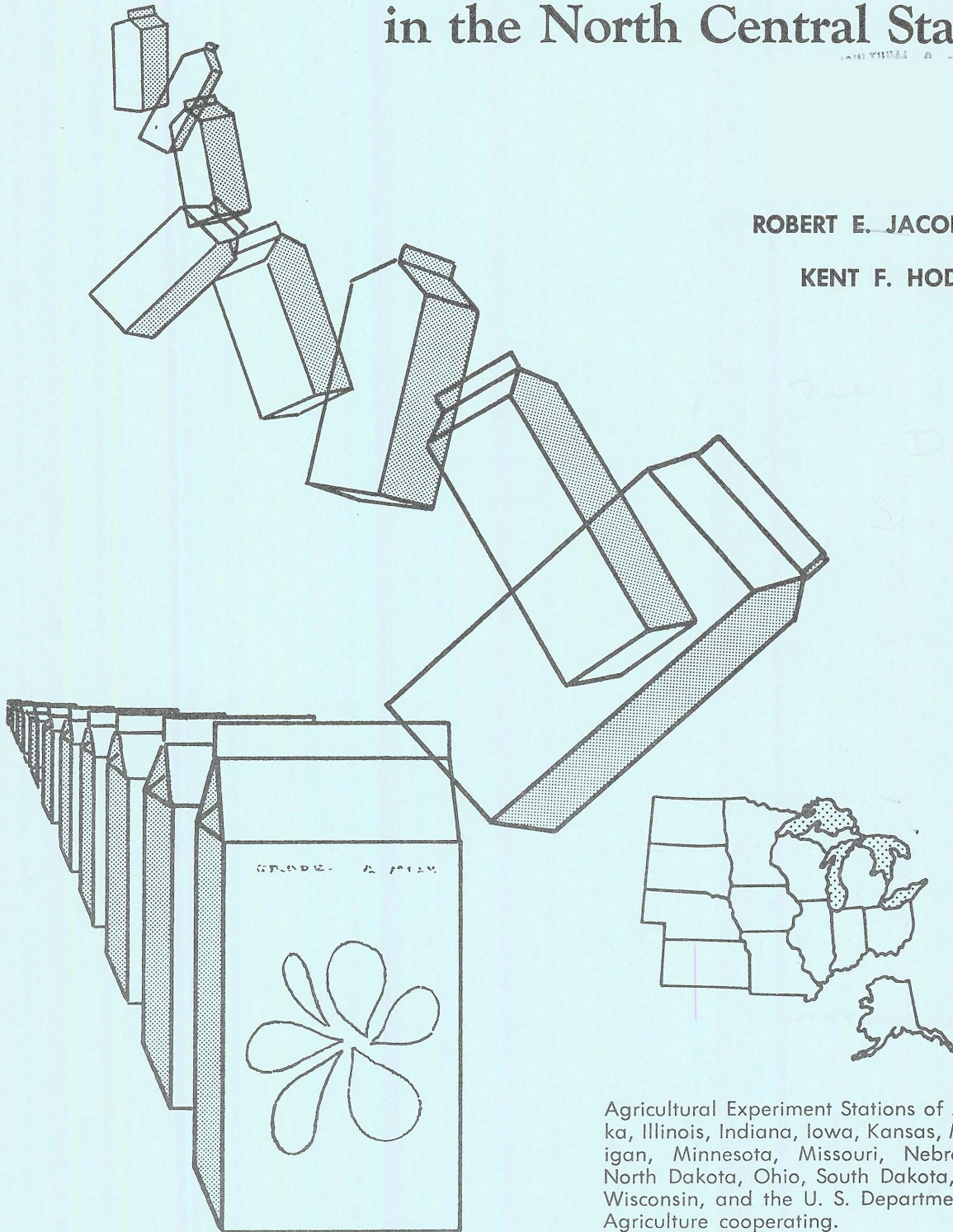


Adjustments by Dairy Marketing Cooperatives in the North Central States

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FOREWORD

This report is being published as part of the North Central Regional Project NCM-38, Dairy Market Adjustment Problems in the North Central Region. This is a cooperative study involving Agricultural Experiment Stations in the North Central Region and agencies of the U. S. Department of Agriculture.

Representatives from the following states and federal agencies participated in the study.

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INTRODUCTION

The most dramatic change in the dairy industry, particularly in the North Central Region, in recent years has been the explosive growth in size of dairy marketing cooperatives. Merger has been the primary means of achieving this growth. The merger of smaller cooperatives into large regional organizations apparently has been directed at developing more market power.

In part, the adjustments which dairy marketing cooperatives have been making have been in response to changes in other sectors of the milk market. Changes in the structure and operations of fluid milk processor-distributors have been one aspect of this response. The increasing emphasis on food store sales of fluid milk, coupled with the changing structure of the food store industry, has been another aspect of this response. These two sectors are analyzed in companion studies to this report.^{2 3}

Basically, the purposes of dairy marketing cooperatives, as directly affected by new marketing technology, have been primary movers in the adjustments of these organizations. The historic isolated marketing concept which led to the organization of many dairy marketing cooperatives has disappeared. Transportation, refrigeration, uniform health regulations, communications, and bulk handling are among the factors which relate directly to operations of cooperatives. Each of these factors has been prominent in the move to expanded marketing areas. As marketing areas have expanded, so have procurement areas. To effectively pursue their marketing and bargaining objectives in this new setting, dairy marketing cooperatives have had to face up to major adjustment decisions. This study is concerned with dimensions of the adjustment decisions made by dairy marketing cooperatives.

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²Ladd, George W. and Robert L. Oehrman. Oct. 1971. Factor Analysis of the Market Structure of the Fluid Milk Bottling Industry in the North Central Region. North Central Regional Research Pub. 210, Iowa State University of Science and Technology, 34 pages.

³Fallert, Richard F. Dec. 1971. A Survey of Central Milk Programs in Midwestern Food Chains. North Central Regional Research Pub. 211 and MRR 944, Economic Research Service, U. S. Dept. of Agriculture, 69 pages.

OBJECTIVES

Four basic purposes define the scope and intent of this study. These are:

1. To describe the current situation with respect to structure of dairy marketing cooperatives in the North Central Region.
2. To determine and examine the major objectives of dairy marketing cooperatives.
3. To determine and examine major areas of importance with respect to external and internal factors of bargaining power.
4. To examine and define adjustments which have taken place and to define possible adjustments in the future.

In addition, attention is directed to the changing structures of bottlers and food stores as they affect cooperatives. Finally, the attitudes of dairy cooperatives' management toward processors, unions, and food stores are examined.

CHANGING STRUCTURE OF MILK MARKETING COOPERATIVES

Cooperative marketing activity among milk producers has been and continues to be more important in total dollars than cooperative activity in any other farm enterprise. In the 1968-69 business year, dairy marketing cooperatives in the United States had sales amounting to \$4,642 million, exclusive of inter-cooperative sales.⁴ Sales by dairy marketing cooperatives were equivalent to 76 percent of total dairy farmer cash receipts from marketings.

All farm marketing cooperatives in the United States in 1968-69 had net sales totaling more than \$13.4 billion. Sales by dairy marketing cooperatives accounted for 34.5 percent of this total. Marketings of grain and soybeans by cooperatives were in second place, substantially behind dairy products, and accounted for 19.8 percent of cooperative marketings.⁵ Therefore, the importance of cooperatives in marketing milk and dairy products is obvious.

The past two decades have seen marked changes

⁴Ackley, Richard M. Dec. 1970. Statistics of Farmer Cooperatives, 1968-69. FCS Report 16, Farmer Cooperative Service, U. S. Dept. of Agriculture, p. 15.

⁵Ibid, p. 13.

TABLE 1.—Dairy Cooperatives in the United States: Number, Membership, and Sales, 1950-1968.*†

Year	Number of Dairy Co-ops	Total Memberships	Net Sales (Millions)
1950-51	1,928	814,000	\$1,934
1959-60	1,541	663,000	3,956
1968-69	1,027	413,000	4,642

*Ackley, Richard M. Dec. 1970. Statistics of Farmer Cooperatives, 1968-69. FCS Report 16, Farmer Cooperative Service, U. S. Dept. of Agriculture, p. 4.

†Organization and Competition in the Dairy Industry. Tech Study 3, NCFM, June 1966, p. 45.

in the structure of dairy marketing cooperatives. Some of these changes are recorded in Table 1.

Since approximately 70 percent of all dairy marketing cooperatives in the United States are headquartered in the North Central Region, the data in Table 1 provide a fair overview of the changing cooperative structure in both the region and the nation. The number of dairy cooperatives decreased by 46.7 percent in the 1950 to 1968 period, reflecting the reorganizations and mergers going on in the industry. Total membership decreased by 49.3 percent, reflecting the exit from dairy farming. Net sales increased by 143 percent, reflecting both higher prices and a higher proportion of milk and dairy products being sold on a cooperative marketing basis.

While the total dairy marketing cooperative structure is effecting the changes just described, the focal point of major adjustments by milk co-ops in the Midwest is centered in a relatively few organizations. The organization and growth of these few organizations has occurred primarily in the 1965 to 1970 period, and further growth through merger has continued up to the present (1971). The types of cooperatives analyzed in this study, i.e., primarily Grade A milk and Class I market oriented, and the types of cooperatives engaged in this dynamic growth are closely related. The following section describes the more prominent federation and merger activities which have recently occurred in the North Central Region.

Federation Activities

1. Great Lakes-Southern Milk, Inc.: Both federation and merger are dimensions of the growth activity of dairy cooperatives. The initial venture into inter-cooperative pricing and marketing occurred with the federation of five cooperatives in Ohio and Michigan in 1960. This federation has since become Great Lakes-Southern Milk, Inc. At the present time, it has 16 member cooperatives representing 32,000 milk producers. In 1970, Great Lakes-Southern marketed 13.2 billion lb. of milk in an area which included Michigan, Ohio, and most of the Southeast-

ern United States. Great Lakes-Southern has been concerned primarily with establishing Class I premium prices on an aligned basis across the market areas of member cooperatives. The federation has successfully and continuously implemented Class I price premiums from August 1, 1966, to the present time.

2. Associated Dairymen, Inc.: In 1964, a federation of 32 dairy cooperatives, stretching from Wisconsin to Texas, was organized under the name Associated Dairymen, Inc. The basis for federation at that time grew primarily out of the close working relationships which developed as dairy leaders responded to the 1963 U. S. Supreme Court decision on compensatory payments. The federation grew and engaged in various activities, including initial implementation of the Standby Pool in September 1967.

The rapid rate of merger of member cooperatives within Associated Dairymen has led essentially to the eclipse of this federation as such. Two major regional cooperatives have evolved out of the federation. These include Associated Milk Producers, Inc., formed by the merger of 11 cooperatives on November 1, 1969, and Mid-America Dairymen, Inc., formed initially by the merger of three cooperatives in the Kansas City area in early 1967.⁶

Other significant federation activities have been a part of the Midwest dairy industry. Some of these have been recent and have been concerned with pricing in fluid milk markets. Other federation activities have been historic and have included various marketing functions. For example, Land O'Lakes Creameries, Inc. was organized in 1921 as a federated dairy marketing cooperative to market butter. In 1970, Land O'Lakes realized more than \$650 million in sales and handled a wide variety of dairy and food products. However, the scope of this study is limited to dairy cooperatives primarily involved in marketing bulk Grade A milk in fluid milk markets.

Merger Activities

In the North Central Region, most of the substantial merger activity in recent years can be described in terms of four organizations. These are Mid-America Dairymen, Inc.; Associated Milk Producers, Inc.; Dairymen, Inc.; and Milk, Inc. There are other major milk marketing cooperatives outside of these four cooperatives, e.g., Michigan Milk Producers Association, but recent growth through merger is identified primarily with the four groups mentioned.

