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**Practices Facilitating Manipulation of Prices
on the National Cheese Exchange**

by

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Willard F. Mueller and Bruce W. Marion*

I. Introduction

The purpose of this paper is to clarify and amplify certain conclusions reported in a study of pricing behavior on the National Cheese Exchange.¹ Among other things, the study concluded:

As currently organized, the Exchange appears to facilitate market manipulation. The main beneficiaries of this situation appear to be Kraft General Foods, Inc., and other seller-traders with coincident interests.... We emphasize, however, that we found no evidence of collusion among cheese companies. (Report p. 204)

The statement that we found “no evidence of collusion among cheese companies” has been interpreted by some as an acknowledgment that NCE trading is competitive and does not pose public policy problems, and by others that actions on the NCE violated no laws. We did not intend either of these conclusions. As we explained at the first meeting of the Governor’s Task Force on Cheese Pricing, July 25, 1996, whereas we found no evidence of express collusion, we had not expected to find such evidence. Finding evidence of express collusion is rare, at best, but especially so in an economic study based predominantly on business documents. Moreover, the reference to “evidence” of collusion was not intended to imply the sort of evidence required for identifying unlawful agreements.

The report did conclude that the NCE “facilitated market manipulation,” but did not

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¹ W. F. Mueller, B. W. Marion, M. H. Sial and F. E. Geithman, *Cheese Pricing: A Study of the National Cheese Exchange*, 1996, Food Systems Research Group, Department of Agricultural and Applied Economics, University of Wisconsin-Madison, hereafter cited as “Report.” The study was prepared during 1992-1995 for the Wisconsin Department of Agriculture, Trade and Consumer Protection, which used its legal authority to demand the production of documents from leading traders on the NCE.

There were two printings of the report. The page references herein are to the gray cover copy, which uses a single-spaced format.

discuss in detail various trading rules and business practices that facilitate such conduct. Indeed, when we examined trading in the context of various rules and practices that facilitate agreement among NCE traders, we found circumstantial evidence of agreement among competitors.

Below we discuss these matters as well as some ways of increasing competition in cheese pricing. We first discuss briefly salient features of the NCE, its prominence in price determination and those characteristics that predispose it to price manipulation. The discussion focuses primarily on 1988-1993, the period for which we have documentary and other evidence.²

II. Nature of the National Cheese Exchange

The National Cheese Exchange is a cash auction market located in Green Bay, Wisconsin. Traders meet for about 30 minutes each Friday to buy and sell carlots of bulk (uncut and unprocessed natural cheese) barrel and block cheddar cheese to each other.³

The NCE is a very thinly traded market: total volume traded each of the last 20 years accounted for less than 1 percent of all bulk cheese made in the U. S.; during 1988-1993 no barrel cheese was traded in 53 percent of all sessions and no block cheese was traded in 62 percent of all sessions. Only 10 percent of the price changes occurred with completed trades; the remaining 90 percent were the result of unfilled bids or uncovered offers (Report at 39).

NCE trading is also very highly concentrated: during the entire 1980-1995 period well over 90 percent of all cheese traded on the Exchange was handled by the *same* five buyer-traders and five seller-traders. During 1988-1993, Kraft alone made 74 percent of all sales; together with

² This evidence was developed in the course of an investigation conducted by the Wisconsin Department of Agriculture, Trade and Consumer Protection during 1992-1995. We participated in the investigation and had sole responsibility for conducting an economic analysis based on company documents and other data.

³ Cheddar cheese is traded in 40,000-pound carlots of 500-pound barrels (used mainly in processed cheese) and 40-pound blocks (used mainly for cutting natural cheese).

Borden and Alpine Lace it made 88 percent of all barrel sales and 70 percent of all block sales.

Bulk cheese in the U. S. is sold in three ways: (1) Practically all—90 to 95 percent—is sold under long-term contracts at prices tied to the NCE price. (2) Spot sales account for 5 to 10 percent of bulk cheese sales. Spot prices are negotiated at a premium (usual) or discount to the NCE price and the two prices are highly correlated. (3) Sales on the NCE accounted for only 0.2 percent of all bulk cheese sold during 1988-1993.

The prices set on the NCE are used to formula-price virtually all bulk cheese sold under long-term contracts, which in turn largely determine changes in the farm price of fluid milk used in making cheese.⁴ This enormous leverage and the concentrated nature of trading provide a powerful incentive to manipulate NCE prices. The benefits of such manipulation are realized not on the NCE itself but in the much larger contract market in which prices are tied to the NCE.

The leading seller-traders, led by Kraft, apparently were successful at times in manipulating NCE prices to their advantage during 1988-1993. Kraft led this effort and was exclusively a *seller* on the NCE⁵ although it was the nation's largest *buyer* of bulk cheese off the NCE. Borden and Alpine Lace also were predominantly *sellers* on the NCE, although they—like Kraft—were predominantly *buyers* of bulk cheese off the NCE. Trading by Kraft, Borden and Alpine Lace appeared to follow a pattern of interdependent and coordinated pricing conduct

⁴ See Report, Chapter 2, Section E. NCE cheese prices strongly influence the BFP, or "basic formula price" (previously the M-W price), which is the average price paid farmers for fluid milk used in making cheese, butter and non-fat dry milk, as calculated by USDA. Prices paid individual farmers are more or less than the BFP, reflecting the premiums or discounts they receive due to such factors as differences in milk grade and quality, transportation costs, and local competitive circumstances. But the NCE is the predominant driving force causing *changes* in the farm level price. The role of NCE prices was formalized in June 1995, when the USDA assigned a weight of about 90 percent to NCE prices and about 10 percent to butter-powder prices in calculating monthly changes in the BFP.

