A COST ANALYSIS OF THE ENID COOPERATIVE CREAMERY ASSOCIATION OF ENID, OKLAHOMA

By

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Bachelor of Science

Oklahoma Agricultural and Mechanical College

Stillwater, Oklahoma

1949

Submitted to the Department of Agricultural Economics

Oklahoma Agricultural and Mechanical College

In Partial Fulfillment of the Requirements

for the Degree of

MASTER OF SCIENCE

1950

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ACKNOWLEDGMENT

The writer gratefully acknowledges his indebtedness to the Department of Agricultural Economics of Oklahoma Agricultural and Mechanical College, and the manager and directors of the Enid Cooperative Creamery Association for the opportunity of making this study.

Special thanks are due several individuals who have made valuable contributions to this study. Mr. Leo V. Blakley, Assistant Economist, was especially helpful in organizing the problem, guiding the study while it was in process, and criticizing the results. Mr. Howard S. Whitney, Assistant Economist, assisted with the accounting technicalities, and provided valuable criticisms, both in making the analysis and the preparation of the manuscript. Dr. Adlowe L. Larson, Professor of Agricultural Economics, provided the encouragement and general supervision necessary to complete the study.

Mr. Ralph T. Goley, Manager of the Enid Cooperative Creamery Association, was very helpful in providing the data necessary for the study. His cooperation in making the records available and his advice in making cost allocations are deeply appreciated. Thanks are also due Mr. Clifford M. Bilden, the Plant Superintendent, Mr. Harold H. Hinther, the Office Manager, and Mr. Charles L. Wells, the Internal Auditor of the Association, for their cooperation and assistance.

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INTRODUCTION

Purpose of the Study

The primary purpose of this study was to analyze the operations of the Enid Cooperative Creamery Association from the standpoint of the cost of handling various products. A secondary purpose was to discover, if possible, the comparative efficiency in handling the various products and the factors contributing to the success of the firm. A three-year period was selected for the study because it was thought that this would give a representative view of post-war operating conditions.

Procedure

The discussion presented in the first section serves as a background for the analysis of operating costs presented in the following sections. It is based on information secured from the annual audits and personal interviews with the manager of the association. More detailed analysis was not attempted in this section because it would not have contributed greatly to achieving the purposes of the study. The primary reason for including this section was to indicate the size, importance, and rate of growth of the association.

The discussion of cost allocation in the second section is based on the annual audits and expense records of the association. The association uses a general accounting system, and, in only a few instances, are costs separated on a departmental or product basis. For example, no record was kept of the amount of butterfat or milk used in each product during the years studied. Since costs were not departmentalized in the records of the association, a method had to be selected for achieving the cost allocations. Three alternatives were considered. First, the so-called

"additional cost" method which was employed by Dr. J. M. Tinley and associates in a California creamery study.[1] This method involves the calculation of the costs involved in producing the primary product and allocating to other products only those additional costs involved in their production. Several reasons for not using this method in this study immediately presented themselves - (1) the firm has always produced several products, so there is no way of knowing what costs would be necessary in the production of any single product alone; (2) several products, such as, milk, butter, coffee cream, etc., may be considered primary products; and (3) the assigning of all joint costs to a primary product, although it has some merit, evades the question of what costs are actually involved in the production of each product and obscures the relative efficiencies of competing products. Second, the "ability to pay" method, which involves the allocation of direct costs on the basis of use, and the allocation of indirect costs on the basis of ability to pay. The gross margin (net sales less purchases and direct expenses) is usually used as the measure of ability to pay. This method was not used because it penalizes the more efficient products and causes the more inefficient lines of production to appear more profitable. Third, the method based on the "principle of benefit," which holds that each product should share each cost in proportion to the benefit that it receives from the incurring of that cost. In theory, this method is the most logical, and it results in an accurate division of costs. Its application is often very difficult, and certain assumptions must be made in order to apply it to actual costs. These assumptions are given in the second section. This method is used in this study because it seems to be the most

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[1] J. M. Tinley, F. H. Abbott, O. M. Reed, and J. B. Schneider, Creamery Operating Efficiency in California, pp. 27-29.

satisfactory for achieving the stated purposes, and because it can be applied, with some qualifications, to this problem.

Both accuracy and objectivity are lost in some instances due to the lack of available data. The records kept by the association were not entirely adequate for the purposes of this study. Since neither time, expense, nor facilities permitted observation and measurement of the amounts of various items entering into each product over a period of time, much of the allocation of costs had to be based on estimates made by the manager, the plant superintendent, the office manager, and the internal auditor. These men were very cooperative in supplying needed information, but it cannot be expected that they remember, with a great deal of accuracy, details occurring in the three years concerned in this study.