1. Mid-America Dairymen, Inc.: The formation of Mid-America in early 1967 was the first in a series of mergers which has rapidly expanded the base

⁶Dairy Record, June 19, 1968, 69(2):7.

and membership of this organization. The addition of Producers Creamery (Springfield, Mo.), together with two fluid milk cooperatives in the St. Louis market on July 1, 1968, plus the merging with Central States Dairy Cooperative (Omaha) and Twin Cities Milk Producers Association (St. Paul) in April 1970, represent the major actions in this growth.

As of mid-1971, Mid-America Dairymen, Inc., had grown to 24,000 producer members located in 13 states with marketings of 7.5 billion lb. of milk annually.⁷ More than 30 dairy cooperatives (depending on what generation of merged organizations are counted) have been merged into this single marketing association.

2. Associated Milk Producers, Inc.: In March 1969, the initial moves toward putting Associated Milk Producers, Inc. together were underway. About a dozen dairy cooperatives were involved in these plans. The scope of the geographic area was emphasized by the fact that the largest two organizations participating were Milk Producers, Inc. of Dallas, Texas (8,000 members) and Pure Milk Association of Chicago (10,800 members). The merger was consummated November 1, 1969, when 11 cooperatives merged into one. In the process of the merger discussions, Mid-America considered but decided against merging with the AMPI groups.

In early 1971, the large Pure Milk Products Cooperative (Wisconsin) merged with AMPI to make Associated Milk Producers, Inc. (with 45,000 members) the largest dairy marketing cooperative in the United States. A significant aspect of the AMPI merger effort of nearly 30 organizations has been the bringing together of fluid milk interests in Texas and Oklahoma with total dairy interests in the upper Midwest. The AMPI organization now markets an estimated 14 billion lb. of milk annually.

3. Dairymen, Inc.: Dairymen, Inc. was formed by a consolidation of eight cooperatives on September 1, 1968, with members primarily located in Kentucky, Louisiana, Mississippi, Tennessee, and Virginia. Kyana Milk Producers Association (Louisville), which had been an active member of the Great Lakes Milk Marketing Federation, was one of the merging cooperatives. As a result of the merging of Kyana into Dairymen, Inc., Great Lakes suddenly found itself with a vastly expanded territory. The Great Lakes Milk Marketing Federation therefore changed its name to Great Lakes-Southern Milk, Inc.

Six other cooperatives have merged into Dairymen, Inc. since the initial consolidation. Dairymen, Inc. currently has 11 operating divisions, a total of 10,000 members, and membership from 13 states represented in the organization.

Dairymen, Inc. is marketing an estimated 4 billion lb. of milk annually.

4. Milk, Inc.: Four of the member cooperatives of Great Lakes-Southern consolidated on January 1, 1970, to become Milk, Inc. The consolidating organizations included Milk Producers Federation (Cleveland); Northwest Cooperative Sales Association (Toledo); Akron Milk Producers Association; and Dairymen's Cooperative Sales Association (Pittsburgh-Charleston). Approximately 7,000 dairy farmers are members of Milk, Inc. and the organization markets close to 3 billion lb. of milk annually. The membership area extends to seven states.

Besides these types of federation-merger activities, other farm organizations have participated in dairy marketing and bargaining efforts in various degrees. For example, the National Farmers Organization, which came into being as a national bargaining group in 1959, is involved in milk bargaining activities. Such nationally based, multi-commodity types of associations of producers are not included in this analysis.

The substantial organizational adjustments which these specific federation and merger activities reflect are the focal point of this study. Many of the 59 cooperatives from which data have been gathered have either recently been involved in a merger or have since been involved in a merger. It is therefore possible to define some of the important parameters of the adjustment decision process.

METHODOLOGY

The data used in this analysis were generated from a questionnaire used in personal interviews with managers of cooperatives. Cooperatives were selected on the basis that the cooperative's major function was that of supplying milk to bottlers. This definition permitted cooperatives which process and package some of their milk to be included in the study. The final eligibility test was that the cooperative have a regular 12-month outlet for fluid milk. Interviews were conducted in 1968-69, even while many of the cooperatives were making major organizational adjustments.

It was intended that the complete population of eligible cooperatives in the North Central Region would be reported in this study. There finally were 59 valid schedules analyzed, and these were recorded in Illinois, Indiana, Iowa, Kansas, Minnesota, Missouri, Nebraska, Ohio, and Wisconsin.

The schedule consists of two parts: 1) descriptive information with respect to operations of the cooperatives, and 2) management opinions concerning adjustments affecting cooperatives.

⁷Hoard's Dairyman, Sept. 10, 1970, p. 921; March 25, 1971, p. 345.

The descriptive information has been developed primarily in two areas of consideration. These include producer-oriented and dealer-oriented services and types of buyers for Class I milk.

The analysis of management opinions is based primarily on mean values and standard deviations obtained for 164 statements presented to the dairy cooperative managers for judgments of importance. The 164 statements represent 11 areas of inquiry. These include:

1. Objectives of cooperatives
2. Internal factors affecting bargaining power
3. External factors affecting bargaining power
4. Factors affecting adjustments by cooperatives
5. Adjustments made by cooperatives
6. Adjustments planned by cooperatives
7. Effects of changes by cooperatives on bottlers
8. Effects of growth and size of food stores on cooperatives
9. Reactions about fluid milk processors
10. Reactions about wholesale milk drivers' unions
11. Reactions about supermarket chains

Each statement was analyzed on the basis of all 59 observations, and was ranked against other statements in that area of inquiry. For example, one statement was presented to the managers in terms of the effect that control of farm-to-plant hauling by the cooperative would have upon bargaining power. This statement was one of 13 included among the internal factors affecting bargaining power. Managers were asked to rate this factor on a minus 99 (harmful) to a plus 99 (beneficial) scale. As a general arbitrary guideline to interpreting scores, responses in the —60 to —99 range were defined as very harmful, while positive scores in the 60 to 99 range were defined as very beneficial. Similarly, scores in the —20 to —60 range were moderately harmful, while positive scores in the 20 to 60 range were moderately beneficial. Scores in the —19 to +19 range, including zero, were defined as having little to no effect. The mean value response to this particular factor was +53, with a standard deviation of 38.

Two-thirds of the responses to each question were within one standard deviation of that question's mean score; one-sixth of the responses were below this range and one-sixth were above. Thus, if the mean score and standard deviation for a question were 53 and 38, the responses from two-thirds of the cooperatives were between 15 (53 minus 38) and 91 (53 plus 38), one-sixth of the responses were below 15, and one-sixth were above 91. These responses were then classified according to various organizational characteristics. Classifications reported in this study include number of members in the cooperative

and percentage of Grade A milk in the procurement area marketed through the cooperative.

There are three categories for the size of membership classification. These include: small (0-200 members); medium (201-850 members); and large (851 or more members). Three classes were also defined in terms of the percentage of Grade A milk in the procurement area marketed through the cooperative. These include: low market share (20 percent or less); medium market share (30-59 percent); and high market share (60 percent and more). The 59 cooperatives were subjected to a two-way classification in terms of the size and market share classes. The distribution among classes is shown in Table 2.

Other classifications were considered but were not used. They provided no additional useful information.

In the analysis, emphasis is given to the *all-59 cooperatives'* responses rather than to differences among the nine sub-classes. In testing the hypothesis that means among the sub-classes differed significantly, only 11 of the 132 relevant variables tested on this basis reflected a significant difference. Therefore, means for the all-59 category are emphasized and are interpreted to indicate the overall judgment of cooperative managers toward a given factor. However, the tables present mean responses and standard deviations for the nine sub-classes of cooperatives as well as for all 59 cooperatives.

CHARACTERISTICS AND SERVICES OF DAIRY MARKETING COOPERATIVES

The average number of members in the cooperatives surveyed in this study was 1,231. The range in membership was from less than 200 to more than 13,000. The percent of milk in its procurement area marketed through the cooperative ranged from very small to almost 100 percent. However, on an average basis, only 42 percent of the milk in its procurement area was marketed through the cooperative.

In terms of the volume of milk marketed, the average cooperative grew by 13 percent in the 5 years prior to the interview and currently was marketing 284 million lb. of Grade A milk annually (some of the cooperatives also had substantial marketings of manu-

TABLE 2.—Distribution of Cooperatives According to Market Share and Size of Membership.

Size of Membership	Market Share		
	Low Market Share	Medium Market Share	High Market Share
Small Membership	5	8	4
Medium Membership	5	4	5
Large Membership	10	8	10

facturing grade milk). With respect to the Grade A volume, an average of 80 percent was sold in bulk to fluid handlers, 16 percent was manufactured as surplus milk in the cooperative's own plant, and 4 percent was diverted as surplus milk to other plants.

Among the responding cooperatives, 23 had no surplus facilities and 36 had some type of surplus handling facilities. Twenty of the 36 cooperatives with facilities had a handling capacity of at least 125 million lb. per year.

Four additional characteristics of these dairy marketing cooperatives are:

1. Twenty-seven of the 59 cooperatives had been involved in a merger during the preceding 5 years. The annual market volume of milk for the merging cooperatives was increased by an average 32 percent as a result of the merger.

2. Forty-one of the cooperatives exacted Class I price premiums which averaged 30.5 cents per cwt. during 1967. Size of premiums among the 41 getting premiums ranged from 7 cents to 50 cents per cwt.

3. The major type of outlet for the dairy cooperatives was "the proprietary processor with more than one milk plant."

4. Only 40 of the 59 cooperatives had some form of contract with their producer-members. Further, only one-third of the dairy cooperatives with membership agreements indicated that they would be willing to enforce the agreement in court if necessary.

With respect to contracts with haulers, only one-third of the surveyed cooperatives had contracts with haulers which included assignment of producers and establishment of rates.

Producer and Dealer Services

The scope of the programs of the dairy cooperatives was gauged in terms of services provided to member producers and services supplied to customer milk dealers. Seventeen producer-oriented services were specified and the cooperatives indicated whether they provided these services. The producer services are ranked in order of frequency in Table 3.

More than two-thirds of the cooperatives reported that they provided 12 of the 17 producer services specified.

Table 4 indicates dealer services provided by the dairy cooperatives. Nine services are specified and these are ranked according to frequency of offering.

In connection with the dealer-oriented services, the cooperatives were asked to estimate the cost milk dealers would incur if they were performing these services themselves. The response of 43 cooperatives indicated that the services they provided had an average cost of 11.6 cents per cwt. The managers of the

TABLE 3.—Percent of 59 Cooperatives with Producer-Oriented Services.

Producer Service	Percent of Co-ops Providing Service
1. Provide market information to members	98
2. Represent in Federal order proceedings	95
3. Check testing and weighing producer milk	90
4. Bargain for super-pool premiums	84
5. Engage in promotional programs in local market	84
6. Deduct from producers for national advertising-promotion	84
7. Conduct quality control education and inspection programs	84
8. Sell farm supplies	81
9. Provide group life or health insurance	76
10. Bargain for service or handling charges	69
11. Directly haul or control hauling in farm to plant assembly	69
12. Help members improve production efficiency	69
13. Finance farm bulk tanks	50
14. Obtain credit for members	33
15. Provide credit for members	28
16. Provide disaster insurance for members	22
17. Operate seasonal pricing plan outside of Federal order	16

co-ops also estimated that their average service charge amounted to 10.06 cents per cwt.

OBJECTIVES OF DAIRY MARKETING COOPERATIVES

The initial area of inquiry concerned the priority objectives of the dairy marketing cooperatives. Objectives of dairy co-ops have been identified in other studies.⁸ In this analysis, managers of cooperatives were presented 21 factor statements which could possibly be cooperative objectives. The managers were asked to rate the harmful (—99) to beneficial (+99)

⁸Ladd, George W. and Hallberg, M. C. April 1967. Factors Affecting the Bargaining Power of Some Dairy Bargaining Cooperatives. Spec. Report 52, Iowa State University, p. 18.

