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Cooperative activities in marketing fluid milk in the Chicago federal order market

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Cooperative Activities in Marketing Fluid Milk in the Chicago Federal Order Market

Ronald E. Deiter, Sheldon W. Williams, and James W. Gruebele

Agriculture and Home Economics Experiment Station
Iowa State University of Science and Technology

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Abstract

This case study investigated operations of cooperative federations in marketing milk in the Chicago regional federal order market in the early and mid-1970s. The Associated Milk Producers Incorporated (AMPI) Agency qualified supply plants of participating firms, provided supplemental milk to processors, and marketed their surplus milk. Central Milk Producers Cooperative (CMPC) negotiated a superpool price for class I milk, advance priced some class II and III milk, levied handling charges, and implemented a variety of marketing programs. Economic consequences of these activities are evaluated.
Cooperative Activities in Marketing Fluid Milk in the Chicago Federal Order Market

by Ronald E. Deiter, Sheldon W. Williams, and James W. Gruebele

Producer cooperatives play a major role in marketing fluid-grade milk in most large markets in the United States. Market services that they provide go far beyond representing producers in price negotiations and in federal order hearings. They may include directing assembly and delivery of the milk, quality control, tailoring supplies to processors' needs and disposing of surplus milk, adapting products and deliveries to processors' specifications, and market development.

This study is concerned with the activities of cooperatives, particularly federations, in marketing milk in the Chicago federal order market, one of the largest in the country. Major objectives of the study are to describe and to make an economic evaluation of those activities and their effects on the market and on the welfare of producers. This study is different from most previous studies in that it analyzes services provided collectively rather than individually by cooperative organizations.

Description of the Market

Area and population

The market in this case study is the Chicago regional federal milk marketing order as defined since Jan. 1, 1969. The marketing area in the order includes the Chicago metropolitan area, the northern tiers of counties in central and western Illinois, and most of eastern and southern Wisconsin (fig. 1). The population of the marketing area was not quite 11.4 million people in 1970. It was estimated to be nearly 11.6 million in 1979 [2, 1978, p. 12].

Milk deliveries

Producer deliveries under the order increased from 7.1 billion pounds in 1969 to 10.2 billion pounds in 1978 [2]. The percentage increase in deliveries exceeded that under all other federal orders, with the result that the Chicago order's receipts constitute 13 percent of the total for all orders in 1978 as compared with not quite 12 percent in 1969. In 1976,
receipts from producers in the Chicago federal order market became larger than those in any other federal order market.

Average daily delivery per producer has not expanded as much as the average for all federal order markets. Although it approximated the all-order average in 1969 and 1970, it was only 93 percent as much by 1978. This difference reflected a slight increase in the number of producers delivering milk to Chicago order handlers during this period, while the number of producers in all federal order markets declined by 17 percent.

Producers in Wisconsin were the source of 90 percent of all producer deliveries in 1969 and more than 92 percent since 1975 (table 1). Practically all the increase in producer receipts in the market between 1969 and 1978, approximately 3.1 billion pounds, was from Wisconsin producers. A substantial part of the increased deliveries by Wisconsin producers resulted from conversion from the production of manufacturing grade milk to the production of milk meeting health department standards for fluid use.

In addition, large quantities of Wisconsin milk are potentially available in the Chicago order market. In fact, about 25 percent of Wisconsin’s fluid-grade milk is sold to other markets. Of possibly more importance is the large volume of manufacturing grade milk still being marketed in Wisconsin. Although declining in the early 1970s as producers converted to the production of fluid-grade milk, the quantity of manufacturing-grade milk sold in Wisconsin leveled out in the mid-1970s and in 1976 was 76 percent of the quantity of Wisconsin milk delivered to plants regulated by the Chicago federal order.

Table 1. Actual and potential supplies of milk from Wisconsin, Chicago federal order market, 1969-76.

<table>
<thead>
<tr>
<th>Year</th>
<th>Receipts from Wisconsin producers, Other Chicago federal order</th>
<th>Wisconsin fluid grade milk</th>
<th>Wisconsin manufacturing grade milk</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Quantity, mil. lb.</td>
<td>Percent of total</td>
<td>mil. lb.</td>
</tr>
<tr>
<td>1969</td>
<td>6,410</td>
<td>90.0</td>
<td>2,503</td>
</tr>
<tr>
<td>1970</td>
<td>6,922</td>
<td>91.0</td>
<td>2,745</td>
</tr>
<tr>
<td>1971</td>
<td>7,297</td>
<td>90.9</td>
<td>2,954</td>
</tr>
<tr>
<td>1972</td>
<td>7,565</td>
<td>91.2</td>
<td>3,329</td>
</tr>
<tr>
<td>1973</td>
<td>7,265</td>
<td>91.3</td>
<td>3,272</td>
</tr>
<tr>
<td>1974</td>
<td>7,463</td>
<td>91.6</td>
<td>3,570</td>
</tr>
<tr>
<td>1975</td>
<td>8,167</td>
<td>92.2</td>
<td>3,485</td>
</tr>
<tr>
<td>1976</td>
<td>9,022</td>
<td>92.3</td>
<td>3,851</td>
</tr>
</tbody>
</table>

Sources: [3, 4]

Utilization

Both the quantity and the proportion of producer deliveries in the Chicago regional federal order market used in class I products (fluid milk and cream) decreased between 1969 and 1978 (table 2). The annual quantity of milk used in those products declined by approximately 600 million pounds, or 16 percent. Because receipts were increasing during that period, the proportion used in class I products dropped sharply from 51 percent in 1969 to 30 percent in 1978. This drop was considerably greater than the average for all federal order markets, which, during the same period, declined from 64.3 percent to 52.7 percent.

The milk not used in fluid products is manufactured into a variety of dairy products (table 3). The most important of these uses is cheese, which has absorbed an increasing proportion of the total. A large part of the surplus milk moves directly from the farms, where it is produced, to manufacturing plants in Wisconsin, where it is processed. Nevertheless, the presence in the market of large quantities of surplus milk, together with the need for cooperatives to direct, manufacture, and market it, affects the market-level services provided by cooperative organizations and the bargaining environment.

Table 2. Amount and proportion of producer deliveries used in class I products, Chicago federal order market, and proportion used in class I, all federal order markets, 1969-78.

<table>
<thead>
<tr>
<th>Year</th>
<th>Producer deliveries used in class I products: Chicago federal order market</th>
<th>All markets</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Quantity, mil. lb.</td>
<td>Percent</td>
</tr>
<tr>
<td>1969</td>
<td>3,609</td>
<td>51</td>
</tr>
<tr>
<td>1970</td>
<td>3,455</td>
<td>45</td>
</tr>
<tr>
<td>1971</td>
<td>3,442</td>
<td>43</td>
</tr>
<tr>
<td>1972</td>
<td>3,406</td>
<td>41</td>
</tr>
<tr>
<td>1973</td>
<td>3,341</td>
<td>42</td>
</tr>
<tr>
<td>1974</td>
<td>3,191</td>
<td>39</td>
</tr>
<tr>
<td>1975</td>
<td>3,201</td>
<td>36</td>
</tr>
<tr>
<td>1976</td>
<td>3,115</td>
<td>32</td>
</tr>
<tr>
<td>1977</td>
<td>3,053</td>
<td>30</td>
</tr>
<tr>
<td>1978</td>
<td>3,017</td>
<td>30</td>
</tr>
</tbody>
</table>

Source: [2]

Table 3. Quantities of milk, skim milk, and cream used by pool handlers to produce selected dairy products, Chicago federal order market, 1970-78.*

<table>
<thead>
<tr>
<th>Year</th>
<th>Cheese</th>
<th>Butter</th>
<th>Nonfat dry milk</th>
<th>Other products</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>million pounds</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1970</td>
<td>1,747</td>
<td>146</td>
<td>674</td>
<td>1,634</td>
<td>4,201</td>
</tr>
<tr>
<td>1971</td>
<td>2,046</td>
<td>163</td>
<td>756</td>
<td>1,799</td>
<td>4,764</td>
</tr>
<tr>
<td>1972</td>
<td>2,324</td>
<td>170</td>
<td>801</td>
<td>1,782</td>
<td>5,077</td>
</tr>
<tr>
<td>1973</td>
<td>2,403</td>
<td>149</td>
<td>655</td>
<td>1,665</td>
<td>4,872</td>
</tr>
<tr>
<td>1974</td>
<td>3,093</td>
<td>125</td>
<td>431</td>
<td>1,581</td>
<td>5,230</td>
</tr>
<tr>
<td>1975</td>
<td>3,902</td>
<td>99</td>
<td>446</td>
<td>1,476</td>
<td>5,923</td>
</tr>
<tr>
<td>1976</td>
<td>4,527</td>
<td>138</td>
<td>904</td>
<td>1,399</td>
<td>6,968</td>
</tr>
<tr>
<td>1977</td>
<td>4,733</td>
<td>159</td>
<td>792</td>
<td>1,734</td>
<td>7,418</td>
</tr>
<tr>
<td>1978*</td>
<td>5,362</td>
<td>145</td>
<td>653</td>
<td>1,654</td>
<td>7,814</td>
</tr>
</tbody>
</table>

Source: [2]

*Data not available for 1969.

*Condensed and evaporated milk, whole milk powder, frozen desserts, cottage cheese, and miscellaneous other products.

*Preliminary.
Implications

The extremely large proportion of excess milk on the Chicago regional federal order market has important implications for the bargaining activities of cooperatives in that market and for the dairy industry in general. While the proportion of class I utilization has been declining in many federal order markets, the decline has been much sharper in Chicago than on the average for all markets (table 2). By 1978, the proportion of class I utilization in Chicago was only 57 percent as large as the average for all federal order markets and was below that on all others except the Upper Midwest order.

An important factor in the increase in producer receipts, which has been the major cause of the decline in class I utilization, was that the differential between the class I price and the price paid for milk used in manufactured dairy products exceeded the differential required to obtain needed supplies of fluid milk [5, pp. 214-222]. This same factor presumably also contributed to the decline in sales of fluid milk products during that period, which, on a per capita basis, evidently exceeded the rate of decline in the national average [6]. Above-order premiums, which exceeded costs of providing market-level services, also were obtained in the Chicago market during this period and may have accentuated the effects of the higher than necessary class I differential [5, pp. 216-218].

Bargaining activities of cooperatives in the Chicago market must be carried out in the light of these adverse effects on the percentage of class I utilization brought about, in part, because of high prices to dealers for milk used in fluid products. This is especially important because of the large quantity of manufacturing-grade milk still being produced in Wisconsin. Much of that milk is potentially available for the Chicago market if the difference between the class I price, including premiums, and the price for manufacturing-grade milk continues at or above recent levels.

As one example of the dimensions of the problem, Graf and Jacobson estimated that an additional 1.05 billion pounds of milk pooled on the Chicago market in 1970 would have reduced the blend price by 7 cents per hundredweight [7, pp. 7-9]. To have maintained the blend price with this increase in receipts, cooperatives would have had to obtain from handlers an additional 17 cents per hundredweight for class I milk, without any reduction in class I sales, while holding class II prices constant. Indeed, a higher price for milk going into fluid use would be expected further to stimulate receipts from producers and to depress sales of fluid milk products, placing cooperatives in a very difficult position. To bargain intelligently, cooperative management needs clearly to understand the price limitations facing them and to take into account other factors, such as pooling requirements, that also may affect the conversion of manufacturing-grade milk to fluid grade.

Cooperative marketing and bargaining activities in the Chicago market are further complicated by differences in goals among cooperative suppliers. Bargaining cooperatives (those processing less than 10 percent of total receipts) and, in some measure, combination cooperatives (those processing between 10 and 90 percent of total receipts) are primarily concerned with the market for fluid milk. Bargaining cooperatives, in particular, consider their members' interests best served by disposing of as large a share of their milk as possible to fluid milk processors.

On the other hand, many operating cooperatives (those processing more than 90 percent of total receipts) in the Chicago milk supply area wish to participate in the fluid milk market while using as much of their milk as possible to manufacture dairy products. To be price competitive, these plants' want pool status. This provides them with equalization payments from the producer settlement fund, which enables them to pay producers a price above the prevailing price for manufacturing-grade milk. At the same time, it is in their interest to minimize the quantity of milk that they ship to fluid milk plants. The reason for this is that their average processing cost per hundredweight is lowest when their plants are operating at or near capacity; unit costs increase and profits from their manufacturing operations decline when milk is shipped to fluid milk processors. Having this dual set of objectives, operating cooperatives want the overhead federation that coordinates cooperative supply programs to assure them of pool plant qualification while minimizing the amount of milk that they ship to fluid milk plants.