The third section, which deals with the operating statements of the association, is partly a re-combination of the various cost items discussed in the previous section. Sales, handling costs, and net earnings of the various products are discussed with a view to revealing the importance and the efficiency of handling each product. The products cannot be considered distinctly separate because some are primary products, some are side-line products, some are by-products, and some are surplus products. A firm is very similar to an organism, and, like an organism, when dissected, its parts may appear distorted and useless. It is difficult to discover the functional efficiency of any department, process, or line of production by regarding it separately. The production of a particular product, in terms of cost and income, may appear relatively inefficient, nevertheless, the product may contribute greatly to the overall efficiency and success of the firm. It may utilize factors which would otherwise be wasted. A cost analysis of the type employed in this study has certain definite short-

comings. It is not an infallible measure of operating efficiency. A more detailed analysis based on seasonal variations in production and costs would give a more accurate estimate of actual costs, but such records as are kept by the association are not readily amenable to such an analysis.

DEVELOPMENT OF THE ASSOCIATION

Organization

The Enid Cooperative Creamery Association was organized on March 11, 1933, by 375 farmers of the Enid, Oklahoma area. Organized during a period of general business depression, the association was destined for some difficult times before proving itself. The association managed to hold its own fairly well for the first four years, with total assets decreasing slightly during this period, and net sales, net earnings, and membership slowly increasing. Apparently, the association established a firm foundation during this period because the year 1935 marked the beginning of a period of rapid expansion which was inhibited only slightly by the war and has continued since the war. It is now one of the largest cooperative creameries in the world.

Growth

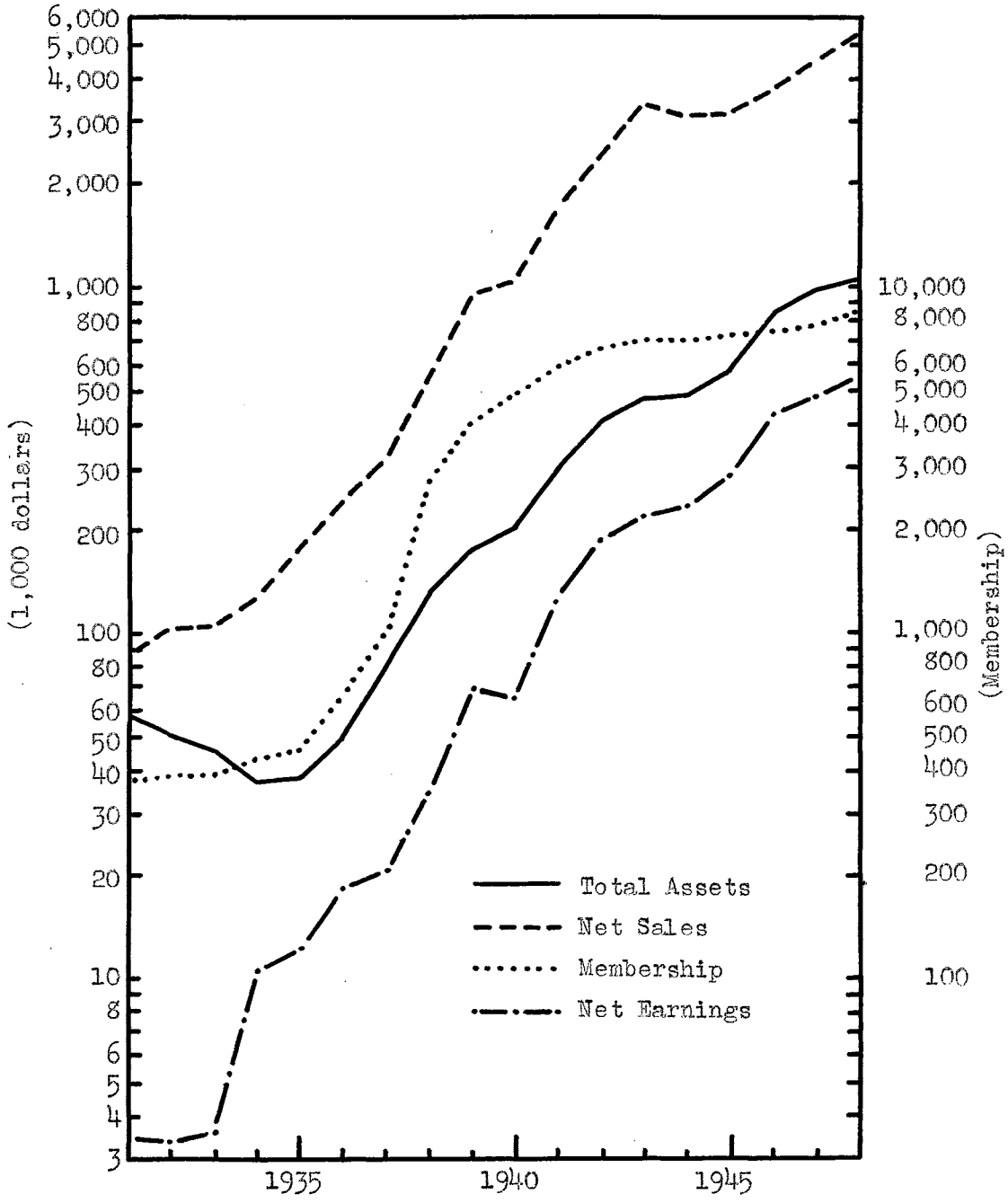
Total Assets. Total assets, rather than net worth, was selected as a factor of growth for three reasons: First, membership, rather than the ownership of capital stock, is emphasized in cooperative organization, and net worth is not a true measure of the members' equity in the association; second, the association has operated principally on members' capital, and the current liabilities consisted mainly of accounts payable to patrons for butterfat and patronage refunds payable; and, third, the association has maintained an open membership policy. Members and non-members are treated alike.