TABLE 4.—Percent of 59 Cooperatives with Dealer-Oriented Services.

Dealer Service	Percent of Co-ops Providing Service
1. Insure delivery of high quality milk	93
2. Write producer checks	79
3. Deliver or control delivery of milk to bottling plant	74
4. Divert surplus	69
5. Full supply agreement	53
6. Operate supply-equalization plant	52
7. Standardize fat content of milk	28
8. Manufacture ice cream mix	24
9. Package fluid milk products for sale to dealers	19

TABLE 5.—Objectives of Dairy Cooperatives: Mean Values and Standard Deviations for All 59 Cooperatives and Nine Sub-classes of Cooperatives, Based on Scale of —99 to +99.*

Objective	All 59	Low Share Small Size	Low Share Medium Size	Low Share Large Size	Medium Share Small Size	Medium Share Medium Size	Medium Share Large Size	Large Share Small Size	Large Share Medium Size	Large Share Large Size
1. Negotiating price which will give members the highest net return for milk this year	77 (23)	82 (15)	82 (17)	78 (27)	66 (24)	65 (34)	76 (18)	95 (5)	85 (26)	75 (25)
2. Maintaining a continuous market for members' milk	87 (17)	97 (4)	84 (16)	90 (13)	76 (26)	94 (10)	86 (18)	81 (28)	85 (21)	92 (9)
3. Obtaining largest possible Class I sales	74 (36)	86 (16)	87 (12)	76 (31)	61 (43)	90 (11)	66 (43)	70 (47)	48 (74)	89 (9)
4. Securing as nearly 100 percent control of milk produced in procurement area as possible	61 (46)	42 (35)	38 (80)	67 (41)	39 (72)	43 (39)	72 (39)	56 (39)	74 (19)	90 (13)
5. Increasing the size of the procurement area	23 (46)	38 (79)	30 (37)	37 (36)	—1 (60)	25 (19)	—4 (46)	44 (33)	6 (13)	37 (42)
6. Obtaining for producers the estimated value of services performed for handlers	55 (34)	68 (39)	56 (35)	64 (30)	42 (34)	60 (36)	50 (41)	69 (46)	47 (41)	51 (29)
7. Maintaining good relations with handlers	76 (24)	88 (13)	74 (26)	77 (21)	77 (27)	85 (10)	59 (29)	93 (7)	65 (41)	79 (20)
8. Improving efficiency in milk procurement and assembly	70 (34)	55 (78)	84 (16)	78 (19)	75 (27)	58 (26)	53 (35)	69 (46)	80 (32)	73 (26)
9. Helping members to adjust to changing conditions	65 (31)	79 (28)	60 (40)	57 (34)	62 (39)	70 (12)	52 (31)	93 (7)	70 (30)	62 (29)
10. Making better market information available to members	71 (29)	70 (37)	56 (29)	68 (28)	75 (35)	75 (19)	51 (32)	93 (7)	76 (33)	84 (12)
11. Securing control of as much milk sold in major market as possible	59 (35)	24 (30)	60 (37)	73 (29)	26 (29)	53 (41)	67 (31)	63 (42)	68 (39)	79 (19)
12. Providing standby manufacturing facilities for market	55 (37)	36 (29)	62 (30)	50 (45)	67 (38)	33 (30)	59 (34)	0 (41)	81 (19)	70 (19)
13. Processing as much milk into manufactured products as possible	—26 (58)	—42 (81)	—34 (53)	—1 (59)	—29 (66)	—45 (41)	—35 (55)	59 (41)	—33 (30)	—51 (47)
14. Manufacturing as much as possible of members' Grade A milk which has to be manufactured	36 (58)	—22 (87)	38 (59)	52 (42)	34 (66)	—20 (54)	54 (34)	19 (89)	61 (44)	54 (43)
15. Reducing intermarket competition among cooperatives	61 (44)	54 (43)	48 (65)	56 (47)	82 (27)	—15 (30)	71 (37)	63 (42)	68 (41)	81 (18)
16. Negotiating intermarket agreements with other cooperatives to maximize prices to farmers	76 (32)	84 (22)	80 (20)	65 (49)	73 (35)	87 (9)	85 (17)	93 (7)	74 (42)	75 (34)
17. Merger or consolidation with other cooperatives as means of increasing farmers' bargaining power	58 (48)	50 (59)	18 (73)	75 (28)	37 (60)	70 (25)	58 (31)	47 (55)	58 (77)	84 (20)
18. Increasing control over hauling in order to strengthen bargaining power	41 (37)	54 (45)	40 (37)	55 (38)	21 (25)	30 (35)	19 (17)	47 (55)	45 (44)	57 (36)
19. Represent producers effectively in Federal order hearings and in legislation	80 (22)	87 (16)	78 (20)	72 (34)	75 (29)	80 (14)	82 (16)	95 (5)	85 (16)	80 (23)
20. Gain prestige as the largest cooperative in the market	15 (47)	—32 (41)	0 (58)	30 (40)	—11 (28)	0 (65)	37 (41)	45 (52)	20 (35)	24 (46)
21. Gain prestige as the sole supplier of major handlers in the area	13 (47)	—18 (49)	—20 (58)	28 (62)	—6 (28)	—10 (20)	38 (40)	23 (45)	24 (43)	26 (40)

*In each case, the mean is the first reported value; the standard deviation is in parentheses directly below the mean.

effect (in a relative sense) that the achievement of each possible objective would have upon the cooperative. The responses both identified and ranked objectives.

Table 5 indicates the means and standard deviations for each objective for all 59 cooperatives. In addition, means and standard deviations for each of the nine sub-classes of cooperatives are reported. The 21 objectives listed in Table 5 are not ranked but are reported in the same order as in the questionnaire.

For all 59 cooperatives together, the objective *maintaining a continuous market for members' milk* recorded the highest mean (+87) and one of the lower standard deviations (± 17). On an arbitrary basis, the eight objectives listed in Table 5 having means of 68 or higher are defined as major objectives. These major objectives have the higher mean values and have relatively small standard deviations. A second set of objectives having mean values ranging from 64 to 54 are defined as minor objectives. The remaining possible objectives, all with means of 41 or less and with generally high standard deviations, do not appear to reflect any significant priority as far as managers are concerned.

The eight major objectives do not represent any single thrust on the part of cooperative management. However, five of the eight major objectives, including Nos. 1, 2, 3, 16, and 19 in Table 5, indicate a strong price orientation. Among the minor objectives, four of those seven objectives, including Nos. 4, 11, 15, and 17, also imply a strong price orientation. These observations are not surprising since pricing, whether in an historic marketing sense or in a more recent bargaining sense, is acknowledged to be a basic function of dairy cooperatives.

For the nine sub-classes of cooperatives categorized in Table 5, the data vary so that no single generalization for all 21 objectives taken together is possible. In a number of instances, each size-concentration sub-class of cooperatives reflects some agreement with the other sub-class for a given objective. For example, objective 1, i.e., *negotiating a price which will give members the highest net return for milk this year*, received positive scores ranging from a low mean of 65 for the "medium share-medium size" sub-class to a high mean of 95 for the "large share-small size" sub-class. The range in means among sub-classes for several of the objectives is similar to that of objective 1.

For nine of the objectives, the range in means among sub-classes exceeds 50 points. These include objectives Nos. 4, 11, 12, 13, 14, 15, 17, 20, and 21. A review of these nine objectives indicates that a primary focus of all nine of these objectives is the strength or power position of dairy cooperatives in the market. The range in means suggests some differ-

ence in thinking among managers with respect to marketing power objectives.

As the sub-classes moved to increased size and concentration, manager responses generally scored higher for these nine objectives. It is therefore observed that managers of the larger and more concentrated cooperatives appeared more sensitive to the expected effect of achievement of the several market power objectives than the other managers. For example, the average mean of these nine objectives for the "low share-small size" cooperatives was 10.2; the average mean of these nine objectives for the "large share-large size" objectives was 50.7.

BARGAINING POWER OF COOPERATIVES

The major emphasis on bargaining and bargaining power by milk marketing cooperatives in recent years indicates that the various internal and external (to the cooperative) factors affecting bargaining power should be evaluated. In approaching the management of cooperatives on this subject, bargaining power was not defined but was left to their individual interpretations. However, the implicit definition of bargaining power in the interview process was "the degree of influence one party has over another to force . . . concessions, or the ability to effect agreements on one's own terms. . ."⁹

Factors affecting bargaining power were categorized as either internal or external. Internal factors represent those factors which are within the context of the cooperative organization and over which the cooperative can be expected to have a substantial degree of control. External factors are those factors outside of the organization of the cooperative which directly affect the ability of the cooperative to bargain.

Internal Factors Affecting Bargaining Power

Thirteen statements were presented to managers of cooperatives on internal factors affecting bargaining power. For all 59 cooperatives, the statement *having loyal members in the cooperative* easily ranked as the most beneficial factor in the bargaining position of the organization (Table 6). This factor had the highest mean (89) and the lowest standard deviation (14) among the 13 factors. Interestingly enough, the lowest ranking factor (mean = 37) was *the cooperative's being willing to enforce the membership contract in court*. Thus, the highest and lowest ranking internal factors related to member relations. Obviously, the management of cooperatives felt that strong member-cooperative relations were crucial to bargaining power, and that legal recourse in enforcement of membership contracts was not a generally desirable means of enhancing bargaining power.

⁹Ladd, op. cit., p. 5.

The responses of management to the internal factor statements are reported in Table 6. For all 59 cooperatives, 11 of the 13 factors received considerable support as having a beneficial effect upon bargaining power (means of higher than 60). However, the factor of *control of farm-to-plant hauling by the cooperative*, as well as the contract enforcement factor, reflected a lower estimated effect. An inference could be drawn from these relative responses that management is reluctant to confront membership in some areas of marketing, including assignment and hauling of member milk.

Most of the responses for all 59 cooperatives on the internal factor question also describe the responses among the nine sub-classes. However, three items are notable:

1. The first factor, *having a high percentage of Grade A milk in the procurement area marketed through the cooperative*, received a substantially strong response from those cooperatives with the higher market share. For example, the simple average mean for

the three "large share" sub-classes on statement 1 was 7, while this same measure for the "low share" and "medium share" sub-classes was 63 and 67 respectively.

2. For the fifth factor, *the cooperative's being willing to enforce the contract in court*, the "medium share" cooperatives were more reluctant to engage in court action than the "small share" and "large share" sub-classes. This may indicate that cooperatives fitting the "medium share" classification are in a relatively more competitive situation with other cooperatives for members, and therefore are more reluctant to strain member relations.

3. For cooperatives fitting the three "small size" sub-classes, a lower priority was assigned to those factors associated with facilities for handling and processing milk.

External Factors Affecting Bargaining Power

The effect of external factors on bargaining power of cooperatives was measured by advancing 16 state-

TABLE 6.—Internal Factors Affecting Bargaining Power: Means and Standard Deviations for All 59 Cooperatives and Nine Sub-classes of Cooperatives.