⁵ Although Kraft bought 22 loads on the NCE during August-October 1990, the purpose and effect of these purchases evidently was to narrow the block-barrel price spread. It is unlikely that Kraft purchased these blocks because it needed more blocks, since during the period Kraft was leading the market down so it could dispose of surplus cheese to the government (Report, Chapter 6, Section B).

(Report, Chapter 5).

There is evidence that at times these traders' selling activities on the NCE had the effect of lowering their procurement costs for bulk cheese bought off the NCE under long-term contracts at NCE-based formula prices.⁶ This evidence includes an examination of the motives and trading conduct of leading traders, an in-depth analysis of Kraft's trading conduct during 1990-1992, and an econometric model that estimated the effects on NCE prices of various traders. Buyer-traders at times sought to countervail the coordinated pricing practices of the leading seller-traders, but apparently were largely unsuccessful because Kraft enjoyed important strategic advantages created by its large size and organizational structure, superior market information, and the failure of leading buyer-traders to effectively coordinate their strategies.⁷

III. "Plus Factors" Relevant for Detecting Price Agreements

Markets with few rivals are predisposed to interdependent conduct, as each rival recognizes that its actions may trigger responses by others.⁸ Recognizing their interdependence, firms may coordinate their conduct by observing the actions and reactions of competitors. Such *oligopolistic coordination* may result in *parallel pricing* conduct among rivals comparable to an express agreement to coordinate prices. Since parallel pricing may be the result of firms either acting unilaterally or by agreement, the courts have created

... the legal rule of "parallelism plus," under which circumstantial evidence of a horizontal agreement remains tested today. Under the rule, an agreement to fix price cannot be inferred from parallel pricing in the absence of other circumstantial evidence, the so-called plus factors.... When these plus factors are observed in conjunction with parallel pricing,

⁶ Lower NCE prices also lowered the cost of the 40 percent of Kraft's cheese needs manufactured in its own plants, because NCE prices drive the cost of fluid milk used by cheese plants. See *supra* note 5.

⁷ Report, Chapters 5, 6 and 7.

⁸ In contrast, rivals in competitive markets are indifferent to the actions and reactions of rivals.

they suggest a secret agreement on price.⁹

The courts and legal-economic authorities have identified various “parallelism plus” factors for inferring a tacit agreement from circumstantial evidence.¹⁰ A plus factor *facilitates* tacit agreement because “it eases tacit coordination among competitors and makes supra-competitive pricing somewhat more likely.”¹¹ When such practices accompany parallel pricing, they may support the inference of an agreement to collude in violation of Section 1 of the Sherman Act or Section 5 of the Federal Trade Commission Act.¹² Some authorities also include among the plus factors *industry performance* suggesting that facilitating factors and business conduct have been successful in restraining trade.¹³

Importantly, a plus factor may have procompetitive as well as an anticompetitive purpose, thus serving a legitimate business function. For example, a practice may reduce transaction costs, or otherwise facilitate efficient trading. This makes it necessary to balance the potential benefits and costs of a practice to the competitive process, as well as determine whether there exist less restrictive alternatives to the practice.

⁹ Baker, *infra* note 11, pp. 174-175.

¹⁰ See K. J. Arquit, “The Boundaries of Horizontal Restraints: Facilitating Practices and Invitations to Collude,” Prepared Remarks before the American Bar Association, April 11, 1992; J. B. Baker, “Two Sherman Act Section 1 Dilemmas: Parallel Pricing, The Oligopoly Problem, and Contemporary Economic Theory,” *The Antitrust Bulletin*, Spring 1993, 143-213; D. S. Clark, “Price Fixing Without Collusion: An Antitrust Analysis of Facilitating Practices After Ethyl Corp.” 1988 *Wisconsin Laws Review*, 887-952; W. E. Kovacic, “The Identification and Proof of Horizontal Agreements Under the Antitrust Laws,” *The Antitrust Bulletin*, Spring 1993, 5-81; R. D. Marks, “Can Conspiracy solve the ‘Oligopoly’ Problem,” 46 *Maryland Law Review*, 387-431; F. M. Scherer and D. Ross, *Industrial Market Structure and Economic Performance*, 1990, 235-316; U. S. Department of Justice, *Horizontal Merger Guidelines*, April 2, 1992, section 2.1.

¹¹ P. E. Areeda, 6 *Antitrust Law*, 1986, p. 249.

¹² Citations in *supra* note 11.

¹³ Marks, *supra* note 11, p.

The following facilitating practices appear to be “plus factors” relevant in determining whether parallel pricing among NCE traders is accomplished with a secret agreement.¹⁴

- Limiting the length and location of trading
- Standardization of the terms of trade
- Public disclosure of transaction prices and trader identity
- Standardization of freight formulas and basing point pricing
- Express agreements to adopt particular facilitating practices
- Price signaling among rivals
- Conduct against individual self-interest
- Industry performance supporting an inference of successful price manipulation

Facilitating Practices with an Apparent Legitimate Business Purpose

The following two NCE trading rules in effect during 1988-1993 facilitate price collusion among traders.¹⁵ These practices appear to have a valid business justification, although there may be alternatives that would not facilitate coordination, as discussed in Section V below.

1. Place, Time and Trading Period

Trading occurs on the NCE in Green Bay, Wisconsin, each Friday beginning at 10:00 a.m. and continuing until 10:30 a.m., except when extended at the discretion of the presiding officer, which is either the president of the Exchange or a trading member designated by him.