At the end of the first year of operations, 1931, the association had total assets of $56,953, they declined to a minimum of $37,929 in 1934, and began an unbroken climb to $1,062,056 in 1948 (Figure 1). The rate of

FIGURE 1

Growth in Total Assets, Net Sales, Net Earnings, and Membership,
Enid Cooperative Creamery Association,
Fiscal Years Ending November 30, 1931 through 1948.

(SOURCE: Table 7)



increase was fairly steady throughout this period. During the last three years most of this increase was in plant and equipment. There was also a large increase in cash on hand and in banks. On the liability side, most of the increase was in capital stock issued and statutory reserve. A large increase also occurred in accounts payable to patrons.

Membership. The initial membership of 375 increased slowly to 460 in 1935, then began a period of rapid increase to 4,900 members in 1940 (Figure 1). After 1945, membership continued to grow rather rapidly but at a slower rate of increase. The association had about 8300 members in 1948, more than 22 times the original membership. This almost phenomenal growth in membership can probably be attributed to three things - the need for a cooperative creamery in the area, good management of the association, and good membership relations.

Net Sales. The increase in annual net sales somewhat paralleled the increase in membership, but the rate of increase was more uniform. Net sales increased from $88,336 for the fiscal year of 1931 to $5,279,615 for the fiscal year of 1948, an increase of almost 5,877 percent (Figure 1). The only year that failed to show an increase over the previous year was 1944. Price control apparently caused the net sales in 1944 and 1945 to be lower than they would have been otherwise. Much of the increase during the last three years was due to higher prices. None of the last three years equalled 1943 in butter production, however, there was a large increase in the volume of milk products sold.

Net Earnings. Net Earnings increased from $3,430 in 1931 to $547,999 in 1948, an increase of about 15,875 percent (Figure 1). In no year did a net loss occur, and only two years, 1932 and 1940, showed a decrease from the previous year. In 1948, net earnings were more than one-half as great

as total assets, and they were about 10.4 percent of the net sales.

The growth of the association, as revealed by these four factors, indicates an efficient business organization and a strong determination, on the part of both the members and the management, to make the organization successful. A question arises as to the effect of this rapid rate of growth on operating costs and efficiency. The answer to this question may be found in the succeeding chapters.

ALLOCATION OF COSTS

The primary objective of this study was to allocate the operating costs of the Enid Cooperative Creamery Association among the several products handled. The principle of benefit was followed as closely as possible in all cost allocations. This principle was very difficult to follow in some cases because of the joint nature of the costs involved. In such cases some arbitrary procedure was adopted because it seemed the best of the available alternatives. Two general types of costs had to be allocated - operating expenses, and manufacturing and processing costs.

Operating Expenses

The operating expenses were divided into five categories - distribution expense, selling expense, shop and garage expense, general and administrative expense, and provision for bad debts. Other revenue was also included with this group because, first, the costs of earning other revenue were hidden in the general expenses of the firm and there was no basis for separating those costs, and, second, other revenue was of the same nature as general and administrative expense in that it was attributable to the firm as a whole. The provision for bad debts was a selling expense but it was handled separately because it applied to all products sold by the association while the remainder of the selling expense applied only to those products sold locally.

Distribution Expense. Distribution expense was the largest of the operating expenses of the association. The distribution expense totaled $78,639.01 in 1946, $89,071.06 in 1947, and $121,929.65 in 1948 (Table 1), while the total number of units of the various products distributed locally

TABLE 1

Allocation of Distribution Expense,
Enid Cooperative Creamery Association,
Fiscal Years Ending November 30, 1946, 1947, and 1948.

	1946	1947	1948
	(Dollars)	(Dollars)	(Dollars)
Print Butter			
Commissions	3,288.59	3,001.80	1,881.57
Other	2,231.29	1,670.69	2,344.85
Total	5,519.88	4,672.49	4,226.42
Eggs			
Commissions	150.43	196.18	663.67
Other	148.33	206.57	1,121.69
Total	298.76	402.75	1,785.36
Pasteurized Milk			
Commissions	36,998.65	37,330.44	35,880.58
Storage	22.20	35.72	--
Other	21,924.33	21,882.66	28,579.29
Total	58,945.18	59,248.82	64,459.87
Homogenized Milk			
Commissions	--	3,925.02	11,435.28
Storage	--	3.32	--
Other	--	2,031.48	12,735.67
Total		5,959.82	24,170.95
Coffee Cream			
Commissions	5,095.34	6,024.48	6,269.61
Other	1,824.36	1,969.61	3,106.12
Total	6,919.70	7,994.09	9,375.73
Whipping Cream			
Commissions	69.09	1,324.49	1,468.53
Other	17.19	420.55	661.55
Total	86.28	1,745.04	2,130.08
Buttermilk			
Commissions	644.19	949.42	1,130.72
Other	522.92	707.92	1,232.57
Total	1,167.11	1,657.34	2,363.29
Chocolate Milk			
Commissions	404.97	952.58	1,708.13
Other	586.28	1,041.11	2,974.61
Total	991.25	1,993.69	4,682.74

(Continued)

TABLE 1 (Continued)

Allocation of Distribution Expense,
Enid Cooperative Creamery Association,
Fiscal Years Ending November 30, 1946, 1947, and 1948.