Factor	All 59	Low Share Small Size	Low Share Medium Size	Low Share Large Size	Medium Share Small Size	Medium Share Medium Size	Medium Share Large Size	Large Share Small Size	Large Share Medium Size	Large Share Large Size
1. Having a high percentage of Grade A milk in procurement area marketed through cooperative	74 (27)	54 (41)	60 (28)	76 (28)	67 (28)	55 (41)	80 (19)	96 (4)	82 (14)	83 (14)
2. Control of farm-to-plant hauling by the cooperative	53 (38)	68 (24)	24 (33)	55 (40)	51 (43)	45 (52)	38 (30)	64 (35)	82 (20)	55 (45)
3. Having facilities for storing and processing of manufactured milk	62 (37)	30 (30)	60 (31)	80 (24)	57 (41)	35 (30)	64 (42)	23 (61)	82 (20)	79 (16)
4. Having a written, legally enforceable contract with members	66 (33)	64 (35)	62 (48)	62 (29)	45 (41)	82 (17)	56 (34)	62 (43)	87 (17)	82 (23)
5. Being willing to enforce the contract in court	37 (50)	42 (49)	36 (58)	42 (53)	9 (54)	10 (87)	34 (37)	45 (42)	67 (45)	50 (42)
6. A favorable attitude toward the contract by members	72 (32)	68 (35)	42 (39)	75 (24)	55 (41)	85 (5)	73 (36)	95 (5)	87 (12)	76 (32)
7. Having loyal members in the cooperative	89 (14)	97 (4)	80 (21)	89 (15)	87 (15)	83 (5)	97 (4)	97 (5)	91 (10)	85 (18)
8. Having adequate capital and credit available which the co-op may use to build processing or other milk handling facilities	69 (34)	48 (50)	86 (16)	79 (23)	53 (47)	45 (41)	67 (36)	60 (45)	85 (21)	83 (14)
9. Large volume of milk under control of the cooperative	68 (35)	22 (61)	82 (25)	71 (36)	52 (41)	60 (29)	75 (25)	80 (27)	76 (15)	81 (18)
10. Being able to provide handlers with desired services	74 (25)	64 (35)	82 (20)	79 (25)	54 (32)	78 (13)	69 (28)	85 (23)	84 (11)	78 (17)
11. Cooperative has an effective public relations program	70 (26)	84 (11)	64 (32)	65 (31)	70 (29)	73 (15)	59 (25)	80 (27)	74 (37)	77 (23)
12. A good cooperative newsletter for members	69 (26)	52 (29)	66 (35)	67 (29)	67 (32)	75 (10)	63 (25)	85 (17)	70 (20)	77 (23)
13. Good relations with other agricultural bargaining groups or organizations	71 (29)	89 (17)	70 (33)	70 (29)	57 (35)	83 (5)	64 (35)	95 (5)	67 (27)	67 (35)

ments to managers relative to the apparent external considerations in bargaining. The responses are recorded in Table 7 for all 59 cooperatives and for the nine sub-classes of cooperatives.

For all 59 cooperatives, seven of the factors were reported to have beneficial effects upon bargaining while nine factors were reported to be harmful to bargaining. The most beneficial factor was that of *having Federal order regulation* (mean = 74). At the same time, the factor *not having government regulation* had a mean of -46, indicating a strong judgment that the absence of regulation was harmful to the bargaining power of cooperatives. However, a negative response (mean = -6) to the factor *having state milk control* clearly reveals that managers of co-

operatives believe that the type of regulation beneficial to their bargaining power is Federal and not state.

Most of the other beneficial factors were associated with the idea of close and formal working relationships with other dairy marketing cooperatives. For example, the factor *having a federation or good working relationship with other fluid milk cooperatives* gained the second highest positive mean (70) among the several factors.

Existence of other source milk and competition from other markets, including substitutes, clearly revealed themselves as the major external limits on bargaining power. The factor *handlers easily able to obtain milk from other sources* recorded the strongest negative mean (-62) for all 59 cooperatives. Three

TABLE 7.—External Factors Affecting Bargaining Power: Means and Standard Deviations for All 59 Cooperatives and Nine Sub-classes of Cooperatives.

Factor	All 59	Low Share Small Size	Low Share Medium Size	Low Share Large Size	Medium Share Small Size	Medium Share Medium Size	Medium Share Large Size	Large Share Small Size	Large Share Medium Size	Large Share Large Size
1. Having Federal order regulation	74 (31)	76 (20)	70 (33)	75 (33)	26 (42)	90 (8)	90 (9)	85 (23)	84 (16)	83 (17)
2. Having State milk control	-7 (53)	-18 (84)	16 (67)	10 (43)	-35 (55)	-10 (20)	-8 (44)	12 (62)	-26 (67)	-5 (41)
3. Not having government regulation	-46 (51)	-52 (66)	-22 (74)	-48 (50)	-11 (55)	-55 (44)	-70 (38)	-66 (45)	-36 (58)	-61 (29)
4. Large size of milk processing firms	6 (53)	34 (78)	38 (55)	-3 (59)	4 (35)	-20 (28)	-6 (44)	55 (40)	-4 (66)	-10 (46)
5. Large size of food retailers	-24 (50)	-60 (36)	-56 (40)	-32 (47)	-6 (58)	-38 (43)	-25 (48)	26 (63)	-3 (64)	-22 (43)
6. Price advantage of handlers in one market which gives them a competitive advantage in another market	-51 (38)	-52 (37)	-58 (43)	-51 (38)	-49 (31)	-53 (38)	-49 (33)	-75 (28)	-51 (47)	-42 (51)
7. Active competition from handlers in other markets	-23 (48)	-8 (67)	-34 (38)	-47 (45)	-35 (40)	-8 (44)	-17 (41)	-19 (38)	2 (39)	-18 (64)
8. Successful bargaining by cooperatives in other markets in the area	57 (43)	64 (32)	54 (42)	65 (42)	42 (53)	53 (38)	65 (28)	86 (10)	34 (68)	55 (47)
9. Presence of large quantities of manufacturing grade milk in the area	-36 (40)	-50 (22)	-52 (30)	-13 (33)	-49 (37)	-25 (30)	-44 (31)	-83 (23)	0 (43)	-31 (49)
10. Having a federation or other good working relationship with other fluid milk cooperatives	70 (30)	82 (11)	68 (33)	74 (32)	66 (32)	85 (10)	64 (33)	85 (17)	86 (13)	53 (39)
11. Presence of substitutes such as filled and imitation milk	-55 (35)	-68 (36)	-74 (32)	-56 (37)	-70 (35)	-60 (43)	-44 (36)	-71 (25)	-30 (37)	-39 (29)
12. Having good relations with other agricultural bargaining groups or organizations	54 (37)	44 (71)	64 (35)	51 (37)	59 (36)	40 (28)	45 (27)	90 (8)	53 (42)	54 (35)
13. Joint bargaining negotiations among cooperatives in the area or region	69 (33)	82 (17)	60 (42)	75 (32)	59 (39)	80 (16)	67 (33)	70 (47)	71 (41)	65 (33)
14. Joint sales program with other cooperatives in the area or region	56 (37)	52 (29)	44 (45)	67 (37)	54 (44)	70 (20)	58 (35)	45 (52)	49 (46)	56 (38)
15. Large proportion of milk sold through stores	-7 (43)	-4 (46)	-14 (43)	7 (58)	-12 (22)	-10 (20)	-24 (31)	10 (58)	11 (42)	-15 (52)
16. Handlers easily able to obtain milk from other sources	-62 (35)	-76 (22)	-60 (51)	-70 (26)	-53 (37)	-38 (43)	-70 (27)	-74 (23)	-35 (56)	-66 (27)

other closely related factors (Nos. 6, 7, and 9 in Table 7) also recorded strong negative responses.

The factor *presence of substitutes such as filled and imitation milk* was of substantial concern to the managers (mean = -55). Since the questionnaire was taken at a time when filled milk was a significant factor in the market, responses to this statement were influenced by that fact.¹⁰

The *large size of milk processing firms* (mean = 6) was not particularly bothersome to managers concerning their bargaining position. However, more concern was expressed with the size of food retailers (mean = -24) as compared to milk processing firms. This may be due to the obvious advantages which food chains have in negotiating for milk supplies, and the continuing question of how extensively food retailers are going to integrate into milk processing.

In almost all instances, the means for the 59 cooperatives provided a reasonable picture of the responses for all nine sub-classes. However, there were two exceptions. First, while the *large size of milk processing firms* reflected a low overall concern, management became increasingly sensitive to larger processing firms as a bargaining factor as cooperatives increased in size. Second, the factor *active competition from handlers in other markets* was of greater concern to the sub-classes of cooperatives having lower percentages of Grade A milk in the procurement area marketed through the cooperative. Apparently those cooperatives with higher market shares could be more indifferent to the impact of outside packaged milk as far as their bargaining position was affected.

ADJUSTMENTS BY MILK MARKETING COOPERATIVES

Milk marketing cooperatives have been and are undergoing major organizational and operational adjustments. These adjustment activities are apparently in part a matter of co-op initiative and in part a matter of response to changing market conditions. In this study, three dimensions of the adjustment question are investigated. These include: factors affecting adjustments by cooperatives, adjustments made by the cooperatives, and adjustments planned by the cooperatives.

Factors Affecting Adjustments by Cooperatives

Eighteen factors were presented to managers of cooperatives to ascertain the effect a given factor would have upon the making of adjustments by co-

¹⁰Comparable external limits to bargaining power have been reported for the processing tomato industry. See Babb, E. M., S. A. Belden, and C. R. Saathoff, Feb. 1969. An Analysis of Cooperative Bargaining in the Processing Tomato Industry. American Journal of Agricultural Economics, 51(1): 13-25. Bargaining power limits as well as various attitudes on the bargaining issue, similar in findings to this study, are reported in that article.

operatives. The response of management to these suggested factors is presented in Table 8 for all 59 cooperatives and the nine sub-classes of cooperatives.

For all 59 cooperatives, 10 of the 18 factors showed positive means. The important factors influencing adjustments were the availability of capital and credit to the cooperative. The factor *having a good source of credit available* recorded the highest ranking mean (71), and the factor *having small amount of capital and reserves* recorded the lowest ranking mean (-62).

Other high ranking factors (means of 60 or higher) related to the membership educational program and to having innovative employees, directors, and members.

Size and growth considerations figured as factors in the adjustment process. *Large size of cooperative* was viewed as beneficial (mean = 42) and *small size of cooperative* was viewed as harmful (mean = -32) to the making of adjustments. At the same time, the factor *having growth as an objective* received a positive score (mean = 52). However, the intermediate values of scores for these factors do not imply the higher priority which might have been hypothesized concerning their role in adjustment.

While lack of capital was the first ranking deterrent to adjustment, *loss by the cooperative of Class I sales in regular market* ranked as second (mean = -49). The standard deviation (50) associated with this factor indicates a wide range of opinion about this factor. It seems probable, however, that the risk and uncertainty in shifting Class I markets are prime concerns to many cooperatives.

The only other negative factor with a fairly decisive judgment (mean = -39) was that of *opposition of milk processors and food chains to activities of the cooperative which might compete with theirs*. This factor apparently limits cooperatives somewhat due to a reluctance to implement adjustments which would place them in both a supplying role and a competitive role with the processors and food chains.

Factors related to fear of anti-trust action and relationships or reactions from other cooperatives also received negative scores on the adjustment question, but these concerns were very limited.

Responses for all 59 cooperatives again provided a relatively accurate reflection of responses for the nine sub-classes. However, it is noted that the four factors relating to member education and innovative employees, directors, and members, all of which scored strong positive responses, were scored particularly high by the three sub-classes of large market share cooperatives.

Factors related to size of cooperative suggested only that large sized cooperatives were more prone to believe that small size was an obstacle to adjustment.

Neither a growth objective nor fear of anti-trust action showed any notable differences among the several size and concentration sub-classes.

Adjustments Made by Cooperatives

Actual adjustments made by cooperatives within the preceding 5-year period were recorded by presenting 16 possible adjustments to co-op managers. The managers were asked to check whether or not the adjustment had been made and, if made, what effect the adjustment had upon the cooperative. Table 9 indicates the number of co-ops (out of 59) making each adjustment, and the mean scores (harmful to benefi-

cial) of that adjustment for the co-ops making the adjustment.