Moreover, the distribution of population and of milk production within the Chicago federal order marketing area results in logistic problems with which the federation of cooperatives must cope. Nearly two-thirds of the population of the marketing area is in Illinois, mainly in the Chicago metropolitan area, and most of the Wisconsin consumers are in the southeastern part of the state. On the other hand, with the increase in pool receipts, the supply area has been expanding farther and farther into Wisconsin. For fluid milk processors this increase in average distance is reducing the proportion of receipts shipped directly from producers' farms and increasing the proportion received from supply plants.

If it were not for pool plant requirements, with large excess supplies, pooled milk in the outer zones of the milkshed logically would be manufactured, and that in the inner zones delivered to fluid milk processors. Pool plant requirements necessitate some departure from that economizing principle. Nevertheless, within the limitations of federal order regulations and its control of the movement of the milk, the cooperative federation would be expected to supply fluid milk plants from the nearest sources to the fullest extent feasible.

Coordinating the supplying of milk to fluid milk processors has been made more complex by the pronounced within-week fluctuations in processing that characterize the sale of a large share of the milk through food stores and 5-day-per-week processing plant operations. Cooperatives presumably can en-
hance their bargaining power with processors by assisting in timing the delivery of their milk supplies to meet these daily variations in their needs.

Cooperatives serving the Chicago regional federal milk marketing order operate in a market that now receives approximately one-twelfth of all milk produced in the United States. Because of the magnitude of the market, actions taken there may affect milk producers, dealers, and consumers, not only in that market, but also in other parts of the country.

Cooperatives in the Chicago Order Marketing Area

Importance

Cooperatives have dominated the marketing of milk in the Chicago regional federal order market since the order became effective in 1968. During the years 1971 through 1975, some 97 or 98 percent of the producers were cooperative members and also 97 to 98 percent of the milk receipts were from cooperative members, with those proportions increasing very gradually over time (table 4). In December 1975, slightly more than one-fifth of the milk from cooperative producers was from members of bargaining cooperatives that had no handling facilities. About half the rest was from members of operating cooperatives that received, in their own facilities, all the milk from their producers, and half was from producers of combination-type cooperatives that had facilities that received part, but not all, of their members’ milk. Between 1969 and 1975, the proportion of the cooperative milk received by bargaining associations increased while the proportion received by combination-type cooperatives decreased.

In August 1979, cooperatives operated 9 percent of the fluid milk processing plants and 41 percent of the supply plants regulated by the order. In November 1975, 47 percent of the milk from producers was received by cooperative plants while slightly more than half of the milk from members of cooperatives was delivered to plants operated by proprietary firms (fig. 2). An estimated 38 percent of the receipts at cooperative plants was delivered to fluid milk processing plants, largely of proprietary handlers. In this way, supply-plant shipments from cooperatives to noncooperative fluid milk processing plants provided somewhat more than one-third of the milk delivered to those plants. A little more than half of the other milk delivered to those plants was shipments from noncooperative supply plants, and a little less than half was direct shipments from producers. It is possible that a comparatively large proportion of the noncooperative milk may have moved directly to proprietary handlers’ plants. Nevertheless, with 98 percent of the market’s receipts from cooperative producers, one may conclude that the avenues by which cooperative producer milk reached fluid milk handlers were of the approximate relative importance indicated by these data.

Federations

The services involved in marketing cooperatives’ milk in the Chicago federal order market are largely performed by federations. The largest of these is the Central Milk Producers’ Cooperative (CMPC). This is the head organization; all cooperatives in the market that belong to any federation are members of CMPC. In August 1975, 15 of the 30 cooperatives whose members delivered milk to plants regulated under the order belonged to CMPC. These 15 included all the larger cooperatives; their members marketed 95 percent of Chicago order receipts during that month. The CMPC members included 5 bargaining and 10 operating or combination-type cooperatives. In serving them, CMPC has been described as “a joint effort by dairymen working through their cooperatives to achieve marketing efficiencies, carry on marketing and dairy products promotion programs, and increase returns to milk producers”[9].

CMPC activities include (1) determining advance pricing policies, (2) establishing handling or service charges, and (3) implementing various marketing programs or services. These activities are intended to improve the terms of trade for CMPC-affiliated dairy farmers.

CMPC announces prices to be paid by processors

Table 4. Cooperative producers and milk deliveries on the Chicago regional federal milk marketing order, December, 1969-75.

<table>
<thead>
<tr>
<th>Year</th>
<th>Number</th>
<th>Percent of total</th>
<th>Cooperatives</th>
<th>Quantity, million pounds</th>
<th>Percent of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1969</td>
<td>16,057</td>
<td>97.5</td>
<td>579.6</td>
<td>97.4</td>
<td></td>
</tr>
<tr>
<td>1970</td>
<td>16,160</td>
<td>95.3</td>
<td>599.1</td>
<td>94.9</td>
<td></td>
</tr>
<tr>
<td>1971</td>
<td>16,227</td>
<td>97.4</td>
<td>620.4</td>
<td>97.3</td>
<td></td>
</tr>
<tr>
<td>1972</td>
<td>16,417</td>
<td>97.2</td>
<td>624.8</td>
<td>97.3</td>
<td></td>
</tr>
<tr>
<td>1973</td>
<td>16,847</td>
<td>97.9</td>
<td>612.0</td>
<td>98.2</td>
<td></td>
</tr>
<tr>
<td>1974</td>
<td>16,676</td>
<td>98.1</td>
<td>662.6</td>
<td>98.3</td>
<td></td>
</tr>
<tr>
<td>1975</td>
<td>17,380</td>
<td>98.0</td>
<td>734.0</td>
<td>98.1</td>
<td></td>
</tr>
</tbody>
</table>

Source: [8]

*a May not total exactly to 100 because of rounding.
*b Cooperatives that did not receive any of their members’ milk.
*c Cooperatives that received part, but not all, of their members’ milk.
*d Cooperatives that received all of their members’ milk.
Estimated by assuming that distributing plants used 90 percent of deliveries to them in Class I.

Estimated by subtracting direct shipments to cooperative plants from the total quantity of milk delivered to cooperative distributing plants.

Estimated by subtracting direct shipments to cooperative plants and supply plant shipments to cooperative plants from total cooperative receipts delivered to distributing plants.

Estimated by subtracting direct shipments to noncooperative plants and cooperative supply plant shipments to noncooperative plants from the total quantity of milk delivered to noncooperative distributing plants.

Estimated by assuming that the ratio of cooperative (noncooperative) distributing plant deliveries to all distributing plant deliveries was the same as the ratio of the number of cooperative (noncooperative) distributing plants to the number of all distributing plants.

Fig. 2. Disposition of regulated milk receipts at cooperative and noncooperative plants by class, and estimated deliveries to distributing plants by type of shipment, Chicago regional federal milk marketing order, November 1975 (data are in million pounds). Source: [18].
posing of surplus milk as it becomes necessary to do so. In contrast to these physical functions performed by the AMPI Agency, the main activities of CMPC are bargaining and financial in character.

A third organization is the Lakeshore Federated Dairy Cooperative, which operates outside the Chicago metropolitan area. It is a federation of three bargaining cooperatives with no processing facilities and is designed to facilitate pool qualification by its members. These bargaining associations assemble and direct the sale of their producers' milk through reload stations to handlers in Rockford, Milwaukee, Manitowoc, and Sheboygan.

The Association of Operating Cooperatives (AOC) is a discussion group of six Wisconsin operating cooperatives, which meet to consider marketing developments of mutual interest. AOC members do not act or express themselves as a group, although the organization might serve to reduce the risk to its members of getting pooled under the order if something were to happen to the AMPI Agency.

A fifth federation is Chicagoland Dairy Sales, Inc. (CDSI). It was formed by four Wisconsin operating cooperatives to enable them to qualify for the pool with minimum shipments of class I milk to handlers. CDSI cooperatives are members of CMPC, CMSA, and AOC. CDSI lessens the risk to its members of not getting qualified on the Chicago order.

All these cooperative organizations can be viewed as bargaining tools used by dairy farmers to negotiate collectively with fluid milk buyers. The organization of federations increases seller concentration and enables member cooperatives to work together to enhance returns to producers rather than to operate as competing sellers.

Activities of the AMPI Agency

The three major functions of the AMPI Agency are (1) qualifying affiliated supply plants, (2) providing supplementary milk supplies to fluid milk handlers, and (3) disposing of surplus milk in the market. They will be considered in that order.

Qualifying supply plants

In the Chicago federal order market, supply plants seek to become pooled because the benefits of
sharing in returns from class I sales through the producer settlement fund usually outweigh the costs of qualifying for the pool. The performance standards these plants must meet are designed to ensure that they are legitimately involved in serving the fluid milk needs of the market. Those provisions are intended to be sufficiently stringent to ensure that plants meeting them will share in the responsibility for providing enough milk to meet the needs of the market. One indication of this is that pooled supply plants are required to ship a larger percentage of their receipts to distributing plants during the season of low milk production than during the rest of the year.

Qualification Requirements. Distributing plants are regulated if they market specified minimum proportions of their grade A receipts in fluid milk products in the marketing area.

During 1975-76, a distributing plant in the Chicago regional order market was regulated if not less than 45 percent of its grade A receipts in September-December, 35 percent in January-March and in August, and 30 percent in all other months were used in fluid milk products. In addition, to be regulated by the Chicago regional order, at least 10 percent of the plant's output of fluid milk products must have been distributed on sales routes within the area regulated by the order.

During 1975-76, the qualification requirements for regulated supply plants on the Chicago regional order specified that those plants had to ship to regulated distributing plants at least 30 percent of their grade A receipts in September, 35 percent in October and November, 25 percent in December, and 20 percent in all other months. Supply plants in the market were automatically qualified during the period April-July if they met qualification provisions for the preceding August-March. Under certain circumstances, the Director of the Dairy Division, USDA, is authorized to adjust requirements stated in the order up or down by up to 10 percentage points, depending on supply and demand conditions in the market.

Qualification provisions for the Chicago order enable certain supply plants to qualify as a unit. Under this arrangement, a particular supply plant may be qualified by shipping approximately half the milk otherwise required, provided the supply plants in the unit, as a group, meet the shipping requirements specified in the preceding paragraph. Supply plants of one or more cooperatives may be included in a unit, but supply plants of proprietary handlers may be included to make a unit only if all the plants included are owned by one handler.

The unit-qualification rule increases the bargaining power of dairy cooperatives because it encourages them to market their milk collectively rather than to compete on an individual basis. This not only promotes organizational unity among cooperatives but also, by increasing seller concentration, gives fluid milk processors fewer choices as to where they may buy milk. On this market, the unit-qualification rule also encourages proprietary supply plants to market their milk through the AMPI Agency, which guarantees them pool status. This results because the unit rule may enable cooperatives to become pooled at lower cost than proprietary firms, thus making it more difficult for proprietary firms to compete with cooperatives for pool status.

Meeting performance standards requires more than willingness to ship the specified proportion of the plant's milk. It also requires finding one or more buyers for the milk. The AMPI Agency meets the latter requirement, guaranteeing its supply plants pool status. In contracting to do this, the AMPI Agency has authority, if needed, to take all milk received by its supply plants (except for milk committed by those supply plants to processors not serviced by the Agency) to meet the needs of fluid milk dealers. This arrangement provides the Agency with the flexibility needed to operate effectively.

AMPI Agency Operations. Between 1969 and 1975, the number of supply plants pooled on the Chicago order by the AMPI Agency increased 90 percent, and the quantity of milk increased 39 percent (table 5). The largest relative increases were in numbers of plants and receipts of AMPI itself, although numbers and receipts of proprietary supply plants marketing milk through the Agency also increased sharply.

This information was obtained primarily from [10].
In August 1975, the AMPI Agency plants were 47 percent of the supply plants pooled on the Chicago order and received 49 percent of all milk regulated by the order. AMPI's own plants received approximately one-fifth of the AMPI Agency milk, while other cooperatives and proprietary plants received approximately three-fifths and one-fifth, respectively. Because the number of plants in each of the three categories was about the same, average volume of plants of the other cooperatives was more than two and one-half times that of either the AMPI plants or the proprietary plants.

During October 1975, AMPI Agency supply plants shipped 42 percent of their regulated receipts to fluid milk processors, a proportion exceeding the 35 percent required by the order (table 6). The percentages were 43 for plants of cooperatives and 37 percent for plants of proprietary handlers. To encourage continuing affiliation, the Agency attempts to equalize the shipping percentages of the various plants it services.