	1946	1947	1948
	(Dollars)	(Dollars)	(Dollars)
Cottage Cheese			
Commissions	2,761.38	3,145.61	3,617.04
Other	1,761.01	2,242.30	3,952.99
Total	4,522.39	5,387.91	7,570.03
Skim Milk			
Commissions	5.39	8.08	12.09
Other	.83	1.03	.16
Total	6.22	9.11	12.25
Orangeade	182.24	--	--
Ice Cream	--	--	979.41
Novelties	--	--	173.52
Total			
Commissions on Eggs and Butter	3,439.02	3,197.98	2,545.24
Commissions on Milk and Other Products	45,979.01	53,660.12	61.521.98
Storage on Milk	22.20	39.04	--
Other Expenses	29,198.78	32,173.92	57,862.43
Grand Total	78,639.01	89,071.06	121,929.65

SOURCE: Annual Audits of the Association, 1946, 1947, and 1948.

was 5,922,800 in 1946, 6,111,106 in 1947, and 6,847,013 in 1948.[2] The average distribution cost was 1.33 cents per unit sold in 1946, 1.46 cents in 1947, and 1.78 cents in 1948. The net sales value of products sold locally increased from $960,019.12 in 1946 to $1,107,926.03 in 1947, and $1,344,114.75 in 1948.[3] The average distribution cost was 8.19 cents per dollar sold in 1946, 8.04 cents in 1947, and 9.07 cents in 1948. The greatest part of the increase in distribution costs in 1948 was in truck operating costs. For example, the cost of gas and oil, tires, and insurance more than doubled from 1947 to 1948, and a very large increase occurred in miscellaneous expense.

The distribution expense applied to all products sold locally. It included such items as commissions to drivers, truck expenses, and other expenses directly attributable to distribution. In 1948, the association maintained 17 delivery routes. Twelve of the routes handled bottled products, butter, and eggs; two handled only ice cream; and three handled all of the products mentioned. Some of the routes were wholesale, some were retail, but most were mixed wholesale and retail. Records were not kept in such a manner that costs could be broken down by routes.

The delivery men received a commission of one-half cent per pound of butter and per dozen eggs, and a percentage of the sales value of all other products delivered. The commissions on milk and other products were the

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[2] These figures were computed from the data in Table 29. See also Infra, p. 13, concerning print butter and eggs sold locally.

[3] These figures were compiled from Tables 9, 10, 11, 12, 13, 14, 15, 16, 21, 26, 27, and 28. Net sales for pasteurized milk, homogenized milk, coffee cream, whipping cream, chocolate milk, buttermilk, and cottage cheese were gross sales less wholesale allowances; for tub butter, dried buttermilk, and dried skim milk, net sales were gross sales less freight-out; and, for all other products, net sales and gross sales were the same.

largest single items of distribution expense. These items were allocated to the products which incurred the cost (pasteurized milk, homogenized milk, coffee cream, whipping cream, buttermilk, chocolate milk, cottage cheese, and bottled skim milk), in proportion to their net sales. No commissions were shown for ice cream because they were deducted from sales before the sales figure was entered in the audit. The commissions on butter and eggs were divided at the rate of one-half cent per dozen eggs and the balance to butter.

The other items of distribution expense, with the exception of storage on milk, consisted of truck operating expenses and taxes. In view of the manner in which the records of these expenses were kept, there was no way of ascertaining exactly how much of each item was incurred in the delivery of each product. Two possible alternatives for effecting this allocation were considered. First, the various items could be allocated in proportion to the value of each product distributed, but, since such a wide variation existed in the per unit value of the products, it was obvious that such a breakdown would be far from correct. The second alternative involved the allocation of these costs in proportion to the number of units of each product distributed. This assumes that it cost the same to distribute a pound of butter, a dozen eggs, or a quart of milk, and that costs were fairly uniform on the various routes.

It was decided, after discussing the problem with the management, that a division of these expenses on a per unit basis would be as nearly correct as possible. Not a great deal of difference existed in the weight and space requirements of the various sized units, due to the fact that the containers did not vary in size and weight as much as did the contents. The distance hauled, number and frequency of stops per route, amount delivered at each

stop, and other similar factors probably affected the cost of handling more than did the differences in size per unit. Since no records were kept by the association regarding these various factors affecting distribution costs, they had to be assumed equal for each unit of product distributed.