Among the 59 cooperatives, the numbers making the various specified adjustments ranged from 0 to 33. Since the number of cooperatives making adjustments in each sub-class was therefore very small, no analysis among sub-classes was undertaken. The reported means and standard deviations for a given adjustment are for the combined market share-size sub-classes of cooperatives making the adjustment.

The adjustment receiving the highest mean score (74) was *developed agreement with other cooperatives*

TABLE 8.—Factors Affecting Adjustments by Cooperatives: Means and Standard Deviations for All 59 Cooperatives and Nine Sub-classes of Cooperatives.

Factor	All 59	Low Share Small Size	Low Share Medium Size	Low Share Large Size	Medium Share Small Size	Medium Share Medium Size	Medium Share Large Size	Large Share Small Size	Large Share Medium Size	Large Share Large Size
1. Having large amounts of capital and reserves	68 (37)	40 (74)	70 (33)	78 (27)	61 (44)	80 (16)	56 (38)	97 (5)	62 (39)	75 (26)
2. Having small amounts of capital and reserves	-62 (38)	-52 (74)	-74 (29)	-69 (32)	-63 (40)	-75 (10)	-43 (39)	-95 (5)	-62 (39)	-52 (33)
3. Having good source of credit available	71 (30)	75 (43)	80 (20)	74 (28)	71 (31)	23 (45)	67 (26)	88 (5)	80 (18)	74 (24)
4. Willingness of the organization to risk financial losses	20 (61)	14 (60)	-46 (54)	41 (61)	-6 (62)	40 (37)	37 (30)	66 (45)	-32 (88)	41 (45)
5. Having an effective membership educational program	66 (30)	48 (42)	52 (26)	67 (36)	59 (41)	68 (19)	62 (22)	93 (7)	70 (31)	79 (22)
6. Having innovative directors	62 (42)	60 (47)	58 (55)	43 (62)	46 (44)	78 (13)	44 (36)	95 (5)	84 (18)	83 (21)
7. Having innovative members	61 (40)	58 (47)	58 (55)	42 (62)	58 (37)	70 (12)	41 (33)	95 (5)	80 (18)	75 (21)
8. Having innovative personnel in the cooperatives	69 (40)	78 (18)	62 (54)	54 (59)	46 (43)	85 (6)	62 (52)	95 (5)	89 (11)	84 (19)
9. Opposition of milk processors and food chains to activities of the cooperative which might compete with theirs	-39 (39)	-12 (58)	-32 (43)	-39 (31)	-63 (39)	-15 (10)	-49 (36)	-67 (23)	-34 (51)	-33 (38)
10. Large size of cooperative	47 (37)	20 (32)	60 (24)	53 (40)	34 (38)	40 (37)	45 (35)	45 (52)	38 (44)	71 (27)
11. Small size of cooperative	-32 (45)	-16 (43)	-42 (47)	-45 (56)	-38 (40)	-5 (34)	-49 (37)	8 (54)	-6 (61)	-45 (34)
12. Having growth as an objective of the cooperative	52 (35)	50 (33)	60 (28)	51 (42)	50 (47)	38 (26)	44 (32)	82 (17)	58 (45)	48 (32)
13. Fear of anti-trust action	-17 (30)	-26 (46)	4 (17)	-22 (23)	-16 (28)	5 (10)	-11 (38)	-20 (24)	-28 (41)	-26 (25)
14. Concern about attitude of other cooperatives toward the cooperative's adjustments	-5 (35)	36 (22)	24 (33)	-10 (16)	-18 (16)	18 (24)	-10 (28)	-57 (29)	-10 (47)	-6 (40)
15. Having stiff price competition from other cooperatives	-21 (46)	-12 (52)	16 (59)	-30 (45)	-47 (48)	-13 (25)	-13 (43)	-44 (65)	-1 (19)	-27 (43)
16. Having stiff price competition from proprietary firms	-23 (45)	-24 (46)	20 (51)	-33 (44)	-47 (44)	-20 (16)	-17 (54)	-36 (66)	-1 (19)	-28 (39)
17. Loss by the cooperative of Class I sales in regular market	-49 (50)	-20 (81)	-46 (69)	-66 (28)	-68 (43)	-26 (43)	-49 (38)	-52 (52)	-18 (63)	-55 (50)
18. Sale of milk by the cooperative on outside markets	35 (41)	56 (35)	52 (46)	37 (33)	50 (45)	36 (34)	14 (45)	30 (24)	53 (21)	12 (51)

TABLE 9.—Adjustments Made by Cooperatives: Number of Cooperatives Making Adjustments and Means and Standard Deviations on Effects of Adjustments.

Adjustment Made	Number of Cooperatives Making Adjustment	Mean	Standard Deviation
1. Better management of milk supply, e.g., obtained control over hauling	18	55	23
2. Obtained control of larger proportion of milk in the supply area	33	56	32
3. Provided more services to handlers, e.g., standardizing milk, paying producers	26	55	38
4. Went into processing but not distribution on custom packaging basis	10	60	36
5. Went into processing but not distribution, with milk sold to distributors	15	65	35
6. Went into both processing and distribution, with home and store delivery	10	70	37
7. Went into both processing and distribution, with home delivery only	11	50	38
8. Went into both processing and distribution, with store delivery only	—	—	—
9. Went into both processing and distribution, with sales through dairy stores or controlled outlets	1	20	—
10. Diversified into non-dairy operations	17	61	35
11. Developed wider markets for milk	30	57	30
12. Merged or consolidated with other cooperatives	27	65	31
13. Federated with other cooperatives	22	69	24
14. Developed sales agreement with other cooperatives to market milk collectively	15	68	29
15. Developed agreement with other cooperatives to respect each other's markets	7	74	32
16. Performed standby functions for the market	8	65	37

TABLE 10.—Adjustments Planned by Cooperatives: Number of Cooperatives Planning Adjustments and Means and Standard Deviations on Expected Effects of Adjustments.

Adjustment Planned	Number of Cooperatives Planning Adjustment	Mean	Standard Deviation
1. Better management of milk supply, e.g., obtained control over hauling	20	49	31
2. Obtained control of larger proportion of milk in the supply area	36	59	30
3. Provided more services to handlers, e.g., standardizing milk, paying producers	26	60	34
4. Went into processing but not distribution on custom packaging basis	13	55	31
5. Went into processing but not distribution, with milk sold to distributors	13	54	33
6. Went into both processing and distribution, with home and store delivery	8	31	64
7. Went into both processing and distribution, with home delivery only	12	50	41
8. Went into both processing and distribution, with store delivery only	0	0	0
9. Went into both processing and distribution, with sales through dairy stores or controlled outlets	1	20	0
10. Diversified into non-dairy operations	19	51	33
11. Developed wider markets for milk	31	53	33
12. Merged or consolidated with other cooperatives	23	53	30
13. Federated with other cooperatives	17	76	26
14. Developed sales agreement with other cooperatives to market milk collectively	14	70	29
15. Developed agreement with other cooperatives to respect each other's markets	7	86	22
16. Performed standby functions for the market	3	86	23

to respect each other's markets. However, only seven cooperatives reported making this adjustment. The crucial questions of federation and merger were scored as quite beneficial. Twenty-seven cooperatives reported merger, with a mean score of 65. Twenty-two cooperatives reported federation, with a mean score of 69.

The several adjustments concerned with processing and distribution by the cooperative generally had beneficial effects for the relatively few cooperatives which had made this kind of an adjustment. In fact, for all 14 adjustments which two or more co-ops had implemented, mean positive scores of 50 or higher were recorded. Since the managers generally were key personnel in making the adjustment decisions, it is not surprising that there was a general endorsement of the effects of the adjustments.

Only five of the specified adjustments were reported by more than 20 of the cooperatives. In addition to the merger and federation adjustments, these included: *obtained control of larger proportion of milk in supply area, provided more services to handlers, and developed wider markets for milk.*

These five most frequently mentioned adjustments all relate to the growth and operations of dairy cooperatives in a relatively traditional sense. However, they indicate the emphasis that dairy cooperatives are giving to growth as an essential ingredient to bargaining-marketing effectiveness.

Adjustments Planned by Cooperatives

In this section, the question concerns what adjustments the cooperatives plan to make in the next 5 years and the expected effect of each adjustment. The 16 proposed adjustments are identical to those specified in the previous section on adjustments made. Adjustments are defined as being means of achieving objectives.

Thirty-six cooperatives planned to *obtain control of larger proportion of milk in the supply area.* Managers recording this most frequently checked adjustment gave it a mean score of 59 (quite beneficial). At the other end of the scale, the two adjustments concerned with processing and store delivery only or controlled outlet delivery essentially were not included in cooperative planning.

To a large extent, the number of cooperatives planning to make a given adjustment (Table 10) is similar to the number of cooperatives which have already made that adjustment (Table 9). Mean scores for the expected effects of adjustment also are similar to the mean scores for adjustments already made. The implication is that those cooperatives which have already made a specific adjustment are making plans to go further in implementing that same adjustment.

Also implied is that news about successful adjustments spreads and other cooperatives copy the leaders. It is noted in particular that 23 cooperatives are planning merger and 17 are planning federation. It has already been observed that 27 cooperatives had merged and 22 had federated in the previous 5 years. Therefore, no immediate let-up in the rate of such growth actions in the future is evident.

For the series of adjustments concerned with vertical integration (Nos. 4-9) in Tables 9 and 10, the reactions of co-op managers suggest that enthusiasm for the vertical integration option is quite limited. Managers have completely rejected the idea of selling their packaged fluid product only through retail stores or only through their own controlled outlets, both in fact and in plans. However, several of the cooperatives had moved into processing and packaging fluid milk, or were making plans to do so. Their actions and plans in distribution ranged from very limited operations (dock pick-up) to complete doorstep and store delivery. The effects or expected effects of these adjustments were generally favorable, although not markedly so. The responses finally do not provide a clear insight regarding the direction which cooperatives will take on the vertical integration question.

EFFECTS OF CHANGES AMONG BOTTLERS ON COOPERATIVES

Market conduct is generally observed to be a function of market structure. The decrease in number of fluid milk handlers and the concomitant increase in size is believed to be a primary factor in a changed pattern of market conduct by handlers as they interact with their supplying dairy cooperatives. This new behavioral relationship would then have direct effects upon the cooperatives.

The general question of what effects changes in structure of the fluid milk processing industry had on cooperatives was investigated by presenting nine statements to cooperative managers on various phases of their relationships with handlers. Statements were phrased in terms of the effect the decrease in number and increase in size of handlers had upon a given aspect of the handler-cooperative relationship. Responses for all 59 cooperatives and for the nine subclasses of cooperatives on these structure-conduct relationships are reported in Table 11.

The primary factor to evaluate as processor structure concentrates is the effect upon bargaining power of the cooperative in its dealings with handlers. Management of cooperatives felt that there was almost no effect, harmful or beneficial, on their bargaining power due to the increased concentration of handlers (mean = 2). Nor did any of the nine sub-

classes indicate any real effects. While small cooperatives might have been expected to be more affected by handler concentration, their management did not view things that way.

However, responses to the second factor, *handlers' ability to obtain needed milk from sources other than the cooperatives*, indicated that cooperatives might in fact benefit in a bargaining sense from the increased concentration of handlers. The mean response for all 59 cooperatives for this factor was —25. Apparently co-op managers believe that the increased size of fluid milk processors makes it more difficult for these processors to assure themselves of adequate supplies from outside sources. This factor would then work in favor of the local cooperative in its bargaining efforts. Managers in all nine sub-classes of cooperatives reacted similarly to this statement.

For apparently similar reasons to the previous factor, co-op managers discounted the *ability of handlers to take advantage of mal-alignment of Federal order prices at the expense of the cooperative* (statement No. 3 with a mean of —17). It would seem that the need for a large volume of raw milk at a given plant location makes it difficult for processors to exploit

Class I price mal-alignment. This also apparently holds for multi-plant organizations.