For several reasons differences among plants in the percentage of regulated receipts shipped to fluid milk processors remain. One factor is the differences in inspection restrictions. Because AMPI Agency sales are concentrated in the Chicago metropolitan area, which requires Chicago-inspected milk, supply plants with that inspection may have to ship larger percentages of their milk than plants with state inspection. Likewise, receiving stations, which have no processing facilities and little storage, may be asked to ship a larger proportion of their milk than manufacturing plants. In October 1975, for example, receiving stations received 27 percent of the Agency's regulated milk, but provided 40 percent of that shipped to fluid processors, while approximately the reverse was true of cheese plants. The shipping percentage may be somewhat lower from more distant points.

Usually the AMPI Agency will call for some milk from a supply plant on about five of every six or seven days if the plant needs to ship 15 percent of its receipts to qualify. If the plant was not shipping under the unit rule, its required shipping percentage would be approximately twice as large, and milk would be called for in larger quantity and perhaps more frequently. When sales are light at the beginning of the month, the Agency keeps a close record of the supply plants' receipts to be certain that it ships enough milk that month to qualify.

The AMPI Agency has enabled member plants that qualified during the other months to benefit from the lack of a shipping requirement during the months of April through July. In May 1975, 30 of the 63 Agency plants shipped 15 percent or less of their regulated receipts to fluid milk processors, with 11 manufacturing plants and 1 other plant making no shipments.

Economic Effects of Plant Qualification Activities. Aside from the bargaining impacts already discussed, there are several economic consequences of AMPI Agency operations. For one, member plants generally benefit from being pooled on the order. They benefit because suppliers with class I utilization below the market average, such as most manufacturing plants, receive payments from the producer settlement fund equal to the difference between their obligation to the pool and the value of their regulated receipts at the market's blend price. A regulated plant's obligation to the pool is the product of its class I, II, and III sales times the respective class I, II, and III prices.

Supply plants in manufacturing milk areas that receive payments from the producer settlement fund gain a pay-price advantage over nonpooled plants. The amount of this advantage is the excess of the blend price in that area over the prevailing competitive market price, namely the grade B price. In 1976, Chicago order blend prices in the various crop reporting districts of Wisconsin exceeded the grade B price by amounts ranging from 36 to 57 cents per hundredweight (table 7). These amounts represented the premiums pooled plants could pay above the prices paid by nonpooled plants if all money received from the

Table 6. Numbers, and size and relative importance in terms of receipts, and shipments to fluid milk processors of various types of AMPI Agency plants, October 1975.

| Character of plant | Number | Average daily receipts per plant (1000 pounds) | Shipments per plant | Proportion of receipts shipped
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Inspection</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chicago</td>
<td>30</td>
<td>279</td>
<td>119</td>
<td>43</td>
</tr>
<tr>
<td>State</td>
<td>32</td>
<td>95</td>
<td>37</td>
<td>39</td>
</tr>
<tr>
<td>Type</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cheese</td>
<td>39</td>
<td>117</td>
<td>34</td>
<td>29</td>
</tr>
<tr>
<td>Receiving station</td>
<td>14</td>
<td>219</td>
<td>137</td>
<td>29</td>
</tr>
<tr>
<td>Butter/powder</td>
<td>9</td>
<td>421</td>
<td>169</td>
<td>40</td>
</tr>
<tr>
<td>or powder</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operatorship</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Noncooperative</td>
<td>20</td>
<td>109</td>
<td>41</td>
<td>37</td>
</tr>
<tr>
<td>Cooperative</td>
<td>42</td>
<td>220</td>
<td>94</td>
<td>43</td>
</tr>
<tr>
<td>All AMPI Agency</td>
<td>62*</td>
<td>184</td>
<td>77</td>
<td>42</td>
</tr>
</tbody>
</table>

Source: [10]

*One of the 63 AMPI Agency plants regulated during August 1975 was depooled during October.
producer settlement fund was paid out to producers. During 1976, and quite possibly in other periods, many Wisconsin cheese manufacturing plants that achieved pool status also benefited by obtaining the milk they used in manufacturing at a price below the competitive price in that locality. Under the order, the class III price that these plants pay for milk used in manufacturing is the Minnesota-Wisconsin (MW) price, which is the average reported price paid for milk by approximately 100 manufacturing plants in Minnesota and Wisconsin. The average MW price in 1976, adjusted to a 3.5 test, was $8.48 per hundredweight. The cost to nonpooled plants for milk for manufacturing is the competitive market price, or grade B price. In 1976, in all crop reporting districts in Wisconsin, the average grade B price exceeded the MW price. The excess ranged from a low of 3 cents per hundredweight in the west central district to a high of 24 cents per hundredweight in the south central district.

The monetary benefit that pooled manufacturing plants received over nonpooled plants was the sum of their pay-price advantage plus the cost advantage they had on milk used in manufacturing. This total equaled the payment the plant received from the producer settlement fund. In 1976, in the various crop reporting districts of Wisconsin, this amount ranged from 49 cents to 68 cents per hundredweight of class III milk. Because this benefit was on milk used in manufacturing, the individual plant's incentive to become pooled varied inversely with its percentage of class I utilization as well as with the difference between the blend and grade B price in that area.

A plant incurs some costs to receive the benefits of being pooled on a federal order. They may include (1) increased manufacturing costs that result from operating at a lower level of capacity when shipping milk to fluid processors; (2) extra handling costs, as when separate processors; (2) extra handling costs, as when separate

<table>
<thead>
<tr>
<th>Crop reporting district</th>
<th>Grade B price</th>
<th>Blend price</th>
<th>Grade B less MW</th>
<th>Blend less grade B</th>
<th>Blend less MW</th>
</tr>
</thead>
<tbody>
<tr>
<td>North central</td>
<td>8.63</td>
<td>9.01</td>
<td>0.15</td>
<td>0.38</td>
<td>0.53</td>
</tr>
<tr>
<td>Northeast</td>
<td>8.60</td>
<td>9.09</td>
<td>0.12</td>
<td>0.49</td>
<td>0.61</td>
</tr>
<tr>
<td>West central</td>
<td>8.51</td>
<td>8.97</td>
<td>0.03</td>
<td>0.46</td>
<td>0.49</td>
</tr>
<tr>
<td>Central</td>
<td>8.54</td>
<td>9.07</td>
<td>0.06</td>
<td>0.53</td>
<td>0.59</td>
</tr>
<tr>
<td>East central</td>
<td>8.71</td>
<td>9.07</td>
<td>0.13</td>
<td>0.36</td>
<td>0.49</td>
</tr>
<tr>
<td>Southwest</td>
<td>8.55</td>
<td>9.12</td>
<td>0.07</td>
<td>0.57</td>
<td>0.64</td>
</tr>
<tr>
<td>South central</td>
<td>8.72</td>
<td>9.12</td>
<td>0.24</td>
<td>0.40</td>
<td>0.64</td>
</tr>
<tr>
<td>Southeast</td>
<td>8.64</td>
<td>9.16</td>
<td>0.16</td>
<td>0.52</td>
<td>0.68</td>
</tr>
</tbody>
</table>

Source: [12]
A All prices are adjusted to milk of 3.5 percent fat.
B The average MW (Minnesota-Wisconsin) price for 3.5 milk in 1976 was $8.48 [2, 1976, p. 75].

The average MW price is an average price paid by Minnesota and Wisconsin plants for milk used in manufacture of cheese or butter and nonfat dry milk. In recent years, cheese plants quite commonly have been able to pay higher prices for milk than butter-powder plants. Consequently, in Wisconsin, where cheese plants are dominant, it has been possible for the grade B price to exceed the MW price.

grade A and grade B receiving facilities are used; (3) added health inspection costs; (4) market administrator's fees; and (5) shrinkage.

Related to pooling is the comparative cost of producing grade A and grade B milk, and so of the price premium needed to convert producers from grade B to grade A. Recent research indicates that the added cost of producing grade A milk is small, probably not exceeding 25 to 30 cents per hundredweight [13, 14].

Whatever these costs were, the considerable increase in receipts from supply plants on the Chicago federal milk marketing order since 1969 suggests that the benefits of participating in the pool substantially exceeded the costs. Between December 1969 and November 1975, supply plant receipts in the order increased 32 percent while total receipts increased 14 percent; as a result, supply plant receipts increased from 70 to 85 percent of the total receipts. The conversion from grade B to grade A milk production, which probably accompanied this increase in receipts from supply plants, reduced supplies of grade B milk available to manufacturing plants. The reduction in grade B milk supplies presumably puts pressure on unpooled manufacturing plants to become pooled in order to compete more effectively for remaining supplies of milk.

Besides the pay-price advantage, a second economic benefit is that supply plants experience less risk and uncertainty in obtaining pooled status by belonging to the AMPI Agency. One reason for this is that the Agency, by selling milk to a number of handlers, spreads the risk associated with the loss of an account. Likewise, through specialization, the Agency may be better able than individual plants to monitor changes in receipts that affect qualification and to make any changes in shipments needed to keep member plants pooled. In addition, a centralized source offers advantages to fluid milk processors in dependability of supplies, in both timing and quantity of deliveries, and in the convenience of obtaining all needed milk from one source. Moreover, by reducing the number of sellers willing to supply milk to processors, joint action increases the likelihood that the Agency's plants will become pooled.

The reduction in risk and uncertainty benefits both
suppliers and processors. It enables Agency supply plants to compete in manufacturing on the basis of the internal efficiency of their plant operations since each plant has approximately the same shipping percentage as other Agency manufacturing plants. It also promotes market stability. If individual supply plants were competing for sales, there probably would be more disruptions in relations among supply plants, and between supply plants and distributing plants, and so there would be higher marketing and procurement costs than with collective marketing.

The third economic consideration is the cost savings made possible by joint activity. Because the 42 CMSA cooperative plants serviced by the AMPI Agency may be qualified as a unit, significant savings in transportation and manufacturing costs are possible. Transportation cost savings result because the Agency frequently is able to direct the shipment of milk to a fluid handler from the nearest available supply. It is impossible to make a precise estimate of these savings. To show their importance, however, if the Agency reduces by 10 miles the average distance over which its members’ milk moves, transportation cost savings would be approximately 2.0 cents per hundredweight. With Agency-directed sales to fluid milk processors of approximately 1.1 billion pounds (fig. 2), this could result in an annual saving of approximately $220,000 to processors, who typically pay hauling costs. To the extent that it is realized, this saving, which conceivably could be passed on to consumers, provides “opponent-gain” bargaining power to members of the AMPI Agency because Agency activities produce benefits or gains for the firms with whom they are bargaining.

Manufacturing cost savings arise because the Agency’s manufacturing plants are able to minimize the quantities of milk they ship to fluid milk processors. In October 1975, Agency cheese plants shipped only 70 percent as much of their receipts to fluid milk processors as did all Agency plants (table 6). A recent USDA study indicates that manufacturing costs decrease by an average of 1.4 percent for each percentage point increase in the quantity of milk manufactured [15]. These cheese plants probably would have shipped smaller percentages of their receipts than other supply plants even if the cooperatives operating them had qualified only their own plants under the unit rule. If we assume, however, that the AMPI Agency reduced cheese plant shipments by an average of 5 percentage points, the USDA study suggests that manufacturing costs of those plants would have been reduced by approximately 7 percent. If average cheese manufacturing costs are 88 cents per hundredweight [16, 17], these savings would have amounted to 6.2 cents per hundredweight of milk manufactured.

Providing supplementary milk

A second major function of the AMPI Agency is to supply milk to fluid milk processors. In August 1975, 19 of the 52 distributing plants regulated by the Chicago regional order were in Illinois, 17 of them in the Chicago metropolitan area. The Chicago plants accounted for approximately two-thirds of the order’s class I sales [8; 2, p.38]. Except for some milk going to cooperative distributing plants, all the AMPI Agency’s 1975 sales to plants regulated by the order were to 13 of these plants in the Chicago metropolitan area.

Although processors purchased various proportions of their milk from the Agency, none purchased milk exclusively from the Agency nor had a full supply contract with it. During 1975, an estimated 50 percent of the receipts of these 13 plants was obtained from the Agency. Class I sales of those plants were estimated to be 90 percent of the class I sales of all distributing plants in the Chicago metropolitan area, and 60 percent of the order’s class I sales.

AMPI Agency Operations. Fluid milk processors buy milk from the AMPI Agency only as they need it to supplement milk they receive from other sources. The sources for a given processor may be direct-shipped producers, the processor’s own supply plant, a supply plant operated by a firm not associated with the AMPI Agency, or a combination of sources.

The usual procedure is for processors to order milk each Friday for the following week. Scheduled deliveries may be adjusted, given 24 hours’ notice. Thus, the Agency commonly knows the quantities of milk to be delivered about 2 days in advance, although milk may be delivered on much shorter notice.