It was estimated, by the management, that about 30 percent of the print butter was distributed locally and the balance shipped out. This estimate was used because no separation between local deliveries and non-local sales was made in the records of the firm. In the case of eggs, much the same situation existed, except that the total number of eggs sold in cartons of one-dozen and the total number of cases of 30-dozens were recorded. Since no eggs were shipped out in cartons and very few were sold locally in cases, these figures were used in effecting the breakdown between eggs sold locally and eggs sold elsewhere. These estimates on print butter and eggs distributed locally were used in the allocation of distribution expense, selling expense, and shop and garage expense.

Selling Expense. Selling expense was not as important an expense as distribution expense in any of the years studied. The total selling expense amounted to $25,709.52 in 1946, $29,799.48 in 1947, and $30,812.50 in 1948 (Table 2). It was 2.68 cents per dollar of local sales in 1946, 2.69 cents in 1947, and 2.29 cents in 1948. There was a considerable reduction in advertising expense in 1948, even though it included the advertising of ice cream, a product not handled in 1946 and 1947. This decrease in advertising expense was offset by an increase in miscellaneous expense and the addition of two new items, donations and depreciation on ice cream cabinets, in 1948.

Selling expense had no direct connection with the handling of any particular unit, and in many cases it was not attributable to any particular

TABLE 2

Allocation of Selling Expense,
Enid Cooperative Creamery Association,
Fiscal Years Ending November 30, 1946, 1947, and 1948.

	1946	1947	1948
	(Dollars)	(Dollars)	(Dollars)
Print Butter			
Advertising	4,248.21	5,987.60	3,224.76
Other	2,704.29	2,334.60	2,485.03
Total	6,952.50	8,322.20	5,709.79
Pasteurized Milk			
Advertising	4,230.89	5,382.41	2,543.02
Other	5,771.56	6,431.33	6,973.99
Total	10,002.45	11,813.74	9,517.01
Homogenized Milk			
Advertising	--	565.92	810.47
Other	--	676.21	2,222.64
Total		1,242.13	3,033.11
Coffee Cream			
Advertising	2,250.59	2,747.45	1,645.24
Other	794.84	1,037.90	1,218.60
Total	3,045.43	3,785.35	2,863.84
Whipping Cream			
Advertising	30.52	604.03	385.37
Other	10.78	228.18	285.43
Total	41.30	832.21	670.80
Buttermilk			
Advertising	284.53	432.98	296.72
Other	100.49	163.57	219.77
Total	385.02	596.55	516.49
Chocolate Milk			
Advertising	178.87	434.42	448.24
Other	63.17	164.11	332.00
Total	242.04	598.53	780.24
Cottage Cheese			
Advertising	1,219.68	1,434.55	949.17
Other	430.76	541.93	703.03
Total	1,650.44	1,976.48	1,652.20

(Continued)

TABLE 2 (Continued)

Allocation of Selling Expense,
Enid Cooperative Creamery Association,
Fiscal Years Ending November 30, 1946, 1947, and 1948.

	1946	1947	1948
	(Dollars)	(Dollars)	(Dollars)
Skim Milk			
Advertising	2.38	3.69	3.17
Other	.84	1.39	2.35
Total	3.22	5.08	5.52
Eggs			
Advertising	326.92	444.36	910.11
Other	115.46	167.87	674.11
Total	442.38	612.23	1,584.22
Ice Cream			
Depreciation	--	--	982.23
Advertising	--	--	2,167.74
Other	--	--	407.61
Total			3,557.58
Novelties			
Depreciation	--	--	253.24
Advertising	--	--	558.88
Other	--	--	105.09
Total			917.21
Orangeade	2.61	14.98	5.49
Total			
Advertising - Butter	4,248.21	5,987.60	3,224.76
Advertising - Milk	4,230.89	5,948.33	3,353.49
Advertising - Ice Cream	--	--	2,726.62
Advertising - Other Products	4,293.49	6,101.48	4,638.02
Depreciation on Ice Cream Cabinets	--	--	1,235.47
Other	9,994.80	11,762.07	15,635.14
Grand Total	25,709.52	29,799.48	30,812.50

SOURCE: Annual Audits of the Association, 1946, 1947, and 1948.

product. In one case, commissions on separator sales, the expense was not incurred in any part by any of the other products, however, it was allocated in the same manner as the other items and later compensated for by allocating the revenue from selling trade supplies (which includes separators) among the various products. A similar problem arose in regard to sales promotion and outside salesmen. These items included the salaries of the sales manager, his assistant, and three field men whose function was to promote membership and patronage rather than sales. These items were confused in the audits and the association did not have the separate figures in its records. The salaries of the field men should have appeared in the general and administrative expense. A slight bias resulted from their inclusion in the selling expense because all of the products of the association benefited from the services of the field men, while only the products sold locally benefited from the services represented in the selling expense.

