese market prices. Any small difference between prices from the NASS survey and CME spot cheese prices may be due to factors such as a time lag between data collection and price reporting, premiums or discounts on the CME price, or errors in data collected in the NASS survey of cheese prices. In addition, the NASS survey data are not currently audited by USDA, and a recent error in nonfat dry milk prices has raised questions about the accuracy of the data reported. California, with one of the largest dairy industries in the country, has chosen to use CME cheese prices over NASS survey of cheese prices in its milk pricing formula because officials believe they more accurately reflect current market conditions. The NASS survey of cheese prices largely captures CME price data by surveying producers versus capturing current data directly from CME. A lag of 1 to 2 weeks exists in data collected in this survey. As a result, industry participants may be paying prices for milk that may not be current.

Recommendations for Executive Action

As USDA continues to hold hearings on a variety of issues, including the Class III milk pricing formula, we acknowledge that there may be a variety of proposals to consider. To improve the timeliness of reported cheese prices and reduce redundancy that exists in the NASS survey of cheddar cheese, we recommend that the Secretary of USDA direct the Administrator, Agricultural Marketing Service to give serious consideration to all proposals, in consultation with the industry, including the industry proposal to use the CME spot cheese market prices instead of the NASS survey of cheese prices in the minimum federal milk pricing formula.

If USDA continues to use the NASS survey of cheese prices, we recommend that the Secretary of USDA direct the Administrator, AMS, to implement in a timely manner a program to audit data reported to NASS in its survey of cheese prices.

Agency Comments and Our Evaluation

We provided a draft of this report to CFTC, USDA, and CME. We received written comments from USDA, which are reprinted in appendix II. We also received technical comments from CFTC, USDA, and CME, which have been incorporated where appropriate. In written comments from the Under Secretary of Marketing and Regulatory Programs, USDA agreed with our recommendation intended to ensure that AMS implements a program to audit data reported to NASS in its survey of cheese prices. However, the agency disagreed with our recommendation to proactively consider, in consultation with the industry, the industry proposal to use CME spot cheese market prices instead of NASS survey of cheese prices in the minimum federal milk pricing formula.

In response, USDA noted, as we do in the report, that it is in the process of holding a hearing addressing proposed changes to the federal milk marketing order minimum price formulas and that using the CME spot cheese price is among the proposals. According to USDA, it is outside of USDA's authority to "proactively consider" proposals to change federal milk marketing order provisions. We have, therefore, clarified our recommendation. We were not and are not recommending that USDA take action outside of its current authority and we recognize that USDA must follow its rules of practice and procedure when conducting proceedings to amend marketing orders. Specifically, USDA states that proposals to use the CME price will be given "due consideration, weighing both the supporting and opposing testimony" in the hearing process. Our recommendation is that USDA give serious consideration to all proposals, in consultation with the industry, including the industry proposal to use the CME spot cheese market prices instead of the NASS survey of cheese prices in the minimum federal milk pricing formula.

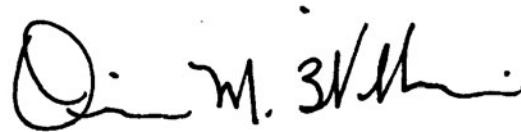
USDA also stated that because concerns remain about potential manipulation at the CME spot cheese market, "use of the NASS price to set FMMO minimum prices seems prudent until an alternative is shown to be clearly superior." While we recognize that there are potentially a variety of ways to price Class III milk, the use of CME spot cheese market prices has certain merits over using NASS prices. As stated in our report, while concerns remain about price manipulation at the CME spot cheese market, the NASS survey of cheese prices does not address these concerns. The

NASS survey of cheese prices largely duplicates CME spot cheese market prices. Use of CME spot cheese market prices instead of NASS survey of cheese prices could reduce redundancy. As USDA itself has found, the long-term difference in using CME spot cheese prices instead of NASS survey of cheese prices in milk pricing is close to zero. This is because, as we note in our report, the cheese industry uses CME spot cheese prices to set contract prices. As a result, CME spot cheese market prices are captured by the NASS survey of cheese prices. Further, industry participants that we interviewed stated that they have not adjusted how they set contract prices due to concerns about manipulation on the CME spot cheese market. Therefore, any pricing concerns about CME would also be reflected in the NASS survey prices.