The AMPI does not deliver milk. Rather it directs the processor where to obtain it. In doing this, the Agency attempts to minimize transportation and to equalize the distances various processors must haul Agency milk.

Between 1969 and 1975, Agency supply plants annually marketed between 1.0 and 1.5 billion pounds of milk to fluid milk processors, with the quantity gradually increasing over time (table 8). This was between 35 and 40 percent of regulated receipts of those supply plants. A varying proportion of those shipments, but in no instance appreciably more than one-third, was sold directly by the individual cooperatives belonging to the Agency rather than through the Agency.

Shipments by AMPI Agency plants constituted a growing proportion of the class I milk in the order, increasing from 28 percent in 1969 to 42 percent in 1975. One of the reasons was a decrease in supplies from other sources, particularly a drop in direct-shipped receipts reflecting reduced milk production near Chicago [10]. This change strengthened the bargaining position of the AMPI Agency.

The quantities of milk marketed to fluid processors through the Agency exhibited wide seasonal fluctuations. In the year ended April 30, 1976, monthly sales ranged from a low of approximately 2.0 million pounds in June to a high of 3.8 (nearly twice as much) in October. This seasonal pattern showed that the AMPI Agency, as a supplementary supplier, was called on for increased quantities of milk when processors received the smallest quantities from other sources, and vice versa. Its sharply reduced sales in the season of flush production indicated that Agency plants were manufacturing a disproportionately large share of the surplus milk in that season. In these ways, the Agency was
providing important market services beyond those involved in merely supplying milk.

Agency shipments to fluid milk processors also fluctuated widely by day of the week. The bulk of the shipments was made during Monday-Thursday, with 23 percent of the total on Thursday as against 3 percent on Saturday and 7 percent on Friday. This pattern reflected the fact that most fluid milk processing plants operated only 5 or fewer days per week. Processors’ schedules, in turn, were affected by the widely fluctuating sales of retail stores, with large volume over the weekend and relatively light sales during the middle of the week. Nevertheless, in day-of-the-week variation as well as seasonally, the AMPI Agency, as a supplemental supplier, was helping to adjust fluid milk supplies to market demands. With Agency supply plants doing this, fluid milk processors maximized the proportion of their receipts from other sources used in class I products and minimized the proportion that was surplus.

**Economic Effects of Supplementary Milk Activities.** Advantages to AMPI Agency’s fluid milk buyers of obtaining supplementary supplies through the Agency included reduction of risk and uncertainty in procurement. The Agency could be depended upon to provide the quantities of milk ordered. Also, if severe weather or some other emergency reduced supplies from regular sources, the Agency would provide milk to meet the need.

A second advantage to the processor was that he obtained milk at a lower cost. Because the processor could adjust the quantity of milk purchased through the Agency to his needs, he could largely avoid the costs of marketing the surplus milk, which would otherwise burden him due to seasonal and weekly fluctuations in receipts and sales. During 1975, if receipts had just equaled class I sales in October, when they were largest, a processor with normal seasonal distribution of sales buying all his milk from producers whose deliveries exhibited normal seasonal variation would have had excess milk equivalent in volume to 35 percent of his class I sales for the year. This estimate disregards any surplus that might have resulted from having receipts in excess of class I sales in October, or from day-of-the-week fluctuations in class I use. With ensured supplies yet little or no surplus, processors are in a better position to specialize in processing and distributing milk and thereby may improve their efficiency and competitive advantage in those operations.

A disadvantage to fluid milk processors is that, as they relinquish the procurement function, they become dependent upon the Agency for milk supplies, thereby reducing their bargaining power. The more they depend upon the Agency, the more bargaining power they surrender.

Providing supplementary milk gives Agency members the advantages of ensured pool status and increased bargaining power previously described. But Agency plants incur extra costs to do this. For example, their shipments to processors are relatively large during the fall and early winter, leaving them with comparatively small quantities of milk for manufacture. Also, the widely fluctuating day-of-the-week shipments to processors, and the fact that some shipments are made on short notice, tend to disrupt manufacturing operations. Particularly in plants with unionized workers, reductions and irregularities in quantities of milk to be manufactured increase unit labor costs by reducing efficiency in the use of labor in some periods while necessitating payment of overtime wages in others.

In addition to these effects upon individual suppliers and processors, there are important market-wide benefits in operational efficiency from a coordinated provision of supplementary supplies. These benefits stem partly from the ability of the Agency to provide supplementary milk with a lower level of reserves than would be needed if fluid milk processors individually procured their own. This is because individual fluid milk processors have different receipt and utilization patterns that are partly offsetting. For example, a comparison of the purchases of supplementary supplies by the 13 handlers during the period February 27 to March 20, 1976, with the reserve production needed, assuming uniform daily production equal to the handler’s largest daily purchases of supplementary supplies, indicated that, in the aggregate, excess reserves necessary under the latter assumption were 122 percent of purchases if each handler had provided his reserves individually.

### Table 8. Quantity of milk shipped by AMPI Agency plants to fluid milk processors, relationship to receipts, proportions by categories, and contributions to Chicago order class I sales, 1969-75.

<table>
<thead>
<tr>
<th>Year</th>
<th>Shipments, mil. lb.</th>
<th>Percent of total receipts</th>
<th>Percent direct*</th>
<th>Percent sold through AMPI Agency to Chicago processors</th>
<th>Processors in other markets</th>
<th>Shipments to Chicago as percent of Chicago order class I sales*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1969</td>
<td>1170</td>
<td>38</td>
<td>31</td>
<td>65</td>
<td>5</td>
<td>28</td>
</tr>
<tr>
<td>1970</td>
<td>1267</td>
<td>36</td>
<td>33</td>
<td>64</td>
<td>3</td>
<td>32</td>
</tr>
<tr>
<td>1971</td>
<td>1086</td>
<td>34</td>
<td>14</td>
<td>83</td>
<td>3</td>
<td>28</td>
</tr>
<tr>
<td>1972</td>
<td>1301</td>
<td>36</td>
<td>30</td>
<td>69</td>
<td>1</td>
<td>34</td>
</tr>
<tr>
<td>1973</td>
<td>1491</td>
<td>40</td>
<td>22</td>
<td>77</td>
<td>1</td>
<td>40</td>
</tr>
<tr>
<td>1974</td>
<td>1478</td>
<td>40</td>
<td>31</td>
<td>66</td>
<td>3</td>
<td>40</td>
</tr>
<tr>
<td>1975</td>
<td>1521</td>
<td>35</td>
<td>34</td>
<td>64</td>
<td>2</td>
<td>42</td>
</tr>
</tbody>
</table>

Sources: [10,2]  
*a Sold directly to Chicago order processors without being ordered through the Agency.  
*b Assumes 90 percent of shipments to fluid milk processors was used in class I products.
and 92 percent of purchases if a centralized service had provided the reserve supply. This comparison indicates not only that the Agency saved fluid milk processors from receiving considerable excess milk but also that, by providing milk from a central source, the Agency reduced the amount of reserves needed by 14 percent [10].

The market also benefits because AMPI Agency plants can manufacture surplus milk at lower cost than fluid milk processors can. Because Agency supply plants have manufacturing facilities, we assume they process milk in large volume operations. We can estimate the cost of manufacturing the surplus during the period February 22 to March 30, 1976, when supplementary milk was supplied only as needed by AMPI Agency plants, comparing it with the cost under various arrangements in which individual processors are assumed to be responsible either for obtaining the reserve milk or for manufacturing the surplus, or for both (table 9).

The comparison of costs in table 9 differentiates two sources of savings made under the existing AMPI Agency arrangement during the period February 22 to March 20, 1976. A saving estimated at $197,176 if fluid milk processors individually obtained their own reserve supplies of milk, or $145,784 if Agency plants provided processors with needed supplementary supplies, results from the lower cost of manufacturing the surplus in Agency plants than in processors' operations. The other saving, estimated to be $213,523 if processors manufactured the surplus, or $162,131 if Agency plants manufactured it, is attributable to the smaller quantity of excess milk when supplemental milk is provided by Agency plants rather than all needed reserves being obtained individually by processors.

The existing arrangement, number 4, represented a saving of $359,307 in comparison with an arrangement in which fluid milk processors individually obtained the reserve milk needed to provide their supplemental supplies and manufactured their own surplus milk. If we assume this was a representative month, the corresponding annual cost savings would have been approximately $4.3 million. This would have been equivalent to 4.4 cents per hundredweight of Chicago order receipts in 1976, or 13.8 cents per hundredweight of class I sales. Although some other organization might have performed this function, it was a logical arrangement for a federation of cooperatives to do so.

Under the assumptions made in this analysis, it seems that, at most, 6 of the 13 fluid milk processors might have been able to break even in processing their surplus milk and that only 2 might have achieved manufacturing costs as low as Agency plants. This ability of the cooperatives to manufacture surplus milk more efficiently than individual handlers strengthens the cooperatives' bargaining power.

**Marketing processors' surplus milk**

A third major service of the AMPI Agency is marketing processors' surplus milk. Agency plants manufacture any part of their own producer receipts not shipped to fluid milk processors. Such milk might be considered surplus in the sense that it is in excess of the needs of fluid milk markets. But it is milk they are able and willing to manufacture. During the years 1969-1975, such milk represented 90 percent or more of the excess milk manufactured by Agency plants during the peak production months of April-July.

**AMPI Agency Operations.** Milk from direct-ship producers, or perhaps more commonly from supply plants of fluid milk processors, that is in excess of fluid handler needs is also surplus in the more tradi-

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**Table 9. Estimated cost under various arrangements to manufacture the surplus milk resulting from providing the reserve milk needed to furnish the 13 fluid milk processors serviced by AMPI Agency plants with needed supplementary milk, Feb. 22-March 20, 1976.**

<table>
<thead>
<tr>
<th>Arrangement</th>
<th>Total surplus milk, 1000 lb.</th>
<th>Estimated cost of manufacturing surplus into cheese</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Fluid milk processors individually obtain all needed reserve milk and manufacture their own surplus</td>
<td>74,495</td>
<td>$1.14</td>
</tr>
<tr>
<td>2. Fluid milk processors individually obtain all needed reserve milk, but surplus is manufactured by AMPI Agency plants</td>
<td>74,495</td>
<td>0.88</td>
</tr>
<tr>
<td>3. AMPI Agency plants provide quantity of reserve milk needed collectively by fluid milk processors, who manufacture their own surplus</td>
<td>56,071</td>
<td>1.14</td>
</tr>
<tr>
<td>4. AMPI Agency plants obtain quantity of reserve milk needed to provide processors with supplemental supplies; surplus manufactured by Agency plants</td>
<td>56,071</td>
<td>0.88</td>
</tr>
</tbody>
</table>

Source: [10]

*In reality, these average costs might be slightly higher with the smaller quantities under arrangements 3 and 4.*
tional sense. Upon request, AMPI Agency sells such milk to manufacturing plants in the area. Without taking title, the Agency sells the milk by bid to the manufacturing plant, whether operated by a firm selling fluid-grade milk through the Agency or some other firm, which will return the highest net price for it, considering both bid price and transportation cost. Usually, this milk is not received at a distributing plant, but is routed directly from the supply plant where it is received, or else from producers, to the manufacturing plant.

Most of the nonAgency surplus milk is marketed during April-July, when milk production is highest and class I sales relatively low. During the years 1969-1975, the quantity of such milk varied widely, ranging from a low of 16 million pounds in 1973 to a high of 108 million in 1974. In some years, it included considerable quantities from plants outside the Chicago order market, mostly Indiana distributing plants, for which the AMPI Agency may have been obligated to market surplus because of fluid milk sales to them.

Reflecting the wide variation in processing by fluid milk distributing plants, the quantity of this milk marketed by the AMPI Agency fluctuated widely by day of the week, with 50 to 60 percent of the week's total on Friday and Saturday. In May 1976, approximately 1.0 million pounds of this milk were marketed on an average Saturday, slightly more than 10 times the amount sold on an average Tuesday or Wednesday [10]. As noted earlier, the quantity of Agency milk manufactured by Agency plants followed a somewhat similar weekly pattern.

Economic Effects of Surplus Milk Disposal. A benefit of this service is that fluid milk processors can dispose of surplus milk on short notice and with comparatively little risk and uncertainty. This is true whether the surplus is anticipated or is unexpected, as when a distributing plant is closed by a strike.

Also, as with the excess milk associated with supplemental supplies provided to fluid milk processors, surplus milk is manufactured at lower cost in these specialized manufacturing facilities than would likely be the case if fluid milk processors manufactured it in their own facilities, or sold it themselves.