Since the selling expenses were of an indirect nature, the principle of benefit in proportion to net sales was applied. This method of allocation was based on the assumption that the benefit from these expenditures occurred to the various products in proportion to their net sales. The expense of advertising butter was given separately, so it was allocated to butter in total. The advertising expense for milk was divided between pasteurized milk and homogenized milk in proportion to their net sales. The advertising expense of ice cream was divided between ice cream and novelties on the same basis. Other advertising was allocated among the remaining products in proportion to their respective net sales. Depreciation on ice cream cabinets was incurred on several ice cream cabinets which were rented out to various retailers. This expense was more than

compensated for by rental income, which is listed under "other revenue." In both cases, the items were divided in proportion to the net sales of ice cream and novelties. The remaining items of selling expense were allocated among all of the products sold locally.

Shop and Garage Expense. This expense was incurred in servicing and repairing the motor vehicles of the association. Shop and garage expense was comparatively small in the years studied, amounting to only $4,810.36 in 1946, $7,560.84 in 1947, and $8,293.31 in 1948 (Table 3). The increase from 1946 to 1947 resulted from an increase in labor costs and was accompanied by a decrease in the truck repair expense item listed under distribution expense. Shop and garage expense applies to delivery trucks, one or two collection trucks operated by the association, and several vehicles used by the management and field men. Possibly, some of the expenses of the plant shop were included in this group. It was not possible to determine how the auditor had handled these expenses without making another audit.

About three-fourths of the vehicles serviced by the garage were used for delivery purposes, while the other one-fourth were used for general purposes. Seventy-five percent of this expense was considered as a cost of distribution, and the remaining 25 percent was considered as a general expense. The 75 percent was allocated to the products sold locally in proportion to the number of units of each product sold, and the 25 percent was allocated among all of the products handled in proportion to their net sales.

General and Administrative Expense. The general and administrative expense was the second largest group of the operating expenses. It amounted to $59,845.93 in 1946, $76,251.48 in 1947, and $84,667.17 in

TABLE 3

Allocation of Shop and Garage Expense,
Enid Cooperative Creamery Association,
Fiscal Years Ending November 30, 1946, 1947, and 1948.

	1946	1947	1948
	(Dollars)	(Dollars)	(Dollars)
Eggs	50.57	88.52	239.71
Pasteurized Milk	2,889.44	4,113.81	3,307.60
Homogenized Milk	--	385.07	1,444.07
Coffee Cream	250.27	388.62	375.04
Whipping Cream	2.46	83.24	80.75
Chocolate Milk	74.41	190.05	330.97
Buttermilk	67.75	131.32	139.92
Skim Milk	.13	.24	.10
Cottage Cheese	231.06	416.86	448.66
Bulk Whole Milk	25.30	9.89	6.12
Bulk Sweet Cream	33.47	12.20	14.37
Tub Butter	563.31	1,084.35	1,179.77
Print Butter	557.59	605.44	531.71
Dried Buttermilk	13.84	22.13	20.82
Dried Skim Milk	20.77	13.67	31.14
Casein	--	14.75	1.14
Bulk Sour Cream	7.29	--	--
Ice Cream	--	--	119.04
Novelties	--	--	22.20
Feed Milk	.10	.08	--
Orangeade	22.60	.60	.18

(Continued)

TABLE 3 (Continued)

Allocation of Shop and Garage Expense,
Enid Cooperative Creamery Association,
Fiscal Years Ending November 30, 1946, 1947, and 1948.

	1946	1947	1948
	(Dollars)	(Dollars)	(Dollars)
Total	4,810.36	7,560.84	8,293.31

SOURCE: Annual Audits of the Association, 1946, 1947, and 1948.

1948 (Table 4). It was 1.62 cents per dollar of total net sales in 1946, 1.71 cents in 1947, and 1.60 cents in 1948. A part of the increase in 1947 and most of the increase in 1948 resulted from increases in the office payroll. The office was located in the plant building in 1946 and most of 1947. The new office and warehouse building was completed in 1947, and the office was moved into it about two months before the end of the fiscal year. Since the vacated office space was not used for productive purposes for the remainder of 1947 and depreciation was figured on the new building as soon as it was occupied, an overlapping charge for office space resulted in 1947.

The general and administrative expense included the manager's salary, office salaries, office expenses, and a number of general expense items. The salaries of the plant superintendent and his assistant were transferred from manufacturing labor expense to general and administrative expense because the functions performed by the two men were of a general administrative character. All of the items included in the general and administrative expense were incurred in the general operations of the association, and none of them could be directly attributed to the production of any single product. This expense was allocated to the various products in proportion to their net sales. This method was based on the assumption that each product was benefitted in proportion to its net sales value.

Provision for Bad Debts. This provision was not an actual expense, but a sum, set aside each year in a special reserve, to provide for anticipated uncollectible accounts. Since the expense of a bad debt was incurred when the sale was made, rather than when the account was determined to be uncollectible, the expected expense was charged to the period during which the sale was made. Most managers use some rule-of-thumb to calculate the amount to be set aside during a given period. This rule must be

TABLE 4

Allocation of General and Administrative Expense,
Enid Cooperative Creamery Association,
Fiscal Years Ending November 30, 1946, 1947, and 1948.