¹⁴ Although this discussion examines factors that facilitate collusion under Section 1 of the Sherman Act, these factors may also facilitate price manipulation via unilateral action. This is relevant because the FTC has legal authority under Section 5 of the Federal Trade Commission Act to proscribe unilateral conduct in oligopolistic industries. Arquit *supra* note 11, p. 13.

¹⁵ These trading rules appear in the NCE “Rules Regulating Trading,” February 1987, as revised and amended.

These conditions bring traders together in a single place for a short time, thereby easing tacit coordination among competitors.

2. Standardization of the Terms of Trade

NCE trading rules specify the Cheese Variety and Style (40-pound and 640-pound blocks and 500-pound barrels of bulk cheddar cheese); Moisture Content; Age (4-30 days); Grade (Wisconsin State brand or USDA extra grade or better); Color; Package; Markings (shipper lot numbers, weight, etc.); and Quantity of Lots Traded (38,000 pound-42,000 pound carloads).

Standardization of trading terms facilitates price coordination because it limits the parameters within which price and non-price competition can occur.¹⁶

Facilitating Practices Without a Legitimate Business Purpose

Two additional trading rules and several business practices in effect during 1988-1993 facilitated the exercise of unilateral market power and price coordination strategies among oligopolists. These rules and trading practices apparently did not have a valid business purpose and appear to meet the so-called "plus factors" standard discussed above.

1. The Transparency of Trading

The trading rules adopted by the Board of Directors of the NCE require that all bids and offers are made by persons physically present in the NCE trading pit. All offers, bids and consummated sales are posted on a board in the order heard by the posting clerk, identifying by name the relevant traders. All trades on the NCE are made by authorized representatives of Exchange members, which consist of cheese manufacturers, marketers, and brokers. The only trades not identifying the beneficial owner or purchaser involved in trading are those by brokers,

¹⁶ See Clark *supra* note 11, pp. 935-937; Marks *supra* note 11, p. 408; U. S. Department of Justice, *supra* note 11, section 2.11.

which made only 7 percent of all sales and 4 percent of all purchases on the NCE in 1988-1993.

Identifying trading participants facilitates price coordination strategies; e.g., it enables traders to signal their price intentions and discourages “cheating” among cooperating traders.¹⁷

2. *Standardization of Freight Formulas and Basing Point Pricing*

All transactions on the NCE are f.o.b. Green Bay, but no freight charge is made on cheese within 300 miles of Green Bay. NCE rules specify that cheese may be delivered at any point within the continental U. S. Where the cheese sold is more than 300 miles from Green Bay, there is deducted from the sale price the amount by which the cost of shipment from the shipping point to Green Bay exceeds the cost of shipment for 300 miles. The cost of shipment is determined by reference to a table which the directors of the Exchange feel sets forth reasonably competitive rates per mile for a minimum load of 42,000 pounds gross weight.

The rule requiring that all NCE prices be quoted f.o.b. Green Bay (a) results in price uniformity, which facilitates price coordination¹⁸ and (b) hampers participation in trading by west and east coast cheese companies, thereby reducing the number of traders by raising artificial barriers to trading. The corporate counsel for a large west coast cheese company criticized the NCE on two counts:

- Trading is so thin, that the industry widely suspects the price is manipulated by big players.
- A seller at Green Bay must offer delivery wherever the buyer wishes, with certain adjustments for freight. Example: If we want to sell our surplus cheese at a “Green Bay” price of \$1.35, the buyer pays us only \$1.31 or so (they deduct a freight allowance, reflecting the distance our producing plant is from Green Bay). But the buyer can elect to take delivery here, and profitably sell it for \$1.32 or \$1.33, and still make a penny or two selling “under Green Bay,” while undercutting our local market. The NCE rules create an arbitrage opportunity! *All*

¹⁷ See Arquit, *supra* note 11, p. 11; Clark *supra* note 11, pp. 907-930; U. S. Department of Justice, *supra* note 11, section 2.12.

¹⁸ Arquit, *supra* note 11, p. 11; Clark *supra*, note 11, pp. 942-951; Marks, *supra* note 11, p. 408; U.S. Department of Justice *supra* note 11, section 2.1.

sellers in the west and northeast face this potential arbitrage problem, and so do not sell there. As a practical matter, the "National" cheese exchange is only a regional one.
(Emphasis added)

Hence, not only does this rule pose the anticompetitive problems associated with single-market basing point systems, but it excludes some distant cheese companies, especially those in the west, from using the NCE.¹⁹

This trading rule was adopted and enforced by the President and Board of Directors of the NCE, and its restrictive features did not have a legitimate business justification. Indeed, when a futures contract was developed for cheese in 1993, the proposed contract initially specified delivery in Green Bay. This was subsequently changed to permit delivery anywhere in the U.S.²⁰

3. *Conduct Against Individual Self-Interest*

According to Marks, "The most frequently cited plus factor is conduct contrary to the self-interest of each firm acting independently."²¹ Such conduct is evidence of an intent to manipulate price, and persistent conduct against self-interest implies that the strategy has proven successful.

Applied here, such conduct refers to actions by firms to sell (buy) some of their product in one market in a way that depresses (increases) the price in another market where the firms buy (sell) practically all their product. Perhaps the leading historic example of such trading conduct occurred in *Socony*, where the major oil companies used the spot market price of gasoline to

¹⁹ Based on trading activity records, during 1988-1993 only 24 loads of cheese (1.1 percent of total NCE sales) were sold by cheese companies located on the west coast. About 20 percent of all cheese is manufactured on the west coast.

²⁰ Following the release of the *Cheese Pricing Report* in March 1996, the Board of Directors of the NCE modified the delivery rule with the sentence: "In no event shall the deduction for the freight differential exceed the actual cost of shipment." The no freight distance from Green Bay was also increased from 200 to 300 miles *NCE Rules Regulating Trading*, July, 1996.