On the other hand, in some situations, disposing of this surplus milk may be costly to the Agency. AMPI maintains a standby facility in Mt. Horeb, Wisconsin, for surplus milk that cannot be disposed of elsewhere. Both in 1974, a year of comparatively large surpluses, and 1975, when they were about normal, use of these facilities was limited almost entirely to a period of approximately 3 months between mid-April and mid-July. With yearly building and equipment costs of around $480,000 [16], AMPI incurred estimated fixed costs of approximately $477,000 in 1974 and $392,000 in 1975 at this facility during the portions of the year it was not used. These costs amounted to approximately 2.7 cents per hundredweight of AMPI member receipts on the Chicago order market in 1974 and 2.2 cents in 1975.

AMPI increases the bargaining power of the cooperatives by providing standby facilities to handle surplus milk. Because of the benefits to handlers, it is a source of "opponent-gain" bargaining power. It also adds to cooperatives' market power by giving them outlets to which excess supplies can be diverted or withheld from distribution and thus greater control over supplies. The ability to withhold or divert supplies is a source of "opponent-pain" bargaining power because it would impose additional costs on handlers if carried out.

CMPC Operations

Role in the market

As the overhead federation serving 15 cooperatives on the Chicago regional federal order market, CMPC prices milk and services for which it is the authorized bargaining agent. It is governed by a board of 19 directors, consisting of one representative from each cooperative with not more than 1500 members and one added representative for each additional 1500 members. Decisions require a 60-percent majority vote of the board.

CMPC establishes prices and service charges for about 95 percent of the total and class I milk pooled on the Chicago order (table 10). AMPI Agency plants are an important part; in 1975 they accounted for 51 percent of all CMPC milk and for 45 percent of its class I sales. Much of the other CMPC milk was received from members of the various cooperatives at supply and distributing plants of proprietary firms not marketing milk through the AMPI Agency.

Because it controls most of the milk on the market, CMPC does not have an acute nonmember problem. Furthermore, it is the only single source of milk

Table 10. Percentages of total and class I Chicago order milk bargained for by CMPC, and of CMPC milk marketed by the AMPI Agency, 1971-75.

<table>
<thead>
<tr>
<th>Year</th>
<th>All milk bargained for by CMPC</th>
<th>All CMPC milk marketed by AMPI Agency</th>
<th>All class I milk bargained for by CMPC</th>
<th>CMPI class I milk marketed by AMPI Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971</td>
<td>92.5</td>
<td>42.5</td>
<td>92.2</td>
<td>30.3</td>
</tr>
<tr>
<td>1972</td>
<td>93.6</td>
<td>46.2</td>
<td>91.9</td>
<td>36.9</td>
</tr>
<tr>
<td>1973</td>
<td>93.9</td>
<td>50.2</td>
<td>93.6</td>
<td>42.6</td>
</tr>
<tr>
<td>1974</td>
<td>95.7</td>
<td>47.4</td>
<td>95.0</td>
<td>42.6</td>
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<tr>
<td>1975</td>
<td>94.9</td>
<td>51.4</td>
<td>93.7</td>
<td>44.9</td>
</tr>
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</table>

Sources: [2, 9, 10]
pooled on the order that has sufficient volume to service the accounts of most of the larger processors. Because handlers have access only to limited quantities of non-CMPC milk within the order, the upper limit to CMPC's negotiated class I charge is determined by the availability and cost of alternate supplies outside the Chicago order. For example, the transportation cost saving to Chicago handlers of buying CMPC milk rather than outside milk from Eau Claire, Wisconsin, a potential alternative source, has been approximately 58 cents per hundredweight. This amount exceeded CMPC's net class I charge during the years 1971-75.

**Advance pricing**

CMPC prices member milk received by both cooperative and proprietary firms at either supply or processing plants at the point of first receipt and according to use. Subject to the approval of the CMPC board of directors, a price committee issues a monthly price announcement to all buyers of regulated milk on the Chicago order. Whether or not the price is changed, it usually is announced 2 or 3 weeks before the first of the month.

The announcement sets forth the prices and service charges applicable to all handlers who receive milk from any source for which CMPC is the authorized bargaining agent. The level of these prices and charges is not fixed by a predetermined formula. Rather, it is based on the Chicago order blend price, the cost of operating CMPC marketing programs, an assessment of trends in milk production, an appraisal of changes in the cost of milk production, and competitive conditions as reflected by prices paid to non-CMPC producers by handlers who distribute milk in any part of the Chicago order marketing area.

**Class I Prices.** CMPC announces the price that must be paid for milk used in class I products and purchased from either direct-ship CMPC producers or CMPC supply plants. This price, which is above the federal order minimum class I price, has been called the cooperative price, or superpool price. The excess over the federal order class I price long has been termed the superpool premium, although cooperatives more recently have referred to it as the class I charge.

Over the years 1971-75, the class I charge increased from 30 cents per hundredweight of class I sales in 1971 and 1972 to 72 cents in 1975 (table 11). If there are no credits or adjustments, buyers are billed the announced class I charge on the quantity of milk purchased from CMPC and used in class I. If a plant buys only part of its milk from CMPC, the class I charge is billed on that proportionate share of its class I sales.

Obligations to CMPC's pool are determined from data in the reports of receipts and utilization filed by all regulated handlers with the Chicago order market administrator. Handlers who receive milk from any CMPC source submit copies of those reports to CMPC. Each handler reports to CMPC the volume of his class I sales to which the full class I charge is not applicable (discussed later). CMPC field staff audit those reports.

**Credits and Adjustments.** Although CMPC controls 95 percent of the milk pooled on the Chicago order, it is unable to control either member or non-member production, particularly the addition of new producers to the market. Therefore, in evaluating the economic impacts of CMPC's class I pricing policy, we must distinguish between its announced class I charges and the net class I charges it collects.

As a result of adjustments, fluid milk processors may not pay the entire announced class I charge. For example, buyers of CMPC milk who compete with processors who buy milk at a lower price from a non-CMPC source receive at least a partial refund of the class I charge. This refund is termed a competitive credit. CMPC uses it to reduce its premium where necessary to meet competition. CMPC's intent is to adjust the effective level of the premium by the

<table>
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<tr>
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<tbody>
<tr>
<td>Sources of funds</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Announced class I charge</td>
<td>29.7</td>
<td>30.0</td>
<td>43.3</td>
<td>63.5</td>
<td>71.7</td>
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<tr>
<td>Credits and adjustments</td>
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<td>9.9</td>
<td>10.9</td>
<td>15.2</td>
<td>22.8</td>
</tr>
<tr>
<td>Net class I charge</td>
<td>23.2</td>
<td>20.1</td>
<td>32.4</td>
<td>48.3</td>
<td>48.9</td>
</tr>
<tr>
<td>Other charges or credits</td>
<td>0.0</td>
<td>0.9</td>
<td>0.5</td>
<td>5.2</td>
<td>0.5</td>
</tr>
<tr>
<td>Total*</td>
<td>23.2</td>
<td>21.0</td>
<td>32.9</td>
<td>53.5</td>
<td>49.4</td>
</tr>
</tbody>
</table>

| Disposition of funds | | | | | |
| Marketing programs | 6.6 | 8.1 | 7.2 | 10.0 | 13.3 |
| Administration | 0.6 | 2.8 | 3.2 | 2.5 | 1.0 |
| Other costs or debits | 1.3 | 0.6 | 1.2 | 0.0 | 3.4 |
| Paid to producers | 14.7 | 9.6 | 21.1 | 41.0 | 31.7 |
| Total* | 23.2 | 21.1 | 32.7 | 53.5 | 49.4 |

Source: [9]

*Totals may not be exactly equal because of rounding.
use of this credit so a buyer of CMPC milk will be on a competitive par regarding price with buyers of non-CMPC milk with whom he competes for sales.

The competitive credit is made available to dealers who buy all, or nearly all, of their milk from CMPC sources. It is the difference between the CMPC superpool price and the lower price at which milk is purchased by competitors times the quantity of milk the processor sells in competition with the lower priced milk.

One economic effect of the competitive credit is to raise barriers to entry into the market by nonCMPC producers. It is a form of limit pricing. By enabling CMPC customers to purchase their milk at prices equal to those paid by competitors who buy from nonCMPC sources, it reduces their incentive to seek alternative sources of supply and enables them to compete for sales on the basis of their efficiency in processing and distribution.

An inner-zone location adjustment on supply-plant milk subject to a CMPC class I charge also may reduce that charge. It applies to milk received at fluid milk processing plants in zones 1, 2, or 3 and marketed as fluid milk products in those zones. The class I charge is reduced 4.0 cents per hundredweight on receipts in zones 1 and 2, and 2.0 cents on receipts in zone 3. Receipts from direct shippers also are eligible for this credit if the processor is subsidizing the hauling of that milk by at least 10 cents per hundredweight.

The inner-zone adjustment enables buyers of CMPC-priced milk in the inner zones to apply part of the class I charge to the cost of hauling milk sold for fluid purposes in those zones. In part, it is a competitive credit granted because some nonCMPC suppliers were selling milk in the inner zones at hauling charges below those on CMPC milk. Another reason for the inner-zone adjustment is that the cost of hauling milk had become greater than the federal order transportation allowance. It permits CMPC buyers to keep a portion of the CMPC charge to offset some of the excess of transportation costs over those met by provisions of the order.

Since August 1, 1974, an additional adjustment of 5.0 cents per hundredweight was allowed on class I sales that were subject to a net class I charge of 60 cents per hundredweight or more. This adjustment is reduced 1.0 cent per hundredweight for each 1.0 cent per hundredweight the net class I charge is below 60 cents per hundredweight. Thus, it becomes zero if the net class I charge is 55 cents per hundredweight or less. This adjustment had the same effect as a competitive credit by allowing CMPC-priced milk to be more competitive than otherwise.

Between 1971 and 1975, CMPC's competitive credits and adjustments increased from 6.5 cents to 22.8 cents per hundredweight on CMPC class I rates. Credits and adjustments increased faster than the announced class I charge, with the result that only 69 percent of the announced charge was collected in 1975 as against 71 percent in 1971. In 1975, 79 percent of the adjustment was competitive credits.

The magnitude of these credits and adjustments shows the impact of competition on CMPC's ability to collect class I charges. The increase in competitive credits and adjustments suggests that CMPC has been trying to raise class I charges at a rate faster than charges have been increased on milk sold by nonCMPC producers. It also illustrates how supply response by nonCMPC producers tends to depress prices bargained for by CMPC.

In 1974 and 1975, CMPC's class I pricing policy raised the average price of class I milk to fluid milk processors between 48 and 49 cents per hundredweight. From 1971 to 1975, the net CMPC class I charge averaged 35 cents per hundredweight. This was a premium of approximately 3 cents per gallon, or 5 percent of the class I price.

To processors, one favorable aspect of CMPC pricing is that its price changes less frequently than the federal order price. For example, between July 1, 1973, and April 5, 1976, the federal order class I price changed 28 times while CMPC changed its announced price only 17 times. Less frequent class I price changes are advantageous to processors because they reduce the amount of price negotiation between them and their customers.

Another aspect of CMPC's pricing policy evidently intended to be attractive to processors has been the size of the increments by which it raised prices. CMPC changes its announced price by 15 cents per hundredweight or a multiple thereof. Since there are approximately 23 half-gallons of milk in a hundredweight, a price increase of 15 cents per hundredweight allows processors to raise their price by 1.0 cent per half-gallon and to have approximately 8 cents per hundredweight to meet other increased costs. In addition, price increases that require processors to raise prices more than 1.0 cent per half-gallon may result in adverse publicity.

Class II Prices. Since August 1, 1974, CMPC's advance pricing program has included not only class I milk but also milk used in all class II products except ice cream, class II frozen desserts, commercial food establishment sales, and condensed or dried skim milk used in class II products, plus class III baker's cheese. CMPC announces prices to be paid for these products at the same time it announces the class I price. The price of milk used in baker's cheese is 10 cents per hundredweight below the class II price. CMPC allows competitive credits to these prices in the same way and for the same reason that it allows competitive credits on class I milk.

CMPC does not intend to produce added income for producers through this program. The prices announced under the program sometimes are above and sometimes are below federal order prices. When the price is above the federal order price, the difference is a credit to CMPC; when it is below, the difference is a charge against the CMPC superpool fund.
The purpose of this program is to establish, over time, prices for class II milk and for class III milk used in baker's cheese that are (1) known to handlers in advance of those established by the federal order, (2) more stable than order prices, and (3) sufficiently above federal order prices to provide the revenue needed to fund CMPC's location adjustment payments on milk used in class II and III products.