	1946	1947	1948
	(Dollars)	(Dollars)	(Dollars)
Pasteurized Milk	8,981.84	10,367.85	9,614.54
Homogenized Milk	--	1,090.10	3,064.19
Coffee Cream	1,236.95	1,673.19	1,680.00
Whipping Cream	16.77	367.85	393.51
Chocolate Milk	98.31	264.56	457.71
Buttermilk	156.38	263.68	302.99
Skim Milk	1.31	2.24	3.24
Cottage Cheese	670.36	873.63	969.22
Bulk Whole Milk	1,259.25	398.91	249.80
Bulk Sweet Cream	1,665.47	492.24	586.90
Tub Butter	28,032.83	43,742.88	48,177.62
Print Butter	14,028.24	12,545.23	11,419.76
Dried Buttermilk	688.60	892.87	850.27
Dried Skim Milk	1,033.52	551.43	1,271.58
Casein	--	594.89	46.71
Bulk Sour Cream	362.69	--	--
Ice Cream	--	--	561.94
Novelties	--	--	144.88
Feed Milk	5.20	3.45	--
Orangeade	4.06	24.15	7.57
Eggs	1,604.15	2,102.33	4,864.74

(Continued)

TABLE 4 (Continued)

Allocation of General and Administrative Expense,
Enid Cooperative Creamery Association,
Fiscal Years Ending November 30, 1946, 1947, and 1948.

	1946	1947	1948
	(Dollars)	(Dollars)	(Dollars)
Total	59,845.93	76,251.48	84,667.17

SOURCE: Annual Audits of the Association, 1946, 1947, and 1948.

revised from time to time as experience reveals that the reserve for bad debts is either less than or more than adequate. This may account for some of the wide variation which occurred during the years studied. The provision for bad debts was $2,942.12 in 1946, $14,795.54 in 1947, and $1,839.75 in 1948 (Table 5). Expressed as a percentage of the net sales of each year, these figures were 0.079, 0.332, and 0.034, respectively.

The bad debts expense was allocated in the same manner as the general and administrative expense, in proportion to net sales. No figures were available regarding the proportion of bad debt loss incurred by each of the various products, so the losses were assumed to be in proportion to sales.

Other Revenue. In addition to such usual items as purchase discounts, interest income, refunds, gain on sales of assets, and miscellaneous, other revenue included some unusual items, such as margin on trade supplies, rentals on ice cream cabinets, and the margin on fountain operations. Trade supplies were carried as a service to patrons and no record of operating expenses of handling them was kept. The expense of handling these supplies was included in general and administrative expense and selling expense.

A separate operating statement was made by the auditor for the fountain. It included only such direct expenses as purchases, labor, and supplies, and no charge was made for space, equipment, and utilities. Had a reasonable charge been made for the latter group, it would probably have exceeded the margin on fountain operations, resulting in a net loss. The fountain was maintained largely as a service to patrons and customers, therefore, the results of its operations, whether gain or loss, occurred to the firm as a whole. In view of the many complicating factors, it was decided that a cost analysis of the fountain operations would not be worthwhile.

TABLE 5

Allocation of Provision for Bad Debts,
Enid Cooperative Creamery Association,
Fiscal Years Ending November 30, 1946, 1947, and 1948.

	1946	1947	1948
	(Dollars)	(Dollars)	(Dollars)
Pasteurized Milk	441.56	2,011.73	208.92
Homogenized Milk	--	211.52	66.58
Coffee Cream	60.81	324.66	36.50
Whipping Cream	.83	71.38	8.55
Chocolate Milk	4.83	51.33	9.95
Buttermilk	7.69	51.16	6.58
Skim Milk	.06	.44	.07
Cottage Cheese	32.96	169.52	21.06
Bulk Whole Milk	61.91	77.40	5.43
Bulk Sweet Cream	81.88	95.51	12.75
Tub Butter	1,378.14	8,487.70	1,046.86
Print Butter	689.65	2,434.22	248.14
Dried Buttermilk	33.85	173.25	18.48
Dried Skim Milk	50.81	107.00	27.63
Casein	--	115.43	1.02
Bulk Sour Cream	17.83	--	--
Ice Cream	--	--	12.21
Novelties	--	--	3.15
Feed Milk	.26	.67	--
Orangeade	.20	4.69	.16
Eggs	78.86	407.93	105.71

(Continued)

TABLE 5 (Continued)

Allocation of Provision for Bad Debts,
Enid Cooperative Creamery Association,
Fiscal Years Ending November 30, 1946, 1947, and 1948.

	1946	1947	1948
	(Dollars)	(Dollars)	(Dollars)
Total	2,942.13	14,795.54	1,839.75

SOURCE: Annual Audits of the Association, 1946, 1947, and 1948.