Co-op managers indicated that the decreasing number and increasing size of milk dealers were factors in the frequency of price wars and other excessive competition and that, in turn, such excessive competition was harmful to cooperatives. The mean response for this 4th factor was —24. The nature of harmful effects to cooperatives was not determined. However, it is observed that producer groups become sensitive to excessive wholesale-retail competition because of what becomes a survival question for some of the cooperatives' customers. Responses among the nine sub-classes of cooperatives were in general accord with the overall response.

The factor of greatest concern to co-op managers (mean = —27) was No. 5, i.e., *fluctuations in volume of sales by the cooperative as handlers' business is gained or lost*. The increased concentration of milk dealers, together with competition for the large volume food store accounts by these milk dealers, places obvious new burdens on cooperatives as they supply raw milk. In some instances, these problems are limited to the cooperative as it attempts to divert, or acquire,

TABLE 11.—Effects of Changes Among Bottlers on Cooperatives: Mean Values and Standard Deviations for All 59 Cooperatives and Nine Sub-classes of Cooperatives.

Effect of Decrease in Number and Increase in Size of Handlers Upon:	All 59	Low Share Small Size	Low Share Medium Size	Low Share Large Size	Medium Share Small Size	Medium Share Medium Size	Medium Share Large Size	Large Share Small Size	Large Share Medium Size	Large Share Large Size
1. The bargaining power of the cooperative in dealing with handlers it supplies with milk	2 (45)	—12 (67)	—16 (51)	5 (45)	3 (55)	—5 (10)	8 (59)	20 (40)	4 (36)	5 (34)
2. Handlers' ability to obtain needed milk from sources other than the cooperative	—25 (40)	—44 (43)	—24 (43)	—26 (31)	—12 (65)	—25 (39)	—17 (40)	—20 (40)	—14 (19)	—41 (34)
3. Ability of handlers to take advantage of mal-alignment of Federal order prices at the expense of the cooperative	—17 (42)	—20 (35)	—28 (43)	—14 (40)	—15 (63)	0 (28)	11 (38)	—20 (40)	—34 (41)	—34 (35)
4. The frequency of price wars and other excessive competition which indirectly injures producers	—24 (47)	—46 (52)	—16 (59)	—36 (42)	—50 (51)	15 (44)	14 (38)	—23 (45)	—26 (42)	—33 (35)
5. Fluctuations in volume of sales by the cooperative as handlers' business is gained or lost	—27 (36)	—28 (39)	—28 (41)	—24 (34)	—55 (44)	—15 (39)	—29 (36)	—	—4 (9)	—32 (33)
6. Problems to the cooperative resulting from bad debt losses and failures among handlers	—5 (41)	—8 (11)	—8 (59)	—8 (45)	—26 (42)	—10 (12)	—11 (46)	—5 (73)	—2 (4)	0 (43)
7. Ease with which the cooperative can obtain service charges and premiums	2 (41)	—10 (54)	—28 (41)	9 (40)	—17 (41)	18 (43)	21 (44)	20 (40)	—10 (2)	9 (39)
8. Amount of time the cooperative must spend in maintaining good relations with handlers	11 (31)	12 (39)	0 (37)	8 (24)	—12 (29)	10 (35)	16 (33)	33 (39)	16 (36)	20 (25)
9. Types and varieties of services the cooperative must provide to handlers	7 (37)	6 (68)	8 (33)	4 (30)	—11 (29)	5 (38)	24 (43)	33 (39)	18 (35)	—3 (23)

bulk milk. In other instances, an entire market's utilization may be substantially affected as Class I sales are displaced by outside sources. In either case, management was seriously concerned with the effects of such fluctuations on the cooperative. This concern was reflected by management in the several sub-classes of cooperatives.

Four other factors were advanced to co-op managers to measure their reactions to the effects on cooperatives of the increasing concentration of handlers. These include problems to the cooperatives: *resulting from bad debt losses and failures of handlers; in gaining service charges and premiums; in maintaining good relations with handlers; and in having to provide various services to handlers.* None of these factors appeared to generate *harmful* or *beneficial* reactions from managers. Slightly positive means were recorded for the latter three factors, while a mean of -5 was recorded for the bad debt-failure factor (Table 11).

Again, responses among the various sub-classes of cooperatives were generally consistent with the overall response.

EFFECTS OF GROWTH AND LARGE SIZE OF FOOD RETAILERS ON COOPERATIVES

It is generally observed in the fluid milk industry that a substantial shift in bargaining power has occurred between fluid milk processors and food stores in recent years. De-emphasis on brands, increased sensitivity to price differences, and vertical integration activities have been factors in shifting bargaining power from processors to food stores.¹¹ Since an estimated 60 percent of the packaged fluid milk in the United States is sold through food stores, most of which are chains or affiliated independents, a part of the impact of this power shift is hypothesized to ex-

¹¹Organization and Competition in the Dairy Industry. Tech Study No. 3, NCFM, June 1966, pp. 120-121.

TABLE 12.—Effects of Growth and Large Size of Food Retailers on Cooperatives: Means and Standard Deviations for All 59 Cooperatives and Nine Sub-classes of Cooperatives.

Effects of Growth and Large Size of Food Chains on This Cooperative as Reflected in:	All 59	Low Share Small Size	Low Share Medium Size	Low Share Large Size	Medium Share Small Size	Medium Share Medium Size	Medium Share Large Size	Large Share Small Size	Large Share Medium Size	Large Share Large Size
1. Acquisition or loss of business in large lots by its handlers as they gain or lose food chain accounts	-31 (36)	-46 (43)	-28 (18)	-29 (36)	-45 (48)	-13 (46)	-41 (36)	-10 (20)	-8 (11)	-37 (32)
2. Changes in area over which the cooperative must deliver milk because of switches in food chain accounts among handlers	-20 (31)	-46 (43)	-26 (26)	-21 (33)	-32 (45)	8 (22)	-8 (18)	— ()	-4 (9)	-28 (25)
3. The cooperative's losses from bad debts of processors	-1 (27)	-8 (11)	8 (11)	10 (21)	-27 (41)	-5 (10)	19 (41)	-5 (10)	— ()	-6 (16)
4. Extent to which processors bicker with the cooperative over weights and tests	-6 (26)	-16 (26)	0 (14)	-9 (25)	-20 (38)	-15 (19)	15 (35)	— ()	-2 (4)	-8 (19)
5. Amount of credit the cooperative must supply to processors	-3 (26)	-22 (39)	4 (9)	-10 (17)	-14 (35)	5 (10)	11 (36)	21 (43)	— ()	-7 (8)
6. Influence of merchandising policies of food chains upon rates of milk consumption in the cooperative's market	-7 (25)	-26 (34)	-6 (33)	-2 (15)	-14 (31)	8 (15)	-1 (12)	-20 (40)	-4 (9)	-7 (31)
7. Changes in quantity of milk sold by the cooperative because of the processing of milk by some food chains	-13 (31)	-44 (45)	0 (0)	-11 (33)	-30 (41)	8 (22)	0 (3)	-18 (24)	-6 (9)	-13 (34)
8. Effects of the processing of milk by some food chains upon the bargaining position of the cooperative	-18 (32)	-52 (50)	-28 (27)	-17 (22)	-39 (43)	0 (0)	-15 (35)	-13 (15)	0 (0)	-1 (12)
9. Effects of attitudes of food chains toward cooperatives upon the bargaining position of the cooperative	-13 (30)	-32 (46)	-20 (20)	-18 (39)	-23 (31)	-15 (10)	-1 (26)	-13 (25)	-4 (9)	0 (31)
10. Effects upon the cooperative of sale of private label brands of milk by some food retailers	-19 (30)	-42 (40)	-48 (48)	-16 (27)	-26 (36)	-10 (26)	4 (24)	-13 (25)	-6 (9)	-20 (14)
11. Effects upon potential gains from the cooperatives going into processing and distribution	-10 (30)	0 (57)	-5 (36)	-1 (10)	-20 (32)	-5 (41)	-24 (35)	-10 (20)	-4 (9)	-14 (25)

tend through the processor and to the dairy cooperative. This question was investigated by presenting 11 statements to co-op managers concerning the effects of growth and large size of food retailers upon the cooperative. Responses to these statements are reported in Table 12.

For all 59 cooperatives, negative means were recorded for each of the 11 statements. This implies immediately that co-op managers generally viewed the growth and large size of food retailers as being detrimental to the cooperative. Co-op managers were particularly concerned with the effects of switches in large volume food store accounts among handlers. Statements 1 and 2, both of which related to this issue, recorded the most negative responses (means of -31 and -20 , respectively).

A second factor of concern to co-op managers related to specific market power variables identified with food chains. Vertical integration, private labeling, and attitudes of food chains toward cooperatives were scored as having slightly harmful effects to co-ops. These responses are recorded for statements 7, 8, 9, and 10 in Table 12, with means of -13 , -18 , -13 , and -19 , respectively.

Co-op management was relatively indifferent to several statements, although slightly negative means were recorded. The managers did not see harmful or beneficial effects from the changing structure of food retailers in terms of *co-op losses from bad debts of processors*, *bickering with processors over weights and tests*, *credit which the co-op supplies processors*, and *effects of food chains' merchandising policies on rate of milk consumption*.

Responses for all 59 cooperatives were, for the most part, similar to responses for the nine sub-classes of cooperatives. However, three items in Table 12 should be noted.

1. For statement 2, the 3 "low-share" sub-classes appeared to be more sensitive than the other sub-classes. This statement, *changes in the area over which the cooperative must deliver milk because of switches in food chain accounts among handlers*, seemed to pose slightly greater problems for the low-share group. Apparently cooperatives with smaller market shares are apt to have greater difficulty in gaining new Class I outlets.

2. The *influence of merchandising policies of food chains upon rates of milk consumption in the cooperative's market* (statement 6) was considered more harmful by the small-size cooperatives than by the other sub-classes. The logic to this reaction is that promotions of milk may cause surges of demand in the market, but this only aggravates procurement problems and may have negative consumption effects over time. Smaller co-ops could be more sensitive to this

than other co-ops because they have relatively less flexibility in a supply equalization sense.

3. Statement 7, *changes in quantity of milk sold by the cooperative because of the processing of milk by some food chains*, received more harmful scores by managers of the small cooperatives as compared to the other sub-classes. While vertical integration of food chains affects all cooperatives, smaller co-ops would be particularly affected because they would not be in position to supply the total needs of a large volume plant typical of a food chain's milk plant.

The responses elicited for Table 12 differ from responses for previous tables because a large number of zero responses were recorded. The number of zero responses for the statements ranged from 22 (of 59) for statement 1 to 42 for statement 4. According to the scale used, a zero response was defined as either *no effect* or *no opinion*. Since food retailers are generally connected only indirectly with dairy cooperatives, it is probable that the *no opinion* response was as prominent as the *no effect* response. Co-op managers appeared to be reluctant to express judgments about effects unless they were directly involved in the activity. All of the means presented in Table 12 are weighted substantially by the high frequency of zero responses to the 11 statements.

REACTIONS OF COOPERATIVE MANAGEMENT TOWARD FLUID MILK PROCESSORS

Inquiries were directed to managers of cooperatives to ascertain their reactions about fluid milk processors. Adjustments of cooperatives are reasoned to be partially influenced by relationships with fluid milk processors, and the statements to managers were designed to describe this relationship. Fifteen statements were presented to co-op managers; their responses are reported in Table 13. The statements were presented in terms of the extent of agreement each manager had with a given statement.

For all 59 cooperatives, managers indicated some agreement with 11 of the 15 statements (positive means) and some disagreement with 4 statements (negative means). The two statements recording the highest over-all positive means indicated that a mutually responsible relationship exists between dairy co-ops and fluid milk processors. These statements are: *most milk processors accept cooperatives as legitimate bargaining agencies for producers* (mean = 67); and *most milk processors live up to agreements they make with cooperatives* (mean = 66).