Under the provisions of the order, a processor is allowed a location adjustment of 2.0 cents per hundredweight on 110 percent of the milk he uses in class I for each 15 miles the milk is hauled. He does not receive this adjustment on any milk he uses in class II products in excess of 10 percent of his class I usage. In contrast, CMPC allows a location adjustment at that rate on all class II and III milk it prices in advance. This adjustment may indirectly benefit CMPC producers by making processors more willing to buy CMPC milk.

Processors benefit from this program by knowing in advance the cost of the milk they use in those class II and III products it covers. This relieves them of the uncertainty experienced under the federal order, which does not price milk used in these products until the following month. In addition, some processors benefit from the location adjustment, with the amount of benefit depending upon the extent to which milk usage in these products exceeds 10 percent of that in class I and upon the distance the milk is hauled to their plants.

**Handling charges**

CMPC adds handling or service charges to the class I price it quotes. A fee of 2.5 cents per hundredweight is added to the price of all milk sold by CMPC. This fee is imposed by the market administrator to cover the expense of operating the order. Other CMPC handling charges vary depending upon the arrangement under which milk is purchased.

**Direct-Ship Premium.** A charge of 5.0 cents per hundredweight is made on all CMPC producer milk shipped directly to a distributing plant, regardless of the use made of it. Some milk received by nearby supply plants before delivery to the distributing plant is treated as direct-shipped milk for the purpose of collecting this charge.

CMPC credits buyers with this direct-ship charge so they may pay it to producers. The intent is to improve producer equity by partly compensating direct-ship producers for the amounts that regulated producers who ship to manufacturing plants receive in patronage refunds or premiums. The charge returns to direct-ship producers some of the saving that processors make by receiving direct-shipped rather than supply-plant milk.

CMPC charges direct-ship premiums on approximately one-fourth of its total sales. From 1971 through 1975 these premiums averaged 3.2 cents per hundredweight of class I sales (table 11) or 1.3 cents per hundredweight on all producer milk sold by CMPC.

**Supply-Plant Charge.** In 1976, processing plants were purchasing supply-plant milk under three different options. To honor previous commitments, a small amount was being sold to processors who agreed to receive milk daily at a charge of 18 cents per hundredweight. However, more than 90 percent of CMPC's supply-plant milk, including practically all from AMPI Agency plants, was sold to processors on time schedules they specified. The service charge for that milk was 22.5 cents per hundredweight unless delivered in loads of less than 27,000 pounds. Under the third option, small amounts occasionally were sold to processors who normally did not buy CMPC milk at a service charge of 37.5 cents per hundredweight. The greater charge on this milk recognized the extra cost to supply plants of servicing unexpected orders and that processors who bought milk from CMPC only on an irregular basis should pay a higher price. Aside from these options, a processor could arrange for other services, such as quality work or making payment to producers, at added cost.

In 1975, CMPC supply plants collected the 22.5-cent service charge on an estimated 15 percent of CMPC's total sales. Supply-plant charges were equivalent to 9.8 cents per hundredweight of CMPC class I sales or 3.5 cents per hundredweight on all CMPC sales. This was an extra charge to fluid milk processors for services, above the CMPC superpool premium. We do not know what service charges supply plants might have made in the absence of CMPC. It is conceivable that they might have made some, especially in months when there was no federal order shipping requirement for pooling or in periods when the supply plant already had shipped enough milk to qualify on the order for that month.

Service charges were remitted directly to supply plants as partial compensation for their costs of receiving, storing, and cooling the milk and transferring it to processors. All cooperative members of CMPC levied the announced handling charges on any supply-plant milk they sold to fluid milk processors. The AMPI Agency levied them on milk from proprietary as well as cooperative supply plants. Except for the 5.0-cent, direct-ship charge, other proprietary supply plants established their own service charges, although CMPC collected the class I, II, or III charges on milk that was received at those supply plants and shipped to distributing plants.

The handling charges of supply plants whose milk is not priced through the CMPC are of concern to CMPC because such milk competes with CMPC milk on a total-price basis, including service charges. The National Farmers' Organization is the main competitor on the Chicago market. Some of its handling charges are below those of CMPC. CMPC gives a competitive credit amounting to half to two-thirds the difference, believing that the quality of its product and its services are sufficiently good that a full competitive credit is not needed.

The most obvious effect of CMPC's handling charges is that they increase the price of milk to its customers. Their justification would seem to depend on the accuracy with which they reflect benefits to dealers and the costs of providing them.

CMPC's service charge policy has equity implications. Those who benefit from a service pay for it, and
those who incur extra costs to provide a service receive the payment. These equity conditions might not have been satisfied in the absence of the CMPC.

Marketing programs

Revenue from the net class I charge, together with smaller amounts from positive net class II charges, interest, funds carried over from the previous pool, and other sources, goes into the CMPC superpool fund (fig. 4). These funds are used to pay the costs of marketing programs, administrative expenses, and a carryover to the next period's pool. Any funds remaining are distributed to CMPC producers.

Except for amounts paid to producers, CMPC's largest expenditures of superpool premiums have been for marketing programs. The rate of expenditure on these programs doubled between 1971 and 1975, from 6.6 cents per hundredweight of class I sales to 13.3 cents (table 11). These amounts were a little more than one-fourth of the net class I charge. Total expenditures on marketing programs by the CMPC are limited to a maximum of 15 cents per hundredweight of its class I sales.

The various marketing programs are considered in this section. They include advertising, contributions to the standby pool, surplus milk pricing, payments to manufacturing plants, milk replacement, skim milk purchase credits, small-load delivery credits, and payment of marketing fees.

Advertising. CMPC promoted fluid milk products in areas in which its class I sales are marketed, mostly through generic advertising. In 1976, 2.0 cents per hundredweight of class I sales was made available to agencies such as Milk Foundation, Inc., in Chicago, and Wisconsin Dairy Council for advertising and promotion. This program was intended to increase demand, and, to the extent that it did so, it benefited handlers as well as producers. It was not operated in areas such as central-southwestern Wisconsin in which a substantial proportion of the producers were nonCMPC members who often undercut CMPC prices.

Contributions to the Standby Pool. The standby pool, known formally as the Associated Reserve Standby Pool Cooperative (ARSPC), is a program supported by a federation of cooperatives. The standby pool is a voluntary supply-management program in which member cooperatives in markets with little surplus milk pay Minnesota and Wisconsin plants that have surplus grade A milk at all times to provide milk to member cooperatives when and as needed [18]. Since the standby plants became regulated under the Upper Midwest federal order, they have received from the standby pool supplementary payments sufficient to equalize their blend prices with the prices they would have received if qualified on the Chicago federal order, including over-order payments. CMPC, although not an official member of ARSPC, contributes to it, as members do, 1.0 cent per hundredweight of class I sales. Over the years 1971-75, CMPC's annual contribution averaged $634,000 [19].

The standby pool is a bargaining device used by cooperatives to increase their bargaining power in two ways. Most important to CMPC, by maintaining the standby pool, member cooperatives have greater control over their local market's milk supply. Because milk

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**Fig. 4. Overview of the sources and disposition of CMPC superpool funds. Source: [9].**
from standby plants does not enter its market unless called for; CMPC can raise the class I price without concern about milk from the standby plant entering the market. This program benefits CMPC at the expense of those who buy milk, including consumers.

Also, although seldom needed on the Chicago market, cooperatives that support the standby pool can obtain supplementary milk at the standby plant's local federal order price plus a handling charge of 70 cents per hundredweight. Thus cooperatives in markets with more limited supplies can ensure their buyers of all milk needed for class I use at all times. Distressed processors do not have to pay exorbitant prices and handling charges for supplementary milk, as some have in the past.

**Surplus Milk Pricing.** CMPC sets aside about 0.5 cent per hundredweight of its class I sales charge to finance its surplus milk pricing program, which operates during the months of April-July. CMPC milk delivered to receiving stations or reload points, or direct-shipped to distributing plants, is eligible for the program. In 1976, approximately 99 percent of the surplus milk priced through the program came from 14 distributing plants and their affiliated receiving stations. This milk is the nonagency surplus handled by the AMPI Agency.

CMPC guarantees an eligible handler a price for surplus milk of 10.5 cents per hundredweight above the federal order price of the milk at his plant plus any transportation cost of getting the milk to the buyer. The federal order price is the blend price if the milk is diverted to a pooled manufacturing plant, the class I price if to a pooled distributing plant, or the class II or III price, whichever is applicable, if the milk is manufactured into a class II or III product at a nonpool plant. The 10.5-cent payment is intended to cover the 2.5-cent-per-hundredweight market administrator's assessment, the 5.0-cent-direct-ship premium, if applicable, and costs such as those for shrinkage and field service. Handlers need not sell their surplus milk through CMPC, but usually do so if they can't sell it independently for a higher price.

Within CMPC, an operating surplus committee establishes prices on a weekly basis during the flush period that CMPC manufacturing plants must pay for surplus milk purchased under the program. Product formulas are used to set these prices at levels that depend on products made and their selling prices.

In guaranteeing a price for surplus milk, CMPC pays a handler only enough to make his effective selling price 10.5 cents per hundredweight above the order price net of transportation cost. If CMPC is able to sell the milk at a price that returns more than that amount, it diverts the excess into its superpool fund. In the years 1972-76, however, 1973, a year of relatively high prices for manufactured dairy products, was the only one in which CMPC netted a profit on this program (table 12). In the other years, it experienced losses averaging roughly 20 cents per hundredweight of surplus milk.

Losses incurred by CMPC on this program clearly benefit the distributing plants and affiliated supply plants that market milk through the program. During 1972-76, these benefits averaged 0.3 cent per hundredweight of CMPC's class I sales, or 19.1 cents per hundredweight of surplus milk sold through CMPC. This is another example of CMPC using part of the net class I charge it collects from handlers to pay for a service to them. By enabling handlers to market surplus milk without a loss, the cooperatives that constitute CMPC strengthen their bargaining power with those handlers.

**Manufacturing-Plant Payments.** This program aims to share, on a marketwide basis, the costs of operating facilities that stand ready to process surplus milk into manufactured products whenever necessary during the period of flush production. These manufacturing plants have considerable excess capacity during the period of low production, when they ship a relatively large percentage of their milk to distributing plants for class I use.

Regulated manufacturing plants that participate in the program receive 15 cents per hundredweight from CMPC for shipments of whole milk to bottling plants other than their own which are in excess of 21 percent of their total regulated producer receipts. To receive the payment, a plant must:

1. Have a grade A milk supply that is at least 50 percent Chicago inspected.
2. Have a daily intake of at least 47,000 pounds (a tanker load) of grade A Chicago-inspected milk.
3. Agree to ship 100 percent of its regulated grade A milk on call to CMPC through the AMPI Agency on a pro rata basis during each month of the year.
4. Maintain facilities capable of manufacturing its largest daily volume of receipts into storable manufactured dairy products. These requirements are intended to limit the 15-cent payment to those plants that contribute significantly to the fluid and balancing needs of the market either by shipping milk when it is needed for fluid use or by manufacturing surplus, or both. This payment supplements the 22.5-cent service charge as additional compensation to supply plants for providing supplementary supplies and handling surplus. During 1971-75, the cost to CMPC averaged 0.4 cent per hundredweight of CMPC's class I sales.

**Skim Milk Credit.** Since manufacturing plant

### Table 12. Quantity of surplus milk sold through CMPC's surplus milk pricing program and CMPC's loss or gain on it, total and per hundredweight, April-July, 1972-76.

<table>
<thead>
<tr>
<th>Year</th>
<th>Quantity, 1,000 pounds</th>
<th>Loss (−) or Gain (+) on program Total, dollars</th>
<th>Per 100 pounds of surplus milk, cents</th>
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<tr>
<td>1972</td>
<td>73,852</td>
<td>−143,899</td>
<td>−19.5</td>
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<tr>
<td>1973</td>
<td>7,257</td>
<td>+708</td>
<td>+1.0</td>
</tr>
<tr>
<td>1974</td>
<td>53,466</td>
<td>−96,289</td>
<td>−18.0</td>
</tr>
<tr>
<td>1975</td>
<td>27,052</td>
<td>−56,854</td>
<td>−21.0</td>
</tr>
<tr>
<td>1976</td>
<td>49,132</td>
<td>−106,332</td>
<td>−21.6</td>
</tr>
</tbody>
</table>

*Source: [9]*

*Starting April 15*
*April 15 through July 15*
payments are based only on a plant's shipments of whole milk, plants in that program may inflate prices that they charge fluid milk processors for skim milk, on which the charge is not made. To adjust for that, CMPC allows a fluid milk processing plant a credit of 15 cents per hundredweight on skim milk purchased from CMPC-affiliated supply plants and used in class I products. During 1971-75, the cost of this program to CMPC averaged 0.8 cent per hundredweight of CMPC class I sales.