²¹ See Marks, note 11 p. 405. Also see Baker, *supra* note 11, p. 177; Kovacic, *supra* note 11, p. 38.

formula-price gasoline they sold to jobbers.²² By buying a small amount of gasoline in the spot market, the major oil companies were able to raise gasoline spot prices, thereby raising prices the oil companies received for their sales to jobbers throughout the Midwest.

Kraft was an exclusive seller-trader on the NCE during the 1988-1993 period (Report, Table 4.2).²³ The rationale for such trading is obvious: Brand-name cheese marketers that are net buyers of bulk cheese under long-term contracts formula priced on the NCE benefit from lower bulk cheese prices (Report, pp. 55, 64, 162-63).

According to Kraft's own calculations, it persistently incurred losses or lower profits for cheese sold on the NCE than for cheese sold in the spot market and to the government (CCC) when price supports were operative (Report, Chapter 4, pp. 67-73). This evidence suggests trading against self-interest, because a profit-seeking firm maximizing returns on spot sales would not persistently accept lower returns on NCE sales than for spot sales unless doing so enhanced overall profits by reducing the cost of contract cheese bought off the NCE. There also is evidence that Kraft received higher *prices* on sales made contemporaneously in the spot market and to the CCC than on sales made on the NCE, as well as evidence that Kraft sold on the NCE when it could have sold in the spot market.²⁴

²² *United States v Socony*, 310 U. S. 150 (1940).

²³ See *supra* note 6. Kraft became an exclusive seller-trader after cheese prices rose above the price support level in August 1986 (Chapter 5, Appendix 5.A.) and has remained so to date.

²⁴ During April and through May 10, 1991, when NCE prices were below the CCC support price, Kraft sold 75 loads on the NCE, 73 loads in the spot market, and 61 loads to the CCC. Whereas Kraft calculated that it enjoyed "gains" of 1.9 cents per pound on spot sales and 1.1 cents per pound on CCC sales, it reported "losses" of 1.7 cents per pound on NCE sales. Report, pp. 153-154. For a discussion of our response to Kraft's explanation of these facts, see W. F. Mueller and Bruce W. Marion, "Responses to Hearing Testimony," Food System Research Group, Department of Agricultural & Applied Economics, 1996, pp. 10-18.

For an explicit example of Kraft selling on the NCE when it had opportunities to sell in the spot market, see report, Chapter 4, at note 74. Also see Report, Chapter 6 at note 58, quoting a purchasing director of a competitor, Schreiber Foods, Inc., that although Kraft had sold 10 spot loads to Schreiber, Kraft's purchasing director had "wanted to have some trading inventory." (The source of this statement was made public subsequent to the release of the Report

Beginning in 1990, Borden and Alpine Lace²⁵ joined Kraft in shaping the pattern of NCE prices. Although Kraft usually made the first move in topping NCE prices, Borden and Alpine Lace typically were quick to join Kraft in selling. And once a downward price trend was established, Borden and Alpine Lace often maintained the trend, with Kraft remaining on the sidelines. The apparent end result was a pattern reflecting interdependent coordination of prices among the three firms.

Assuming Kraft acted unilaterally when it first began systematic trading against interest in July 1987 by becoming exclusively a seller-trader, it is questionable that Borden and Alpine Lace acted unilaterally when they joined Kraft by becoming predominantly seller-traders beginning in 1990 (Report Tables 4.2). By 1990 Borden and Alpine Lace likely realized that Kraft was prepared, at times, to sell large amounts on the NCE at a loss if necessary. This created profit opportunities for Borden and Alpine Lace had they acted independently: Rather than buy cheese in the spot market, where prices generally were above NCE prices (Report, Appendix Table 4.4), they could have bought from Kraft on the NCE. But they did not exploit this profit opportunity. Instead, they relied on the spot market to the virtual exclusion of the NCE for their spot (non-contract) needs. For example, although Borden bought over 30 percent of its total bulk cheese

in March 1996.) On another occasion internal reports of a company reported: "It appears that Kraft is continuing to over commit [for bulk cheese] for both blocks and barrels so that they are in a position to cover commercial orders *as well as influence and trade on the Exchange.*" Report, Chapter 6 at note 56, emphasis added. We also disagree with Kraft's contention that it had legitimate business purposes for accepting lower returns on NCE sales than on the spot market because it treats the NCE as a "market of last resort" (Report, pp. 66-67).

²⁵ Both Borden and Alpine Lace, like Kraft, sell their finished cheese products under their brands at prices not tied to the NCE; they buy virtually all their bulk cheese needs at prices tied to the NCE. As a result, as explained by Borden's vice president-general manager for Refrigerated Products, "Borden...and most branded people, like Kraft, would like to see [a] lower cheese market. That will give us the best...profit opportunities." Such opportunities occur, he explained, because Kraft and Borden sell finished products to the trade at list prices. Report, chapter 4, note 35. The omitted reference to "like Kraft" was made public by DATCP after the Report was made public.

needs in the spot market (Report, Chapter 4, note 33), including some purchases from Kraft,²⁶ beginning in 1990 it bought virtually no cheese on the NCE (Report, Table 4.2).²⁷

In sum, Kraft, Borden and Alpine Lace apparently engaged in persistent trading contrary to the self-interests of each acting independently. This supports the inference that their parallel trading conduct may have been the result of a tacit or explicit agreement.²⁸

4. Price Signaling

Price coordination is enhanced when a firm can readily *signal* to rivals its intentions or views regarding current or future prices.²⁹ Such conduct may represent more than independent coordination of prices: it may constitute an invitation to reach an agreement on prices, which if acted upon by others benefiting therefrom constitutes acceptance of the agreement.