The one other statement receiving a relatively high mean (63) related to the bargaining relationship with processors. There was agreement that *most milk processors are more concerned about buying milk as cheaply as their competitors than about the abso-*

lute level of price they pay. The agreement with this statement, together with agreement with the previous two statements, implies a basic element of stability in processor-cooperative relationships.

Co-op managers did not support the statement that *most milk processors have no concern about the welfare of milk producers* (mean = -14). They also failed to support the statement that *milk processors have too much influence upon Federal order decisions and provisions* (mean = -16). These two

disagreement responses and the three agreement responses bracket the range of responses of management.

Two additional important observations are noted in the responses for all 59 cooperatives. First, there was general agreement that processors wanted cooperatives to engage in various market services (statements 5, 6, 9, and 13 in Table 13). Second, co-op managers were generally satisfied with the efficiency of operations of processors in that they saw no super-

TABLE 13.—Reactions of Cooperative Management Toward Fluid Milk Processors: Mean and Standard Deviations for All 59 Cooperatives and Nine Sub-classes of Cooperatives.

Statement	All 59	Low Share Small Size	Low Share Medium Size	Low Share Large Size	Medium Share Small Size	Medium Share Medium Size	Medium Share Large Size	Large Share Small Size	Large Share Medium Size	Large Share Large Size
1. Fluid milk processors often make unreasonable demands on cooperatives	9 (49)	4 (55)	-18 (46)	22 (62)	4 (45)	9 (14)	8 (47)	-22 (78)	36 (40)	17 (43)
2. Most milk processors live up to agreements they make with cooperatives	66 (34)	62 (23)	48 (30)	52 (54)	71 (19)	70 (25)	81 (8)	92 (9)	66 (19)	64 (50)
3. Most milk processors have no concern about the welfare of milk producers	-14 (53)	-30 (57)	-10 (71)	-2 (46)	-9 (72)	-13 (53)	-41 (46)	-18 (52)	20 (43)	-19 (52)
4. Most milk processors have no interest in the success of fluid milk bargaining cooperatives	-1 (57)	-14 (65)	-10 (70)	-12 (48)	8 (83)	6 (11)	-13 (63)	25 (60)	6 (52)	9 (52)
5. Most small milk processors want the cooperative to take over field work and other procurement services	38 (53)	48 (52)	24 (65)	36 (56)	23 (63)	35 (41)	29 (63)	63 (42)	26 (70)	61 (35)
6. Most large milk processors want the cooperative to take over field work and other procurement services	32 (52)	46 (44)	22 (78)	38 (46)	9 (55)	11 (10)	14 (63)	55 (40)	28 (67)	58 (37)
7. Most small processors agree with the cooperative on most major issues	18 (42)	46 (31)	32 (41)	-12 (24)	34 (36)	11 (25)	19 (52)	54 (37)	-4 (47)	13 (47)
8. Most large processors agree with the cooperative on most major issues	7 (45)	32 (28)	0 (51)	4 (37)	29 (49)	-9 (27)	29 (49)	-30 (52)	-14 (46)	-3 (42)
9. Most milk processors want the cooperative to dispose of surplus milk	53 (54)	30 (62)	10 (74)	59 (43)	32 (77)	77 (17)	48 (60)	45 (59)	87 (17)	75 (20)
10. Milk processors have too much influence upon Federal order decisions and provisions	-16 (52)	-12 (77)	-8 (30)	-26 (34)	15 (66)	16 (44)	-54 (38)	11 (60)	-7 (54)	-32 (47)
11. Most milk processors process, package, and distribute milk more efficiently than other marketing agencies could do	38 (43)	38 (67)	24 (22)	16 (47)	63 (43)	54 (34)	41 (30)	53 (38)	46 (36)	26 (50)
12. Most milk processors accept cooperatives as legitimate bargaining agencies for producers	67 (26)	70 (17)	48 (23)	62 (29)	54 (42)	77 (17)	64 (28)	85 (6)	64 (19)	82 (11)
13. Most milk processors resent having full supply contracts with cooperatives	-3 (50)	-20 (66)	36 (36)	-6 (48)	-18 (43)	-4 (46)	-7 (42)	13 (49)	1 (56)	-3 (63)
14. Most milk processors are more concerned about buying milk as cheaply as their competitors than about the absolute level of the price they pay	63 (49)	14 (87)	64 (35)	54 (52)	57 (66)	87 (9)	62 (32)	55 (70)	76 (15)	83 (17)
15. Most milk processors too urgently seek the prestige of obtaining large national and regional supermarket chain accounts	28 (50)	16 (68)	64 (29)	22 (52)	50 (40)	-14 (31)	-10 (52)	73 (22)	28 (40)	34 (44)

ior alternative to present arrangements (statement 11).

In analyzing the nine sub-classes of cooperatives, only three statements reflected some difference as compared to the reactions for the over-all response. First, the "medium share" cooperatives were less inclined to agree that *most large milk processors want the cooperative to take over field work and other procurement services*. Second, the "small size" cooperatives agreed the most strongly that *most small processors agree with the cooperative on most major issues*. Finally, the "large size" cooperatives were in much stronger disagreement with the statement that *milk processors have too much influence upon Federal order decisions and provisions* than the other sub-classes of cooperatives.

REACTIONS ABOUT WHOLESALE MILK DRIVERS' UNIONS

Managers of dairy cooperatives would be expected to have well-defined reactions toward wholesale milk drivers' unions because of the unions' role in sales and distribution. Drivers' unions are a major institution in the fluid milk industry. About three-fourths of all Class I milk is distributed on a wholesale basis. Therefore, the effects of union contractual arrange-

ments on the fluid milk market would have some impact on the milk marketing cooperative.

Ten statements were presented to co-op managers on their reactions to wholesale milk drivers' unions. The responses (which measure the extent of agreement with the statement) are presented in Table 14. For all 59 cooperatives, the average number of zero (uncertain or no opinion) responses per statement was 17. Only one statement, i.e., *wholesale drivers should be replaced by sub-dealers or vendors*, with 32 zero responses, was substantially affected by the uncertain or no opinion response.

The responses generally indicated some degree of antagonism on the part of co-op managers toward wholesale milk drivers' unions. For example, the four most positive opinions were: *milk drivers unions have no concern about the welfare of milk producers* (+44); *wholesale milk drivers' union contracts are a burden to the fluid milk industry* (+42); *wholesale milk drivers need to be salesmen* (+42); and in disagreement, *wholesale milk drivers' unions readily adapt driver pay plans to changing market situations* (-33).

There was also general agreement (+30) that *wholesale milk drivers' earnings in your market are too high*.

Since there is considerable parallel in the bargain-

TABLE 14.—Reactions of Cooperative Management to Wholesale Milk Drivers' Unions: Means and Standard Deviations for All 59 Cooperatives and Nine Sub-classes of Cooperatives.

Statement	All 59	Low Share Small Size	Low Share Medium Size	Low Share Large Size	Medium Share Small Size	Medium Share Medium Size	Medium Share Large Size	Large Share Small Size	Large Share Medium Size	Large Share Large Size
1. Milk drivers' unions serve a useful purpose	5 (48)	6 (65)	-22 (74)	12 (33)	-21 (45)	13 (10)	-6 (57)	37 (63)	15 (61)	22 (20)
2. Wholesale milk drivers' earnings in your market are too high	30 (44)	60 (31)	36 (41)	32 (23)	24 (62)	34 (42)	54 (32)	2 (68)	35 (48)	6 (45)
3. Wholesale milk drivers should be paid on a commission basis	12 (58)	28 (75)	-4 (59)	4 (55)	31 (61)	6 (50)	-11 (62)	23 (26)	4 (64)	25 (66)
4. Wholesale milk drivers ought to service food store milk cases	4 (53)	14 (55)	16 (55)	-10 (49)	-12 (57)	11 (50)	-8 (41)	45 (52)	-14 (71)	17 (60)
5. Wholesale milk drivers' union contracts are a burden to the fluid milk industry	42 (39)	50 (36)	50 (48)	49 (36)	36 (37)	10 (26)	59 (38)	33 (51)	26 (62)	41 (26)
6. Milk drivers' unions have no concern about the welfare of milk producers	44 (43)	46 (36)	50 (48)	35 (33)	55 (40)	36 (23)	39 (66)	55 (40)	30 (67)	53 (41)
7. Wholesale milk drivers need to be salesmen	42 (56)	82 (15)	18 (47)	14 (60)	60 (46)	45 (59)	34 (55)	95 (5)	41 (76)	33 (66)
8. Wholesale milk drivers' unions readily adapt driver pay plans to changing market situations	-33 (51)	-44 (41)	-14 (52)	-37 (61)	-11 (31)	15 (59)	-65 (33)	-60 (73)	-20 (44)	-40 (52)
9. Full service delivery of milk by wholesale drivers is needed by supermarket chains	-8 (51)	12 (59)	24 (55)	-29 (42)	-20 (42)	0 (33)	-14 (47)	5 (49)	19 (68)	-18 (61)
10. Wholesale drivers should be replaced by sub-dealers or vendors	0 (37)	42 (71)	-12 (52)	-1 (31)	-7 (15)	-5 (10)	11 (28)	-28 (32)	18 (40)	-16 (26)

ing aspirations and types of programs provided by dairy cooperatives and wholesale milk drivers' unions, it would be logical to anticipate an appreciation on the part of each group for the other's position and responsibilities. However, the responses did not support this hypothesis. For all 59 cooperatives, the mean response to the statement *milk drivers' unions serve a useful purpose* was only +5. The only sub-classes of cooperatives having a more favorable reaction to this statement were the three "large market share" groups.

Co-op management was generally indifferent on those statements which were directed to operational arrangements in wholesale milk distribution.

Among the sub-classes of cooperatives, the three small size sub-classes particularly reacted to two related statements. First, they agreed that *wholesale milk drivers should be paid on a commission basis*. Second, they agreed that *wholesale milk drivers need to be salesmen*. It is reasoned from these reactions that managers of small cooperatives are especially concerned with the fluid milk demand-consumption trend and with the idea that wholesale milk drivers are in a position to do something about it.

REACTIONS ABOUT SUPERMARKET CHAINS

In this section, the attitudes of dairy co-op managers toward supermarket chains are analyzed. This contrasts with the earlier discussion (Table 12) in which the effects of growth and large size of food retailers upon the cooperative were evaluated.

Unless a supermarket chain is vertically integrated into fluid milk processing, its relationships with dairy co-ops would only be of an indirect nature. However, the high proportion of fluid milk sold through supermarket chain stores means that the chain is in a strategic position in the market, and that its various actions will affect the cooperative. Therefore, managers of dairy cooperatives should have various insights regarding performances of the market based on their observations of supermarket chain actions.

For all 59 cooperatives, 12 of the 19 statements

presented to co-op managers scored positive means (Table 15). The statement with which managers were in the most agreement was *the growth of supermarket chains makes it necessary for co-ops to have more bargaining power* (mean = 70). At the opposite extreme, managers were in greatest disagreement with the statement, *supermarket chains should process their own milk* (mean = -55). Both of these statements reflect aspects of bargaining power and position in the market. Actually, the majority of statements in Table 15 have bargaining power implications, and co-op managers expressed their sharpest agreement or disagreement to these statements. Several of the premises of bargaining power in fluid milk markets were supported, including *supermarket chains have increased the value of processor brands* (mean = -36); *supermarket chains are likely to control the business of processors who sell mainly to them* (mean = 45); *supermarket chains pressure processors to provide private label milk and at excessive discounts* (means = 40 and 34); and *supermarket chains are concerned about the welfare of the dairy farmers* (mean = -44).