Like some other aspects of the marketing program, this program is designed to protect processing plants that buy CMPC skim milk from being placed at a competitive disadvantage due to CMPC's pricing policies. It may provide a net benefit to some of those customers if the price they pay for skim milk is not inflated as much as the credit.

Milk Replacement. The intent of this program is to replace supplies that buyers of CMPC direct-ship milk lose to competitors who have a price advantage as a result of CMPC's pricing policy. If a processor loses CMPC direct-shipped milk for this reason, CMPC agrees to replace that milk for as long as the processor wants it at the price he would have paid if he continued to receive the direct-shipped milk. However, milk is not replaced to the extent that the processor will have a surplus going into class III bulk sales.

Little use was made of this program in 1976. Consequently, its cost to CMPC was less than 0.1 cent per 100 pounds of its class I sales.

This program reduces the reluctance of high class I utilization handlers to buy CMPC milk. It is another service paid for out of the net class I charge that directly benefits CMPC customers and strengthens CMPC's bargaining power.

Small-Load Credit. CMPC allows a small-load credit of 3.0 cents per 100 pounds of CMPC-priced milk sold to milk processors in loads of less than 27,000 pounds. This credit exactly equals the added handling charge on small loads, thereby equalizing charges to large and small bottlers. During 1971-75, the cost of this program averaged less than 0.1 cent per hundredweight of class I sales.

Marketing Fees. A supply plant selling milk for fluid use must have a marketing staff for activities associated with marketing the milk and occasionally may absorb bad debts. CMPC pays its cooperative members a marketing fee on milk for which they bear the cost of such functions. Most of the marketing functions, on both fluid and surplus milk, are performed by the AMPI Agency for a fee of 2.0 cents per hundredweight on all CMPC-priced milk. Other cooperatives receive similar fees for milk on which they perform similar functions, including milk they process into fluid products in their own distribution plants. But any milk on which cooperatives receive the 15-cent-per-hundredweight manufacturing-plant payment is not eligible for this marketing fee. During 1971-75, this was the most costly of CMPC's marketing programs, averaging 3.3 cents per hundredweight of CMPC class I sales.

Producer distribution

Each month all CMPC funds remaining after allowing for marketing program expenses, money to be carried forward to the next month's pool, direct ship payments, administrative expense, and class II pricing losses are distributed to producers. This remainder is distributed under two or three different arrangements.

Supply-Plant Performance Payments. Intermittently, beginning in August 1973, part of the funds to be allocated to producers was distributed to supply-plant producers on the basis of their plant's shipping performance. Each month CMPC would estimate the volume of producer receipts and needed shipments to fluid milk processors for the following month. If the shipping percentage believed needed from affiliated supply plants exceeded federal order minima, CMPC would announce a maximum payment to its affiliated supply plants that shipped at least a specified percentage of their total receipts. Supply plants that shipped only the federal order minimum percentage received no payment; those that shipped more than the federal order minimum but less than CMPC's announced minimum received partial payments.

The intent of this payment is to provide incentive to supply plants to ship increased proportions of their milk when it is most needed by processors. When it seems that supply plants will ship processors enough milk under qualification provisions of the order, CMPC discontinues this method of distribution. When used, the effects of this program are similar to those of supply-plant charges and manufacturing-plant payments.

Individual-Handler Distribution. In November 1973, CMPC began to operate another distribution program. Under this program, CMPC distributed 20 percent of the net class I charge made against a plant to CMPC producers delivering milk to that plant.

One purpose of this program was to encourage handlers to maintain class I sales by allowing them to keep 20 percent of their net class I charge for distribution to CMPC producers who supplied them. Another purpose was to improve producer equity by increasing the returns to producers who delivered their milk to the market for class I use. These producers shared returns from class I sales with other producers through the producer settlement fund, but may have received relatively lower prices than producers who delivered to regulated manufacturing plants, particularly cheese plants. The latter frequently were paid patronage refunds made possible by their plants' participation in the order.

Uniform Payments to Producers. The balance of the funds was distributed uniformly to all CMPC producers. Any Chicago order plant that purchased less than 100 percent of its class I needs from CMPC and did not file reports for auditing with CMPC was presumed to be liable for the full class I charge on all class I milk it purchased from CMPC. If CMPC determined, through audit of producer payrolls, that a processor had been paying less than the minimum
Other economic aspects of CMPC services

The discussion up to now has not considered the economic effects of the higher prices for milk resulting from CMPC activities upon processors, consumers, or producers. That is the topic of this section.

Effects on Processors and Consumers. The average net class I charge over the years 1969-75 was 26.5 cents per hundredweight, or 3.1 cents per gallon. That amount, here termed the short-run effect, increased the price of class I milk to fluid milk processors by 3.9 percent above the federal order price.

During that period, total class I sales on the Chicago regional federal order market decreased 11.3 percent, an average of 1.9 percent per year (table 2). If we assume the price elasticity of the demand for fluid milk by consumers was -0.28 [20], class I sales could have declined an average of 1.09 percent per year as a result of CMPC class I prices being above federal order prices. This suggests that slightly more than half of the decline in class I sales might have been attributed to consumer response to the higher price resulting from the net class I charge.

By 1975, the net class I charge was 48.9 cents per 100 pounds of class I milk. We might define this as the cumulative or long-run effect of CMPC activities—that is, the extent to which by 1975 CMPC was able to raise the class I price above the federal order level as a result of its past bargaining activities. In 1975 this premium amounted to 5.7 percent of the federal order price. Although its specific effect would depend upon assumptions made as to the length of time it needed to have existed, this higher premium evidently could have contributed to an even greater reduction in consumption than the short-run effect considered previously.

In addition, CMPC was making service charges that in 1975 totaled 13.0 cents per hundredweight of class I milk. It was indicated earlier that services processors received in return for these charges, such as providing supplementary milk and disposing of surplus milk, could be performed more efficiently by a federation of cooperatives than by individual fluid milk processors. Consequently, if the charges made by CMPC did not exceed the cost to processors of performing the services they received, those charges did not increase the cost of milk to consumers. On the other hand, if, before CMPC was involved, some of these services were provided to processors at no charge, or at a smaller charge than CMPC made for them, these service charges also could have raised milk prices during this period, and so reduced consumption.

Aside from the effect upon consumption, we also must consider possible losses of sales by processors who purchased CMPC milk to processors who purchased lower priced milk from other sources. Between 1969 and 1975, Chicago order handlers' share of class I sales within the marketing area declined from 97.8 percent to 94.4 percent [8]. This suggests that CMPC credits and adjustments did not completely equalize the cost of milk to CMPC and non-CMPC competing handlers. Part of the competitive disadvantage of CMPC handlers was due to Chicago order pricing of milk at the point of first receipt rather than FOB the processing plant, while transportation allowances under the order were inadequate to cover actual transportation costs [9].

Effect on Price to Producers. During the 1969-75 period, the net class I charge raised the average blend price to producers by 10.6 cents per hundredweight above the federal order price, an increase of 1.7 percent. By 1975, the net class I charge added 17.5 cents per hundredweight, or 2.2 percent to the federal order price. If, however, we take into account the presumed effects of the increased prices during 1969-74 on production and consumption, the net addition to price in 1975 was less than these figures indicate. For example, if we assume that half of the increase in milk supplies on the order and half the drop in class I sales between 1969 and 1975 were attributable to the higher prices obtained by CMPC during that period, we estimate that the net premium in 1975 would have been 13.5 cents per hundredweight, or 1.7 percent of the federal order price. Or, if we assume that all the increase in producer receipts and decline in class I sales were attributable to the premiums obtained by CMPC in earlier years, we conclude that the blend price in 1975 was only 7.5 cents per hundredweight, or 0.9 percent, higher than it would have been without CMPC.

These estimates give some indication of the range within which the actual effect of CMPC activities on producer prices in 1975 probably fell. Any decision as to where the actual effect was within that range is a matter of judgment. It should be noted, however, that the responsiveness of supply probably was increased because, to a large extent, increases in producer receipts involved conversion of grade B milk to grade A. This conversion probably was more responsive to relatively small increases in price than the output of existing grade A producers would have been.

The response in producer deliveries was substantial. Between 1969 and 1975, while class I sales declined by 11.3 percent, producer receipts increased by 24.4 percent [2]. The resulting sharp increase in the amount of excess milk on the market is believed to have resulted from the combination of a too-wide class I differential, over-order pricing by CMPC, and lenient plant qualification requirements, which presumably helped to account for the increase of 110 percent in the number of supply plantsooled on the order between 1969 and 1975. Additional research is needed to determine how performance in the market would be affected by modification of these policies.

Associated with the increase in supplies has been an obvious change in the geographic pattern of producer prices. In accord with long-established principles of milk pricing, transportation allowances prescribed by the federal order supposedly result in the blend price being highest in the inner zone of the market and declining as distance to market increases [21, 1]. In the later years of this study, however, Chi-
cago-order producers in the surplus-producing areas of Wisconsin were receiving higher prices, often by 10 cents per hundredweight, than producers in zone 1. These premiums tended to be higher in the fall than in the spring [9]. This geographical pattern suggests that the combination of CMPC’s supply plant charge and manufacturing-plant payments may have overcompensated outer-zone suppliers in comparison with the rather small direct-ship premium on prices to inner-zone producers. This has resulted in some regulated cheese manufacturing plants, located mostly in the outer zones, being able to procure class III milk under the order at prices below the prevailing price for grade B milk.

Inner-zone milk production historically has been used almost exclusively in class I products. Under federal order regulations, which have been influenced by the cooperatives in the market and the cooperatives’ pricing policies, nearby producers now seemingly are penalized, not only by the need to share the fluid market with large numbers of outlying producers, but also by pricing provisions that favor outer-zone producers. The cooperatives’ producer distribution program is, at least in part, intended to deal with these problems.

Summary and Conclusions

This case study is concerned with the activities of cooperative federations in marketing milk in the Chicago regional federal order market. It describes those activities and evaluates their effects on processors, consumers, and producers.

The Chicago regional federal order marketing area encompasses approximately the northern one-fifth of Illinois and southern and most of eastern Wisconsin. Population centers include metropolitan Chicago, Milwaukee, Madison, Rockford, and smaller cities in southern and eastern Wisconsin.

Annual producer receipts under the order increased from 7.1 billion pounds in 1969 to 10.2 billion pounds in 1978. The rate of increase exceeded the average for all federal order markets, and since 1976 producer receipts in the market have been larger than those in any other federal order market. More than 90 percent of the receipts originate in Wisconsin. Much of the recent increase has represented conversion from the production of grade B to grade A milk by dairymen in that state.

The annual quantity of milk used in class I products in the market decreased by approximately 600 million pounds, or 16 percent, between 1969 and 1978, and the proportion of producer receipts so used dropped from 51 percent to 30 percent. The large and increasing quantity of excess milk is manufactured, primarily into cheese.

This large and growing surplus of milk on the market influences cooperative bargaining activities, particularly since substantial additional quantities of manufacturing-grade milk in Wisconsin are potentially available to increase market receipts still further. Cooperative bargaining activities also are complicated by some differences in goals among cooperatives belonging to the same federation. In general, operating cooperatives desire to qualify for the order while keeping as much of their milk as possible for manufacture, but bargaining cooperatives are mainly concerned with marketing fluid-grade milk. Other factors, such as seasonal variation in production and in class I sales and wide day-of-the-week fluctuations in processing and sales, also add to the difficulty of adjusting milk supplies to market needs.

During the early 1970s, some 98 percent of the milk receipts on the Chicago order market was from members of cooperatives. In 1975, about two-fifths each of the cooperative milk was from members of operating and of combination-type cooperatives and one-fifth from members of bargaining associations. Roughly half of the milk from cooperative producers was received at plants operated by cooperatives and half at proprietary plants. More than 75 percent of all order milk as well as more than 90 percent of the order milk received by cooperative plants was delivered to supply plants.

Nearly all the cooperative milk is marketed through federations. The largest of these, Central Milk Producers Cooperative (CMPC), includes all the largest cooperatives and all cooperatives that belong to any federation. In 1975 its members supplied 95 percent of the market’s milk. Its activities include advance pricing of milk, establishing service charges, implementing marketing programs, and allocating returns among producers.