USDA further stated that GAO has not demonstrated that there has been a loss or benefit to cheese makers due to the time lag associated with calculating a monthly average federal minimum milk price. However, the report does include an example of a potential loss to cheese makers. As stated in the report, one industry member we interviewed told us that during periods of rapidly declining cheese prices at the CME spot cheese market, the timing lag may result in USDA minimum milk prices not fully reflecting current milk prices and may result in cheese makers buying milk at prices higher than the prices at which the cheese maker sell its cheese. Additionally, we clarified in the report that industry participants we interviewed that told us the NASS survey made their business more complicated were referring to short-term problems in milk pricing due to the use of the NASS survey and the corresponding time lag. Moreover, the time lag is one reason why California does not rely on the NASS survey of cheese prices. Finally, USDA comments included an overview of minimum milk prices and the manufacturing plant relationship with the FMMO.

As agreed with your office, unless you publicly announce the contents of this report earlier, we plan no further distribution until 14 days from the report date. At that time, we will send copies of this report to the appropriate committees. We will also send copies to the Chairman of CFTC, the Secretary of Agriculture, and the Managing Director, Regulatory Counsel of CME. We also will make copies available to others upon request. In addition, the report will be available at no charge on the GAO Web site at <http://www.gao.gov>.

If you or your staff have any questions concerning the report, please contact me at (202) 512-8678 or williamso@gao.gov, or John Wanska, Assistant Director, at (312) 220-7628 or wanskaj@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of the report. Key contributors to this report are listed in appendix III.

A handwritten signature in black ink, appearing to read "Orice M. Williams". The signature is fluid and cursive, with a large initial "O" and a distinct "M." followed by a stylized "Williams".

Orice M. Williams
Director, Financial Markets
and Community Investment

List of Congressional Requesters

The Honorable Arlen Specter
Ranking Member
Committee on the Judiciary
United States Senate

The Honorable Hillary Rodham Clinton
United States Senate

The Honorable Russell D. Feingold
United States Senate

The Honorable Herb Kohl
United States Senate

The Honorable Charles E. Schumer
United States Senate

Appendix I: Scope and Methodology

To review the structure and operations of the Chicago Mercantile Exchange (CME) spot cheese market, we obtained and analyzed information about CME, including internal rules and procedures that govern the market. We compared this information to the National Cheese Exchange's (NCE) rules and procedures, as well as to federal and academic analyses of the structure and operations of NCE. We obtained and reviewed industry and academic literature regarding market structure. To analyze concerns about price manipulation, we reviewed existing studies that assessed market characteristics associated with price manipulation. In addition, we obtained and analyzed spot cheese market trading data provided by CME. To assess the reliability of the CME data, we reviewed the data and interviewed CME officials, and determined that the data were sufficiently reliable for our purposes. Using the data provided, we calculated summary statistics on volume of trading, number of market participants, and the role of uncovered bids and unfilled offers. We also obtained Commodity Futures Trading Commission (CFTC) and CME officials' views as well as those of market participants and members of the cheese and dairy industry on the potential for price manipulation at the CME spot cheese market and NCE. We did not attempt to determine whether manipulation has occurred on the CME spot cheese market; instead, we identified the characteristics of this market that are consistent with those of markets considered susceptible to price manipulation.

As a part of our review of market monitoring and oversight, we obtained and analyzed information about CFTC, CME, and other oversight and enforcement organizations on their role in monitoring the CME spot cheese market. In addition, we interviewed officials from CFTC's Division of Market Oversight, Division of Enforcement, and Office of General Counsel to obtain information about CFTC's role in the CME spot cheese market. We also interviewed CME officials from its Legal and Market Regulation Division, Corporate Development Division, and Products and Services Division to discuss CME's oversight of the CME spot cheese market.