Seasonal variation in overall supply and demand for cheese necessitates a cyclical pattern of prices over a year. Together with Borden and Alpine Lace, Kraft at times appeared to shape the pattern of prices over such cycles (Report, Chapter 5). In the process, Kraft sent various explicit and implicit signals to other traders. Kraft generally sold heavily at price tops, until triggering a price decline, and then sold heavily to maintain price bottoms. Then, during the upward phase of a cycle as leading buyer-traders were bidding up prices, Kraft sent *explicit*

²⁶ In 1991, Borden bought 19 loads from Kraft in the spot market. Borden, Inc., "Comparative Analysis summary of Receipts by Vendor for Bulk Cheese." Borden response to DATCP Demand for Production of Documents. These documents were made public in 1996.

²⁷ Borden bought only 4 loads on the NCE during 1989-1993, whereas during 1988 it had bought 30 loads and sold only 2 loads. During 1990-1993 Alpine Lace *bought* only three loads, whereas it sold 130 loads. Report p. 56. Alpine Lace did not trade on the NCE before 1990.

²⁸ Beginning in 1988-1989, the three leading agricultural cooperatives also apparently engaged in trading against interest, as they became predominantly buyers on the NCE in an apparent effort to countervail the three leading seller-traders (Report, Tables 4.1 and 4.2). Their trading appeared to be less coordinated and for various reasons these efforts apparently did not prevent the seller-traders from having a negative impact on NCE prices (Report at 201-204).

²⁹ See Clark, *supra* note 11, p. 919.

signals indicating either its approval or disapproval of the timing and pace of the rise. For example, an internal company memorandum of a leading buyer-trader interpreted the submission of a bid by Kraft during a period of rising prices as follows: “A significant event occurred today. When the block market was bid to \$1.27, Kraft entered a bid for four cars of blocks at \$1.27 and 5 cars of barrels at \$1.24/pound....*Kraft’s message to the industry was that they were not going to sell any blocks or barrels at this point in time*” (Report at 110, 158; emphasis added).

Subsequent trading patterns validated traders’ expectation that Kraft did not object to rising prices: barrel prices increased during the next 10 trading sessions on unfilled bids—as Kraft remained silent on the sidelines.

Kraft also at times sent signals implying that it objected to the pace of a price rise. For example, an internal memorandum made the following observations regarding the apparent purpose of Kraft’s selling into a rising market: “...Kraft seems to be taking the position that they will sell to prevent a panic market run up but will not stop an orderly market rise” (Report at 111, 155). On another occasion this trader observed: “Kraft selective selling continues to moderate the upward movement.” Subsequent events indicate that Kraft’s periodic sales had the effect of moderating the upward price trend (*Id.*).

Kraft’s various signaling conduct appeared to have the purpose and effect of communicating its view of appropriate future prices. Such signaling aided in coordinating activity between Kraft and its two fellow seller-traders, Borden and Alpine Lace, as well as signaling its intentions to leading buyer-traders.

5. *The Opportunity to Exchange and the Actual Exchange of Information Regarding Expected Prices and Other Market Conditions*

Here we are concerned with evidence indicating that “rivals had the opportunity for direct communication, or that they in fact communicated directly” regarding factors affecting future prices.³⁰ Such conduct supports an inference of potential or actual collusion.

Cheese companies have frequent opportunities to discuss market conditions with one another, and at times such discussions may involve rather detailed exchanges of information. For example, in November 1989, an employee of Schreiber Foods, Inc., “polled” nine “major companies,” including Kraft and Borden, regarding expected market conditions in 1990.³¹ Based on this poll, an internal memorandum to be discussed at “the President’s staff meeting,” included two “market scenarios” of projected monthly prices for 1990. The memorandum also reported each company’s estimate of the lowest expected NCE price for 1990. In addition, a “consensus scenario,” obtained from “all contacts,” included information regarding expected supply, costs, dry milk powder prices, and milk production.

Cheese companies periodically discuss with one another various market conditions. For example, the purchasing director of a large company explained that he generally developed market information by “Getting an understanding of what others are thinking[,] I would determine what their thinking was [by calling them and asking:] How is your milk supply at this point? How do solids look? What do you expect for the next three or six months and what do you expect to happen in the markets?” (Report, Chapter 6, note 2).

³⁰ Baker, *supra* note 11 at 176. Also see Kovacic, *supra* note 11, pp. 45-48.

³¹ Report at Chapter 6, note 2. The source of this statement was made public since the Report was released.

Traders have many opportunities to exchange market information in the normal course of business. Cheese marketers necessarily discuss various matters with their committed suppliers, which also often are their competitors in selling to food retailers and foodservice outlets. Some persons have characterized the handful of companies that dominate trading on the NCE as an "old boys club," although when interviewed traders typically averred that they always avoided discussing sensitive market matters when they met for trading on the NCE.³² However, they have many other opportunities to do so. For example, the bulk procurement manager for Land O' Lakes, Inc., explained the nature of his contacts with other cheese companies in an interview with the Wisconsin Department of Justice. Mr. Peterson reportedly said,

...during 1987 the majority of Land O' Lakes' bulk cheese sales were to Kraft. Mr. Peterson informed that these cheese transactions were negotiated either by telephone or over dinner on a Thursday night [prior to NCE Friday trading sessions] in Green Bay, Wisconsin. Mr. Peterson clarified that the majority of the negotiations were handled by telephone and that the negotiations over dinner occurred only three or four times during the last year.