Managers reflected their greatest degree of uncertainty or no opinion on operational arrangements in fluid milk distribution. For example a mean of -3 was recorded for the statement, *supermarket chains are satisfied with limited service delivery arrangements*. Since these arrangements are external to the cooperative's own program, this type of reaction is expected.

Among the sub-classes, three statements reflect some differences. In regard to the statement *supermarket chains' margins in your market are now too wide*, the three "medium share" sub-classes did not give this statement as strong an endorsement as did the other sub-classes. Second, the statement that *supermarket chains have done a highly effective job of merchandising milk* was objected to particularly by the three "large size" sub-classes. Finally, the three "small size" sub-classes barely agreed with the other sub-classes that *supermarket chain policies in pricing milk to consumers have hurt the fluid milk industry*.

TABLE 15.—Reactions of Cooperative Management Toward Supermarket Chains: Means and Standard Deviations for All 59 Cooperatives and Nine Sub-classes of Cooperatives.

Statement	All 59	Low Share Small Size	Low Share Medium Size	Low Share Large Size	Medium Share Small Size	Medium Share Medium Size	Medium Share Large Size	Large Share Small Size	Large Share Medium Size	Large Share Large Size
1. Supermarket chains' demands for changes in milk delivery services have been reasonable	—4 (36)	—16 (47)	12 (11)	9 (42)	—12 (37)	—5 (10)	4 (41)	—5 (66)	—10 (22)	—13 (28)
2. Supermarket chains' margins on milk in your market are now too wide	22 (43)	48 (46)	60 (46)	5 (56)	5 (18)	5 (19)	5 (26)	25 (57)	34 (38)	32 (44)
3. Supermarket chains have increased the value of processors' brands	—36 (39)	—48 (50)	—40 (51)	—40 (29)	—29 (48)	—10 (38)	—26 (30)	—48 (37)	—20 (27)	—49 (43)
4. Supermarket chain accounts are too urgently sought after by milk distributors	35 (39)	32 (46)	60 (20)	26 (39)	24 (59)	23 (26)	42 (38)	51 (28)	26 (37)	42 (38)
5. Supermarket chains need more competition in retailing milk	14 (43)	54 (39)	8 (41)	—1 (33)	36 (51)	25 (41)	—6 (33)	9 (70)	3 (45)	14 (36)
6. Supermarket chains are likely to control the business of processors who sell mainly to them	45 (38)	56 (51)	36 (26)	37 (46)	54 (39)	15 (10)	38 (22)	55 (40)	35 (48)	65 (30)
7. Supermarket chains encourage small processors to supply them with milk	—38 (42)	—32 (46)	—20 (40)	—46 (41)	—51 (41)	—20 (33)	—16 (42)	—40 (80)	—50 (32)	—52 (35)
8. Supermarket chains should process their own milk	—55 (44)	—12 (75)	—64 (17)	—62 (42)	—77 (21)	—63 (31)	—59 (45)	—63 (42)	—40 (54)	—46 (43)
9. Supermarket chains pressure milk processors to provide private label milk	40 (47)	36 (49)	20 (73)	32 (39)	40 (58)	63 (21)	56 (27)	61 (41)	—2 (39)	54 (52)
10. Supermarket chains are satisfied with limited service delivery arrangements	—3 (48)	—28 (43)	16 (48)	28 (36)	—30 (39)	10 (50)	1 (49)	35 (83)	—22 (30)	—22 (42)
11. Most supermarket chains have no interest in the welfare of milk processors	24 (47)	62 (41)	20 (58)	6 (46)	26 (47)	18 (29)	44 (34)	—5 (94)	20 (27)	26 (43)
12. Supermarket chains have little to gain by setting up their own processing plants	14 (50)	—12 (52)	40 (51)	8 (53)	16 (47)	5 (10)	10 (32)	15 (85)	25 (61)	16 (58)
13. Supermarket chains have done a highly effective job of merchandising milk	—5 (52)	4 (62)	52 (18)	—11 (46)	—15 (46)	—8 (60)	—29 (39)	38 (67)	2 (78)	—24 (40)
14. Supermarket chains demand excessive discounts on private label brands of milk	34 (41)	52 (50)	32 (33)	46 (38)	39 (39)	15 (30)	19 (40)	16 (77)	32 (36)	39 (39)
15. Supermarket chains now have too much control over the marketing of milk in this market	40 (43)	52 (50)	48 (46)	22 (45)	38 (36)	35 (31)	62 (34)	10 (75)	42 (32)	43 (40)
16. Supermarket chains are concerned about the welfare of dairy farmers	—44 (49)	—52 (57)	—36 (38)	—14 (51)	—54 (65)	—45 (45)	—66 (35)	—61 (58)	—38 (38)	—46 (47)
17. The growth of supermarket chains makes it necessary for co-ops to have more bargaining power	70 (40)	28 (75)	67 (22)	76 (33)	76 (23)	92 (9)	73 (37)	92 (9)	44 (66)	76 (24)
18. Supermarket chain buying policies for milk make it increasingly difficult for cooperatives to obtain superpool premiums	39 (47)	83 (21)	60 (47)	25 (45)	32 (50)	65 (17)	46 (37)	—13 (49)	40 (41)	29 (57)
19. Supermarket chain policies in pricing milk to consumers have hurt the fluid milk industry	29 (50)	8 (80)	52 (36)	21 (42)	9 (62)	30 (48)	44 (35)	0 (64)	44 (60)	45 (35)

SUMMARY AND IMPLICATIONS

Dairy marketing cooperatives have been continuously engaged in a wide range of adjustments in recent years, and the rate of adjustment continues without interruption. Growth through merger has been the most evident measure of the adjustment process. Many factors relate to adjustments, including the objectives of dairy cooperatives, changes across the entire dairy market structure, new marketing technologies, and the relative bargaining position of dairy cooperatives. The purpose of this study is to examine these different factors in the dairy industry in terms of their effects on the adjustment process of dairy cooperatives.

1. The first factor analyzed concerned the objectives of dairy marketing cooperatives. The primary objective cited by co-op management was *maintaining a continuous market for members' milk*. Nine of the 15 highest ranking objectives indicated a definite price orientation. As cooperatives increased in size and concentration, the objectives related to various dimensions of market power were scored higher by the managers.

2. Managers were asked to judge the importance of various factors affecting bargaining power. These factors were broken down in terms of internal (to the cooperative) factors and external factors. Among the internal factors, managers indicated that *having loyal members in the cooperative* was the No. 1 beneficial factor to the organization's bargaining position. From the 13 internal factors specified, the responses indicated that management felt strong member relations were essential to bargaining power, but that management was reluctant to implement any disciplinary activities when producers did not follow the cooperative program.

Among the external factors affecting bargaining power, *having Federal order regulation* ranked as the primary beneficial factor. Other beneficial factors were basically linked to the idea of close and formal working relationships with other milk co-ops. The primary external limits on bargaining power related to other source milk supplies and competition from other markets. Substitutes were also a factor among the limits, particularly because filled milk was of major concern at the time of the survey. The managers did not view the large size of processing firms as an important factor in their bargaining efforts. However, they did express some concern with the harmful effects of large food retailers on the co-ops' bargaining aspirations.

3. Adjustments by milk marketing cooperatives were analyzed in terms of: a) factors affecting adjustments by cooperatives, b) adjustments made by

cooperatives, and c) adjustments planned by cooperatives.

Managers categorized the availability of capital and credit, an effective member educational program, innovativeness of personnel, and size and growth considerations as major positive factors affecting adjustments by dairy cooperatives. A number of factors were cited as being harmful to the adjustment process. For the most part, these were the opposites of the positive factors. For example, lack of capital was cited as a major deterrent to adjustment.

The survey was extended to determine which of 16 specified adjustments had actually been made by the cooperatives during the preceding 5-year period, together with the effects of these adjustments. With few exceptions, less than half of the cooperatives surveyed had implemented a given objective. However, those cooperatives making an adjustment generally gave a very beneficial score to the effect of the adjustment. For example, 22 of the 59 cooperatives reported a federation adjustment, with a highly beneficial score (69).

A similar inquiry was made in terms of adjustments planned by cooperatives. The specified adjustments were identical to the "adjustment made" section, and responses in the two sections were fairly closely related. Management particularly wanted to *obtain control of larger proportion of milk in the supply area*, and they anticipated very beneficial effects from this action. Extensive merger and federation activities were in the planning stage. While some vertical or forward integration planning was noted by managers, the available information did not finally permit a conclusion on how far dairy cooperatives might go in this direction.

4. The question of what effect increasing concentration of the fluid milk processing industry has had upon cooperatives was included in the survey. Co-op managers clearly indicated that such concentration had been neither beneficial nor harmful to their bargaining efforts. In fact, managers implied that the large size of processing operations made such operations more dependent on the cooperative for adequate supplies. At the same time, managers were very concerned that the large volume of Class I sales to some customers had elements of instability in that the displacement of a single customer could not only be disruptive to the cooperative but also to the market.

5. The parallel question of what effect the growth and large size of food retailers had upon the cooperative was also raised with managers. The general and widespread reaction of co-op managers was that the growth and large size of food retailers had harmful effects on the cooperative. A major dimen-

sion of this reaction was the switching of large volume food store accounts among handlers. Other expressions of concern related to vertical integration by food chains, private labeling, and the attitudes of food chain management toward cooperatives.

6. In three final areas of inquiry, the attitudes or reactions of cooperative management toward fluid milk processors, wholesale milk drivers' unions, and supermarket chains were investigated. It was reasoned that the adjustments of cooperatives would be at least partly affected by the relationship or attitude of management toward these institutions.

a. With respect to milk processors, the dairy co-op managers expressed a basic positive attitude toward them and affirmed a constructive working relationship in inter-organization business activities. The managers also expressed the view that processors, in fact, want cooperatives to engage in various market service, procurement, and supply equalization activities.

b. With respect to wholesale milk drivers' unions, the managers of dairy cooperatives reflected a somewhat hostile attitude toward such organizations. The general thrust of the criticism was that wholesale milk drivers' unions were responsible for costs which were too high in the marketing of milk.

c. With respect to supermarket chains, co-op managers expressed a fundamental concern about the increasing relative bargaining power of chains in the market place. The managers were especially sensitive to the consideration that any growth in supermarket chains would have to be matched by growth in the bargaining power of cooperatives.

The implications of this study bear directly on the growth-merger activity occurring among dairy marketing cooperatives. Fundamentally, the viewpoint of management of the cooperatives indicates a continuing emphasis in this direction.

As a starting point, the defined objectives of dairy marketing cooperatives, in the context of a rapidly changing dairy market technology, require growth to be effective in a marketing-bargaining responsibility. Management was explicit in acknowledging this fact as they reviewed the external factors affecting bargaining power. Size and growth factors ranked among the major positive factors affecting adjustments by dairy cooperatives.

Adjustments accomplished and adjustments planned both emphasized control of supplies and merger-federation actions. The one area of potential expanded operations on the part of cooperatives which did not reflect much enthusiasm was that of integrating vertically into fluid milk processing-distribution. At the same time, the co-op managers were very concerned about the market power which food chains, vertically integrated or otherwise, had achieved.

While a number of the cooperatives surveyed were not contemplating any major organizational adjustments, the cooperatives which were engaging in such plans extended to all size and market share categories. It is apparent that, in the view of the decision makers in management, cooperatives will expand in size and operations as a matter of effectiveness. At the same time, a priority concern with member loyalty and strong member relations suggests a caution which will be evident in all growth actions.

The growth-merger activity will have direct effects on other sectors of the industry. In particular, these other sectors will include the non-member producer, the so-called "maverick" cooperative, the milk processor-distributor, and the food chains. Finally, in a public policy sense, government agencies will be alerted to the applications of market power accompanying the growth-merger actions of dairy cooperatives which are occurring and which will continue to occur.