To review how the CME spot cheese market impacts federal minimum milk prices, we obtained and reviewed federal laws and United States Department of Agriculture (USDA) regulations governing the federal milk pricing formulas. We also reviewed academic analysis of the role the spot cheese market has in milk pricing. In addition, we interviewed officials from USDA's Agricultural Marketing Service and National Agricultural Statistical Service as well as numerous academics who study issues of dairy policy. We also interviewed market participants and members of the cheese and dairy industry on the relationship between the CME spot

cheese market and minimum federal milk prices. Members of the dairy and cheese industry included cheese manufacturers, dairy cooperatives, processors of cheese, and milk producers.

Appendix II: Comments from the Department of Agriculture




United States Department of Agriculture

Office of the Secretary
Washington, D.C. 20250

JUN 14 2007

EXECUTIVE TRANSMITTAL MEMORANDUM

TO: Orice M. Williams
Director, Financial Markets and Community Investment
Government Accountability Office

FROM: Bruce I. Knight 
Under Secretary
Marketing and Regulatory Programs

SUBJECT: Response to GAO Audit Report

Attached is the U.S. Department of Agriculture's response to the draft report titled, "Spot Cheese Market: Market Oversight Has Improved but Concerns Remain about Potential Manipulation." Thank you for the opportunity to provide comments. If you have any questions, please contact John Mengel at 202-720-4664 or Frank Woods at 202-720-8836.

Attachment

**U.S. Department of Agriculture
Statement of Action on the
U.S. Government Accountability Office Final Report GAO-07-707,
“Spot Cheese Market: Market Oversight Has Increased But Concerns Remain
About Potential Manipulation.”**

June 15, 2007

General Comments

USDA disagrees with the recommendation made by GAO that USDA “proactively consider” proposals to change Federal milk marketing order provisions, which is outside of USDA’s authority. However, USDA is currently holding a hearing addressing proposed changes to Federal milk marketing order minimum price formulas. Using the CME spot cheese market price instead of the NASS cheese price in setting minimum milk prices is among the proposals.

USDA concurs with the recommendation that an audit of NASS price data be implemented in a timely manner, and USDA is currently in the rulemaking process to do so.

GAO Recommendation

To improve the timeliness of reported cheese prices and reduce the redundancy that exists in the NASS survey of cheddar cheese, we (GAO) recommend that the Secretary of USDA direct the Administrator, Agricultural Marketing Service (AMS) to proactively consider, in consultation with the industry, the industry proposal to use the CME spot cheese market prices instead of the NASS survey of cheese prices in the minimum federal milk pricing formula.

If USDA does not eliminate the NASS survey of cheese prices, we (GAO) recommend that the Secretary of USDA direct the Administrator, AMS to implement in a timely manner a program to audit data reported to NASS in their survey of cheese prices.

USDA Response

Summary

GAO has not demonstrated that there has been a loss to cheese makers associated with lags inherent in calculating a monthly average minimum price. However, proposals to use the CME spot market cheese price in the current hearing record will be given due consideration, weighing both the supporting and opposing testimony. GAO is aware that the proposed Mandatory Price Reporting docket is currently under development, and that it will apply to cheese, nonfat dry milk, butter, and whey.

Cheese makers are not required by regulation to participate in the FMMO system. They do so at their own discretion, perhaps because they generally draw revenues from the FMMO revenue pools. As cited by GAO, AMS found that over a period of time including both price increases and decreases, differences in minimum prices using the CME spot cheese and using the NASS cheese price are likely to average close to zero. Moreover, prices actually paid for milk used to make cheese are generally higher than the Federal order minimum prices. Given GAO's recognition, as reflected in the report title, that "concerns remain about potential manipulation," the use of the NASS price to set FMMO minimum prices seems to be prudent until an alternative is shown to be clearly superior.

Federal Order Change Procedure

The Agricultural Marketing Service amends Federal milk marketing orders using the procedures specified under the Administrative Procedures Act, unless otherwise directed by law such as with Federal order reform implemented in 2000. These procedures require proponents for change in an order to first make a case for a public hearing. If it is decided to hold a hearing, proponents of the proposed changes must submit proposals in time for interested parties to prepare questions and testimony for the hearing. The content of the formal hearing record defines the possible set of changes to the existing order.