Mr. Peterson informed that the price arrived at during these negotiations was tied to the market opinion of the National Cheese Exchange. He explained that these contracts to sell cheese to Kraft varied from a short term contract of two weeks to a one year contract....Mr. Peterson further related that the majority of cheese sold to Kraft by Land O' Lakes was sold outside of the National Cheese Exchange. (Report at 81)

Although in 1987 Land O' Lakes was a supplier of Kraft, it also was a significant competitor of Kraft for cheese sold to retailers under the Land O' Lakes brand.

Internal company documents imply that communications do occur among traders before NCE trading sessions. For example, on January 5, 1990, a leading cheese company apparently expected Kraft to initiate a price decline: "One source reported that Kraft might try to work on the barrel market today" (Report at 141). On September 19, 1991, Schreiber's Eastern Division

³² See Wisconsin Department of Justice, "National Cheese Exchange Investigation," November 1987-March 1988, interviews of NCE traders in 1987-1988.

Purchasing Director informed Schreiber's Vice President-Purchasing that "Wayne [Wayne Hangartner, Kraft's Director of Cheese Procurement and Inventory] believed that they will have more available in future weeks and that they don't want to carry more than they need for their own requirements[;] however, *he wanted to have some trading inventory*" (Report at 156; emphasis added).³³ The latter statement, in effect, informed Schreiber that Kraft was prepared to trade on the NCE, i.e., sell on the NCE if deemed necessary.

The above facts indicate that not only do leading cheese companies have many opportunities to exchange price and nonprice market information but that they also have engaged in the actual exchange of such information.

6. *Performance Evidence Showing Price Manipulation was Successful*

Evidence of poor industry performance in the presence of other "plus factors" suggest the hypothesis that the latter contributed to the former.³⁴ Among the performance conditions indicating adverse competitive consequences are noncompetitive prices and price changes that are not consistent with changes in supply and demand conditions.

There is econometric evidence that trading activity by Kraft, Borden and Alpine Lace at times depressed NCE prices below those explainable by supply and demand conditions (Chapter 5, Section F and Chapter 6). There also is evidence that Kraft and its two fellow seller-traders sometimes caused price changes inconsistent with changes in supply and demand: During 1990-1991,³⁵ Kraft evidently engaged in an especially aggressive short-run profit maximization strategy

³³ The source of this internal memorandum was made public since our Report was released in March 1996.

³⁴ See Marks, *supra* note 11, pp. 405-407.

³⁵ Kraft and Borden were the only traders offering the barrel market down during September-November 1990: Alpine Lace was the most active trader in offering the block market down during the period.

of lowering bulk cheese costs, via lower NCE prices, and raising wholesale prices to retailers. The resulting large increase in Kraft's raw material-wholesale price margins was associated with such a large drop in cheese consumption that the government (CCC) was forced to buy the resulting surplus of bulk cheese.³⁶

IV. Summary and Conclusions Re: Facilitating Practices

Centralization of Trading and Product Standardization—These trading rules facilitate price coordination among traders by bringing them together at a single location to sell a highly standardized product. These rules have a legitimate business purpose because they are essential to organized trading on the NCE, given its current organization and modus operandi. There are, however, alternative trading rules and/or price discovery systems that are less restrictive, as discussed in Section V below.

Transparency of Trading--Current NCE trading rules require posting the identity of the parties responsible for each bid, offer and trade. Such *transparency* of trading activity facilitates tacit collusion by aiding in signaling intentions and in identifying potential price cheaters. This trading rule does not have a legitimate business purpose, and was established by an agreement of the board of directors of the NCE, not by any public authority.³⁷

This rule should be changed. The identify of individual traders should not be disclosed

³⁶ W. F. Mueller, prepared statement for the House Subcommittee on Livestock, Dairy and Poultry, May 15, 1996, pp. 114-116.

³⁷ In discussing express agreements to use facilitating practices, Marks states that "the easiest cases are those in which the presence of concerted action is undisputed." Marks *supra* note 11, p. 411. Also see Kovacic, *supra* note 11, 48-53.

NCE president R. J. Gould and representatives of Borden and Kraft were members of the Board of Directors in all years during 1975-1993. The other directors in 1993 were representatives of Schreiber Foods, Inc., Mid-America Farms, Inc., and two smaller cheese companies, Masters Gallery Foods, Inc., and Hernke Cheese Company. Response of R. J. Gould to a "Demand for sworn statements and production of documents," requested by the Wisconsin Department of Agriculture, Trade and Consumer Protection, June 21, 1993.

during trading sessions. Full public disclosure of trading activity should be made, however, after the close of trading.³⁸ Doing so would serve the public interest by facilitating oversight of trading activity.

Point of Delivery and Freight Differentials--Single price basing point systems facilitate price coordination by quoting identical prices to all traders regardless of location. As the Supreme court put it, basing point systems provide a "handy instrument to bring about elimination of any kind of price competition."³⁹ Coupled with standardization of freight costs, such systems aid in identifying potential price cheating among coordinating traders. Here, such a system also creates entry barriers to trading by cheese companies located in the far west and northeast, thus reducing the number of potential traders. This rule was established by agreement of the NCE's board of directors and does not have a legitimate business justification.

Shortly after our Report was released, the NCE Board of Directors modified this trading rule to provide that freight charges should never exceed actual shipping costs. However, this change does not remove entirely the disincentive for west coast manufacturers to trade on the Exchange. When deciding to sell cheese on the NCE, a west coast firm does not know whether its cheese will be bought by a Midwest buyer—in which case 4 cents per pound would be deducted for freight, or by a west coast company—in which case little would be deducted from

³⁸ The president of the NCE apparently has always denied *public* access to the trading activity reports of the NCE although the reports are prepared by USDA, not the NCE. In 1988, the NCE provided trading activity reports for 1987 to the Wisconsin Department of Justice in connection with investigation of trading. We obtained the NCE trading activity reports examined in the *Cheese Pricing* Report from USDA.