A second major organization is Central Milk Sales Agency (CMSA), an unincorporated organization of seven operating and combination-type cooperatives, including the largest one in the market, Associated Milk Producers, Inc. (AMPI). AMPI is the service arm for CMSA and 15 proprietary suppliers, being referred to when it does so as the AMPI Agency. Its functions are (1) qualifying affiliated supply plants, (2) providing supplemental milk to processors, and (3) disposing of processors’ surplus milk. CMSA cooperatives accounted for 80 percent of all AMPI Agency milk, which was slightly more than half of all milk marketed by CMPC.

For milk to be regulated under the marketing order, it must be received by qualified plants. Fluid milk processing plants are qualified by marketing at least a specified minimum percentage of their grade A receipts in fluid milk products and in the marketing area. Supply plants qualify by shipping specified seasonally variable minimum percentages, or more, of their receipts to regulated processing plants. Qualification provisions of the Chicago order permit plants of one or more cooperatives to qualify as a unit. This reduces by approximately one-half the shipping percentages for individual plants, but does not reduce them for the unit as a whole.

One function of the AMPI Agency was to qualify affiliated supply plants. Agency firms needed to qualify to compete effectively for producers. Dwindling supplies of grade B milk, attributable at least in part to federal order and cooperative pricing policies, forced plants to obtain grade A milk to have sufficient volume to operate manufacturing facilities efficiently. Also, pooled plants could obtain milk used in manufacturing cheese more cheaply, by 48 to 69 cents per hundredweight in 1976, than could nonpooled plants.

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Firms affiliated with the AMPI Agency were willing to provide supplementary milk to fluid processors and to manufacture milk in excess of fluid needs for the AMPI Agency to qualify their supply plants. Collective marketing of their milk ensured individual plants of pooled status, promoted market stability, and strengthened their bargaining power.

The unit-qualification rule induced supply plants to become pooled collectively. Unit qualifications made possible marketwide as well as individual plant savings in transportation and in manufacturing costs. It did this by facilitating relatively heavier shipments to processors from nearby than from distant plants and by allowing manufacturing plants to keep as much of their milk as possible for manufacture.

A second major function of the AMPI Agency was to coordinate provision of supplemental milk on order by its plants to 13 fluid milk processing operations in metropolitan Chicago. These shipments constituted an increasing proportion of the market's class I milk as supplies from direct-ship producers declined. Seasonally, these shipments fluctuated widely; in 1976 the peak volume in October was nearly twice that in June. The bulk of the shipments was on Monday-Thursday. This indicates that Agency plants were supplementing processors' milk supplies from other sources on not only a seasonal basis but also a weekly basis. This function minimized processors' risk and uncertainty in obtaining needed supplies of milk. By performing this function for them and minimizing their surpluses, it enabled them to specialize in processing and distribution. In return, processors were made more dependent upon the Agency for milk and were required to pay prices and service charges set by the cooperative. Agency members incurred added costs in supplying milk in conformity with the seasonal and day-of-the-week patterns of need. Marketwide, however, significant savings were achieved because a centralized agency could meet needs with a smaller overall reserve of milk than individual plants would have required, and Agency plants could manufacture surplus milk more efficiently than most processors.

AMPI Agency also sold milk to manufacturing plants that processors received from direct-ship producers and receiving stations in excess of their needs. These sales, which were much heavier on weekends than during midweek, were made during April-July. While the Agency could perform this function more efficiently than individual processors, it incurred substantial costs in strengthening cooperative bargaining power in this way.

The seven cooperatives of CMSA serviced by the AMPI Agency and eight other cooperatives have bargained with handlers through the CMPC federation. CMPC established prices and service charges for about 95 percent of the total and class I milk on the order. It was in relatively good position to do this because it was the only single source of milk with sufficient volume to service most of the largest processors.

One of its major activities was advance pricing of milk. Class I milk was priced above the federal order minimum. The excess price, termed superpool premium or, more recently, class I charge, increased from 30 cents per hundredweight in 1972 to 72 cents in 1975. Competitive credits and adjustments, granted to impede entry by nonCMPC milk, reduced this charge by 20 to 30 percent. Between 1971 and 1975, these credits increased faster than the class I charge, indicating the depressing effect of nonCMPC competition. Nevertheless, the net class I charge increased from slightly more than 20 cents per hundredweight in 1971 and 1972 to about 48 cents in 1974 and 1975. Two aspects of this policy considered somewhat favorable to processors were that it reduced the frequency of class I price changes and that price increments were 15 cents per hundredweight or a multiple thereof, permitting processors to recoup some rise in other costs as well as milk when the price was increased.

CMPC also advance-priced milk used in some class II products and in class III baker's cheese in much the same manner as it did for class I milk. The purposes were to price this milk before rather than after it was used, to stabilize prices, and to obtain a small premium to finance CMPC's location adjustment credits on milk used in those products.

CMPC also established service charges for milk purchased from CMPC cooperatives. A charge of 5.0 cents per hundredweight on direct-shipped milk, which processors paid to producers who supplied it, was intended to compensate producers for part of the assembly cost savings and lack of opportunity for patronage refunds associated with direct shipping. A supply-plant charge of 22.5 cents per hundredweight partly compensated these plants for their cost of receiving, cooling, and storing milk and marketing it to processors.

Revenue from the net class I charge and smaller amounts from other sources went into the CMPC superpool fund. Part of this fund financed CMPC's marketing programs, administrative expenses, and the like, with the balance being paid to producers.

Some marketing programs, such as surplus milk pricing, credit on skim milk and small-load purchases, and milk replacement, together costing an average of 1.1 cents per hundredweight of class I sales, directly benefited handlers and, in effect, represented a partial refund of the class I charge to them. Most important of these was the surplus milk pricing program in which CMPC guaranteed processors 10.5 cents per hundredweight above the federal order price for surplus milk from CMPC direct-ship producers and receiving stations that was marketed by the AMPI Agency.

Among other payments from the fund was one of 15 cents per hundredweight to manufacturing plants of member cooperatives, which helped to adjust supplies of milk to market needs on shipments of whole milk to processors in excess of 21 percent of their producer receipts. Likewise, expenditures were made for advertising fluid milk products in areas where CMPC milk reached consumers. CMPC also drew from the fund to support the standby pool, thereby preventing entry into the market by plants in the pool and ensuring emergency supplies of milk at reasonable cost if needed. The largest expense from the fund was for payment of a marketing fee, normally 2.0 cents per hundredweight,
to the AMPI Agency and other cooperatives that performed marketing services.

Superpool funds remaining after financing the marketing programs and meeting certain other needs were distributed to producers under two or three different arrangements. Since late 1973, 20 percent of the class I charge paid by a processing plant was distributed to CMPC producers who supplied that plant. In periods of shortage, part of the fund has been distributed to producers of supply plants that shipped more than federal order minimum requirements. The remainder of the fund was distributed uniformly to all CMPC producers.

During the 1969-75 period, the class I charge raised the blend price to producers by an average of 10.6 cents per hundredweight, or 1.7 percent. The long-run effect on the blend price, however, was influenced by the responsiveness of production and class I consumption to price changes. If all the production and consumption changes in the market between 1969 and 1975 were attributed to CMPC pricing activities, the net effect by 1975 was to raise the blend price by 7.5 cents per hundredweight, or 0.9 percent, above the federal order level. If none of those changes were attributed to CMPC, the effect by 1975 was to raise the blend price by 17.5 cents per hundredweight, or 2.2 percent. Therefore, production and consumption responses possibly brought about by CMPC's pricing policies may by 1975 have reduced its effect on blend prices by as much as 10 cents per hundredweight, or 57 percent of that year's premium.

During the years 1969-75, CMPC's net class I charge averaged 26.5 cents per hundredweight, or 3.9 percent of the federal order price. Assuming the price elasticity of demand was -0.28, this premium could have accounted for slightly more than half of the decrease in class I sales during that period, and possibly increased service charges may have intensified that effect. Although order pricing methods may have been partly responsible, during that period Chicago order handlers' share of class I sales within the marketing area declined from 97.8 percent to 94.4 percent.

Between 1969 and 1975 producer receipts on the Chicago order market increased by 24.4 percent and class I sales decreased 11.3 percent. The resulting buildup of surplus milk evidently was attributable to an excessive class I differential and lenient pooling requirements under the federal order as well as to cooperative pricing policies, although all of these reflected cooperative bargaining efforts. The growth in supplies resulted in an unnecessary attachment to the order of outlying manufacturing plants with little commitment to the fluid market. Moreover, by 1975, prices paid to producers were higher in central Wisconsin than in the inner zones of the market. Evaluation of cooperative activities in the market should consider these developments.

These conclusions were drawn as to the effects of federation activities in the Chicago regional federal order market during 1969-75:

1. Bargaining activities increased producer pay prices to some extent. But, probably partly as a result of the superpool premium charged by CMPC, during the period of the study there was a sharp increase in producer receipts and a substantial decline in class I sales, both of which reduced the blend price. Moreover, despite a high percentage of cooperative membership in the market, CMPC competitive credits increased faster than the class I charge, and the proportion of the market's class I sales made by regulated handlers declined. These developments emphasize the limits to the amount of price enhancement possible through the exercise of bargaining power in this market.

2. Various federation activities increased barriers to entry by alternative supplies of milk. This was a major objective of participation in the standby pool. Credits and other allowances to processors who competed with milk from nonfederation sources were forms of limit pricing, which has the same objective. Even though the federation controlled most of the regulated supply of milk, these protective measures proved to be relatively costly.

3. Price enhancement resulting from federation activities presumably intensified the buildup of surplus milk on the market as additional supply plants qualified. This consequence, together with pricing class III milk below its competitive value under the order and perhaps more generous benefits under federation pricing and service charge policies, favored producers in outlying supply areas relative to those in the inner zones.

4. Because some federation activities directly benefited fluid milk processors and increased overall efficiency in marketing, the net class I charge was not fully reflected in a higher cost of milk to processors. Some federation marketing programs slightly reduced the cost of milk to processors. Others, such as providing supplemental milk and marketing processors surplus milk, could be carried out more efficiently by a centralized agency than by individual fluid milk processors. These activities also reduced processors' risk and uncertainty in the procurement of milk and in disposal of their surplus, stabilized milk prices and market conditions, offered advance pricing, and in other ways cultivated a harmonious relationship between them and cooperatives, which strengthened producer bargaining power.

5. Supply-demand balancing operations in the market were made more costly to cooperatives by seasonal and daily fluctuations in production and consumption. Existence of these fluctuations increased the comparative advantage of a centralized agency in providing supplemental milk and in disposing of surplus, thereby augmenting the benefits it could provide to fluid milk processors and to the market as a whole by performing those services.

6. To member cooperatives, federation activities provided assurance of the price benefits resulting from participation in the pool, greater bargaining power through collective action, savings in transportation costs, and more efficient manufacturing by taking advantage of the unit rule in pooling, compensation for certain services in adjusting market supplies to need, and other gains. The possibility of obtaining these benefits presumably made collective action in cooperative activity easier to attain than it would have been otherwise.

7. The bargaining gains achieved by the federation
resulted both from activities that benefited fluid milk processors and from activities that imposed added costs on them. Activities in the first category included providing processors with supplemental milk, disposing of their surplus milk at an attractive price, advertising, and the like. While beneficial to processors, some of these activities increased their dependence on CMPC. On the other hand, the addition of a class I charge and perhaps increased service charges, the reduction in sources of milk resulting from collective action among cooperatives, and activities designed to raise barriers to entry for nonfederation milk tended to increase the price of milk to processors and consumers. The federation was in a stronger position to impose these added costs upon processors because of the benefits it provided them. This power is limited, however, by the cooperatives’ lack of control over members’ production and the availability of alternative milk supplies.

8. There were indications that the federations were interested in, and trying to improve, equity, orderliness, stability, and efficiency in the market. There was evidence of this, for example, both in certain allowances to handlers and supply plants and in the arrangements for distributing to producers those funds remaining in the superfund after meeting marketing program and administrative expenses. The complexity of these arrangements reflected the intricate market situation in which the federation operated. The question should be raised as to whether the market situation was made more complicated by the sharp increase in milk supplies from manufacturing plants whose interest in the market did not conform to that of the producers who had long supplied it.

9. Operations of federations in the Chicago regional federal order market necessarily were influenced by provisions of the order. For example, standards of performance of supply plants were related to qualification requirements. Class I charges were related to the order class I price, and milk for class II products was advanced priced in conformity with expected levels of the order class II price. Moreover, some federation actions were intended to compensate handlers and producers for deficiencies in the order. This behavior did not necessarily absolve cooperatives of responsibility for the effects of controversial federal order provisions because cooperatives may have sought many of these provisions in attempts to increase their bargaining power.

References and Sources