A hearing concerning Class III and Class IV pricing is currently underway, and there are proposals to incorporate the CME prices in the Class III price formula. It would be helpful in this regard if GAO would introduce for the record their study, including support for replacing the NASS cheese price with the CME spot price, and stand for cross-examination by interested parties.

NASS Price Auditing

GAO is aware that the proposed Mandatory Price Reporting docket is currently under development, and that it will apply to cheese, nonfat dry milk, butter, and whey.

Minimum Milk Prices and Manufacturing Plant Relationship with the FMMO

FMMOs are established by producer referendum and regulate the exchange of milk between farmers and first buyers of milk, especially fluid milk processors. A key element of the system is setting a minimum price for Class I or fluid milk that reflects the additional costs to market milk for fluid uses, including those associated with transportation and meeting fluid milk plants needs as scheduled. The FMMO system seeks to set minimum prices for milk in manufacturing uses and fluid uses that reflect milk supply and demand conditions, consistent with the value of milk in manufacturing uses throughout the U.S. USDA uses the NASS survey of prices for cheese, butter, nonfat dry milk, and dry whey to set Federal order minimum prices for milk in manufacturing uses. These prices are the bases upon which minimum prices for milk used in soft manufactured products (Class II) and milk used in fluid milk products (Class I) are set. It is generally the case that market prices paid for milk are higher than the Federal order minimum prices.

Plants that manufacture dairy products such as cheese, butter, and nonfat dry milk are not required to be regulated by any FMMO. However, manufacturing plants can choose to be regulated, allowing its producers' milk to be pooled on the order and be eligible to receive the FMMO minimum blend price. In choosing to participate in FMMO system, manufacturing plants generally are required to divert a portion of the milk from their own uses to fluid needs as required by the orders in times of milk supply shortage. Participation in the FMMO system enables manufacturing plants to pay producers a minimum milk price that reflects a share of the fluid milk revenues in the order, and allows them to better compete with regulated handlers for a milk supply.

Generally, cheese makers draw money out of the FMMO revenue pool because the minimum price for milk in cheese (Class III) is less than the blend price, which reflects the higher minimum prices for milk in Class I (fluid) and Class II (soft manufactured product) uses. If the Class III price is expected to exceed the blend price, cheese makers have the option to leave the Federal order system. In such a case, cheese makers do not have to pay into the FMMO pool, and can use the savings to pay higher prices to producers or increase its profits. (The revenues from cheese sales less manufacturing costs, yields a milk value that exceeds the blend price. Thus, cheese manufacturers are in position to pay producers a price that reflects the higher of the blend price or the value of the milk in cheese.) Market prices actually paid for Class III milk generally include an over-order charge, thereby exceeding the Federal order minimum Class III price. The over-order payments and prices producers are paid reflect the market value of milk at the plant location and the efficiency of the plants.

The GAO provided no analysis or example to demonstrate that the use of the NASS cheese price to set minimum prices for milk has caused losses for cheese makers, or on the other side, benefits for cheese makers. Specifically, it has not been shown that there has been a loss or benefit to cheese makers associated with a one-to-two week lag in calculating a monthly average minimum price using the NASS cheese price. To the contrary, GAO cites a 2007 AMS analysis in which, "USDA concluded that using the CME spot cheese market prices instead of the results of the NASS survey of cheese prices would lead to a difference of little significance."

Proposals to use the CME spot market cheese price to establish Class III minimum prices are currently part of a hearing process. Proponents and opponents have the opportunity to testify under cross-examination as to the merits of the proposed change. The record developed at that hearing for the use of the CME cheese price will be given due consideration.

Appendix III: GAO Contact and Staff Acknowledgments

GAO contact

Orice Williams, (202) 512-8678, or williamso@gao.gov

Staff Acknowledgments

In addition to those individuals named above, John Wanska, Assistant Director; Marta Chaffee; Emily Chalmers; Jay Cherlow; Alison Martin; Marc Molino; Andy Pauline; and Paul Thompson made key contributions to this report.

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