At the December 1996 meeting of the Governor's Task Force on Cheese Pricing, the Kraft representative and the NCE president, Richard Gould, indicated that they believed the Exchange might be willing to try anonymous trading. They did not indicate whether they still objected to public disclosure of trading activity after the close of trading. In an earlier meeting Mr. Gould said the Board of Directors had considered changing the transparency rule but had rejected the idea.

³⁹ *FTC v. Cement Institute*, 333 U. S. 638.713 (1948).

the sale price for freight.

Trading Against Individual Self-Interest—Trading against self-interest is inconsistent with the conduct of a competitive profit-maximizing firm acting independently. When practiced systematically, such conduct may facilitate either unilateral or collusive price manipulation. We believe there is substantial evidence that during 1988-1993 the practice was used at times to manipulate NCE prices.

At the October meeting of the Governor's Task Force on Cheese pricing, a majority of members defeated a recommendation that would have prohibited trading against interest on the NCE. Opponents, including NCE president Gould, argued that the recommendation was unnecessary and impossible to enforce.

Mr. Gould did not mention that the existing NCE By-laws apparently have been used to prohibit the practice for the purpose of manipulating prices, although they appear to have been applied sparingly and selectively. The By-laws of the NCE were applied to reprimand Beatrice Foods for trading against interest in an alleged attempt to manipulate NCE prices. On August 24, 1990, Beatrice covered an outstanding offer of \$1.4325 for two loads of 40-pound blocks whereas the last transaction had been at \$1.4225. President Gould, speaking for the Board, informed Beatrice that "...your company's trading activity was clearly against its economic best interests and could easily be interpreted as an intentional attempt to manipulate the market price for 40-pound block...."⁴⁰

In defending his company's action, the Beatrice president reportedly said that "in his

⁴⁰ R. Gould to Robert Burns, President, Beatrice Foods Cheese Company, September 21, 1990. Another trader told the Board that a Beatrice official had told him that the purpose of covering the higher price was to raise the market price for 40-pound block. R. J. Gould, President of the NCE to Richard Reski, Beatrice Foods Cheese Company, August 27, 1990.

opinion the NCE rules for trading are not clear, contain 'gray areas' and are in need of improvement."⁴¹ To date the Board has not clarified its trading rules in this regard.⁴² We believe public confidence in the NCE would be enhanced if its Board clarified its trading rules in this regard, as Beatrice suggested in 1990. The Board's trading rules should also state explicitly that trading against interest for the purpose of manipulating price for a trader's advantage violates the NCE's By-laws.

Price Signaling—Price signaling informs rivals of a trader's intentions or views regarding appropriate future prices on the NCE, which facilitates price coordination. Such conduct may be viewed as more than independent coordination of prices: it constitutes an invitation to reach an agreement and, if acted upon by others, may constitute acceptance of the offer. The practice does not have a legitimate business justification.

Exchange of Proprietary Market Information--Though not explored in-depth in our Cheese Pricing Report, the report provides some evidence that traders have frequent opportunities to exchange price information and have actually exchanged such information. This evidence suggests that there have been express agreements among traders. Indeed, it may be naïve to believe otherwise. The same few traders have accounted for practically all transactions for over 20 years. It strains credulity that all members of this exclusive "old boys club" have always traded independently of one another. Perhaps some have come to believe the stakes involved are too large to be entrusted to Adam Smith's "invisible hand" of competition.

⁴¹ Minutes of a Special Meeting of the Board of Directors of National Cheese Exchange held August 31, 1990, p. 2.

⁴² Whereas Mr. Gould pursued aggressively this minor alleged attempt to raise the NCE price by one cent per pound, he apparently acted less aggressively when Kraft engaged in a similar practice that he apparently did not bring to the Board's attention. Report, p. 80.

Performance Evidence Implies that Successful Price Manipulation Has Occurred—There is substantial evidence that at times during 1988-1993, Kraft and its two fellow seller-traders, Borden and Alpine Lace, were successful in influencing NCE prices for their benefit. Such evidence in the presence of plus factors suggests that the latter contributed to the former.

Conclusions

Trading on the National Cheese Exchange is concentrated in a few hands and only a tiny amount of cheese is actually traded. But the prices set on the NCE largely determine the price of virtually all bulk cheese and the fluid milk used in making it. These conditions create both the opportunity and incentive to manipulate NCE prices.

The ability to manipulate prices is *facilitated* by several NCE trading rules and business practices. Unless the practices have a legitimate business purpose, when practiced in conjunction with parallel pricing conduct they may constitute what courts and legal-economic authorities call “plus factors” sufficient to find a violation of the antitrust laws.

Viewed in isolation, some facilitating practices present in NCE trading may contribute only marginally to price manipulation. But in combination with other practices, each contributes to a powerful cumulative effect. This performance dictates a multifaceted approach aimed at eliminating all practices facilitating price manipulation.

The NCE appears prepared to make some changes in response to public criticisms. However, it also appears that the NCE will voluntarily make only marginal and cosmetic changes unless compelled to do otherwise.

When a practice has become an integral part of trading activity, leading traders are often reluctant to abandon the practice unless legally compelled to do so. Systematic trading against self-interest for the purposes of market manipulation appears to be such a practice, whether used

unilaterally or collusively. We therefore believe it appropriate that public authorities and private parties affected by the practice examine whether the apparent trading against interest on the NCE violates any existing antitrust law or other regulatory statutes. Also, appropriate legislative oversight bodies should consider examining whether existing laws are adequate to deal with anticompetitive trading against self-interest.

Finally, the adverse competitive effects of several facilitating practices, including those with a legitimate business purpose, could be mitigated by establishing an alternative price discovery system that would serve as a valid reference price for formula-pricing bulk cheese. The essentials of such an alternative are discussed below.

V. Alternatives to the National Cheese Exchange

In considering alternative bases for formula pricing, it is important to keep in mind that existing problems with the NCE are due to a combination of factors: the Exchange is a highly concentrated, thin market, that is highly leveraged in its effect through formula pricing; and various rules and practices are present that facilitate price coordination by tacit agreement. So long as these conditions exist, the NCE serves to facilitate non-competitive behavior. Any alternative basis for formula pricing, to be an improvement, must eliminate or reduce the distorting influence of these problems.

Trading on the NCE is much more concentrated than is cheese manufacturing, cheese converting or cheese marketing. If the industry were to adopt a different price discovery mechanism that encouraged/allowed participation of all members representative of the aggregate market, a more competitive market would evolve. Such a market would be less concentrated and could eliminate most of the facilitating practices discussed above.

1. Price Report for Direct Spot Transactions

Price reports of decentralized spot transactions are used in several commodities as a reference price for formula pricing. This system is clearly feasible in the case of cheese. At the present time, Wisconsin Assembly Point prices are reported weekly. However, these reports are limited to Wisconsin, and their accuracy is not highly regarded by industry members. To replace NCE prices with spot market prices as a basis for formula pricing, the spot market price report would need to be substantially improved.

Such a price report could still encounter thin market problems since the spot market for bulk cheese represents only 5 to 10 percent of total cheese volume, and during tight supply conditions perhaps much less than that. We have not been able to determine the size of the spot market for cheddar cheese which meets NCE standards. We do know, however, that it is significantly larger than the current volume sold on the NCE. Even the largest traders typically trade much more off the NCE than on it, and the great majority of cheese companies rely entirely on contract and spot markets, never trading on the NCE. A report covering spot sales nationally would enlarge the total volume of reported direct transactions, greatly expand the reporting base and better reflect aggregate market conditions. Such an enlarged spot price reporting program would better reflect the overall structure of cheese manufacturing and cheese marketing, which is relatively unconcentrated and therefore less subject to manipulation. Thus, we believe that thin market problems would be fewer and less influential than those of the NCE.

To be useful in formula pricing of bulk cheese, spot prices should be reported weekly and regionally. In order to avoid a thin price reporting problem, it would be essential that the spot market price report be accurate and based on a significant portion of spot transactions. Thus, a

mandatory reporting program similar to those used for some products in California may be required.

2. Electronic Marketing Systems

Spot market trading might be facilitated by the adoption of a remote access electronic market system. Electronic markets have been tried with mixed success in several agricultural commodities. Experience has shown that successful electronic marketing systems reduced marketing costs, increased prices to sellers and lowered costs to buyers, improved pricing efficiency and increased competition.⁴³ The problems of adapting to an electronic market in cheese may be fewer than in most other products where such markets are used or have been tried.

An electronic market system could aid spot trading in several ways. By allowing ready access by companies throughout the country, an electronic exchange would be expected to increase the number of traders and the volume traded. Trading volume could also be increased if the electronic market permitted trading in cheeses not meeting the current NCE age and quality requirements; in addition, the frequency of trading could be increased to several times a week or even daily. Electronic trading could also reduce transaction costs by aiding spot traders in identifying the nearest potential suppliers or buyers.

Part of the benefit of electronic trading is its anonymity, according to empirical analyses of these markets.⁴⁴ In oligopolistic markets, traders are more likely to compete on price if their rivals do not know the parties involved. This is in sharp contrast to NCE conditions where each trader's action is immediately known to others. In markets of few sellers, such transparency of

⁴³ Wayne D. Purcell and T. L. Sporleder, "Will Electronic Markets Continue to Develop?" *National Conference on Electronic Marketing of Livestock*, Chicago, October 4, 1990.

⁴⁴ Shannon R. Hamm, Wayne D. Purcell, and Michael A. Hudson, "A Framework for Analyzing the Impact of Anonymous Bidding on Prices and Price Competition in Computerized Auction," *NCJAE*, 7:2, July 1985, pp. 109-117.

trading tends to *facilitate* market manipulation, not competition.

To succeed, an electronic system must be cost effective. In the 1980s several electronic markets closed because of high fixed costs and low trading volume; however, enormous strides have been made in computer and communication technologies since then. With current technology, an electronic market for cheese might be less costly than the NCE, when all costs are considered. The market could be supported by all industry participants as is done in some California market reporting programs.

Either a national weekly USDA spot price reporting system or an efficient electronic market system (or some combination of these) are alternative potential bases for formula pricing cheese that would significantly change the concentration and thinness problem of the NCE and reduce or eliminate the adverse competitive consequences of most facilitating practices discussed above.

Regardless of the type of price discovery system, we believe the Agricultural Marketing Service (AMS), USDA, should be encouraged to improve information on commercial bulk cheese inventories. Perhaps more than any other piece of information, accurate and timely data on commercial inventories would greatly facilitate efficient price discovery. At present, industry inventory levels which are not widely or accurately known, tend to receive the credit for market movements, or to be cited as evidence that the NCE is behaving irrationally. Accurate inventory data together with the already available accurate data on cheese production would greatly facilitate efficient price discovery.