Other revenue amounted to $12,889.64 in 1946, $9,365.66 in 1947, and $16,314.84 in 1948 (Table 6). Since this revenue was earned at some expense, much of which was hidden in the general and administrative expense, other revenue may be considered as a credit to that expense. With the exception of rentals on ice cream cabinets, other revenue was allocated to the various products of the firm in proportion to their net sales. The rentals on ice cream cabinets correspond to the depreciation item listed under selling expense (Table 2). This revenue was divided between ice cream and novelties on the basis of net sales.

Manufacturing and Processing Expenses

Butterfat Purchases. From the standpoint of accounting procedure, the purchase of butterfat from patrons was a cost because it was a necessary expense in the operation of the enterprise. Since the firm was a cooperative producers' association, its purchases from its members were not a cost to the members collectively. It was very difficult to make a logical distinction between purchases from patrons and patronage refunds to patrons, from the standpoint of cost. Butterfat purchases were included in the manufacturing and processing expense because they were a part of the cost of sales of the firm. In the following chapter, purchases from patrons were considered separately because they were a distinctly different type of cost as compared to handling costs.

Both milk and cream were purchased on the basis of butterfat content alone. Although milk was purchased at a higher price than was cream, the method of payment made no specific allowance for the value of the non-fat milk solids. Consequently, the only cost which could be distributed among the products made from whole milk was the cost of butterfat. All purchase records were kept in terms of butterfat. This gave a somewhat unrealistic

TABLE 6

Allocation of Other Revenue,
Enid Cooperative Creamery Association,
Fiscal Years Ending November 30, 1946, 1947, and 1948.

	1946	1947	1948
	(Dollars)	(Dollars)	(Dollars)
Pasteurized Milk	1,934.51	1,273.44	1,522.30
Homogenized Milk	--	133.89	485.16
Coffee Cream	266.42	205.51	266.00
Whipping Cream	3.61	45.18	62.30
Chocolate Milk	21.17	32.49	72.47
Buttermilk	33.68	32.39	47.97
Skim Milk	.28	.28	.51
Cottage Cheese	144.38	107.30	153.46
Bulk Whole Milk	271.22	49.00	39.55
Bulk Sweet Cream	358.71	60.46	92.92
Tub Butter	6,037.72	5,372.76	7,628.09
Print Butter	3,021.41	1,540.88	1,808.12
Dried Buttermilk	148.31	109.67	134.63
Dried Skim Milk	222.60	67.73	201.33
Casein	--	73.07	7.40
Bulk Sour Cream	78.12	--	--
Ice Cream	--	--	88.97
Equipment Rentals			2,312.95
Total			2,401.92
Novelties	--	--	22.94
Equipment Rentals			596.32
Total			619.26

(Continued)

TABLE 6 (Continued)

Allocation of Other Revenue,
Enid Cooperative Creamery Association,
Fiscal Years Ending November 30, 1946, 1947, and 1948.

	1946	1947	1948
	(Dollars)	(Dollars)	(Dollars)
Feed Milk	1.12	.42	--
Orangeade	.88	2.97	1.20
Eggs	345.50	258.22	770.25
Total	12,889.64	9,365.66	16,314.84

SOURCE: Annual Audits of the Association, 1946, 1947, and 1948.

view of costs, as far as milk purchases and utilization were concerned, since the products contained various percentages of butterfat. A wide discrepancy appeared between the cost of joint-products and that part of the surplus which was disposed of as sweet cream and sour cream. This discrepancy resulted because no credit could be given to bulk sweet and sour cream for the skim milk used in by-products.

Since no record was kept by the association of the amounts of butterfat entering into each product, these had to be computed by reducing all quantities sold to pounds and multiplying the results by the average butterfat content of each product. Estimates of the average butterfat content of each product were made by the management and these figures were checked against some of the weekly butterfat analyses. These estimates proved somewhat inaccurate because no attempt was made to closely standardize the products. This appeared somewhat inconsistent with the policy of purchasing milk on a butterfat basis, because a loss would be incurred whenever the butterfat content of any product exceeded a certain point. In general, the estimates of butterfat content were too high. Since there was no way to determine which products were over-estimated, the butterfat estimates for all products were adjusted by the same percentage in order to reduce the computed total amount of butterfat used to the actual amount used.

An estimate of the average annual prices paid for grade "B" and grade "C" milk were obtained by taking a simple average of all of the pool prices paid during 1946, 1947, and 1948. Each pool price was established semi-monthly. Since the amount of milk purchased varied from one pool period to another, these prices had to be adjusted in order to obtain the correct annual value of milk purchased. Only one annual value could be obtained

for each year, and this figure included both grades of milk. The only records on which they were carried separately were the individual patrons' purchase receipts. The task of calculating the separate value of each grade of milk would have been unreasonably great. It was assumed that each price was in error by the same degree, so they were both adjusted by the percentage relationship of the actual total purchase value to the computed total purchase value for each year. The estimated average prices of grade "B" and grade "C" milk were adjusted so that when multiplied by the amount of each grade purchased the sum equaled the total cost of butterfat purchased as milk.

All grade "B" milk was used in bottled whole milk. Since more milk was used as bottled whole milk than was purchased as grade "B" milk, some grade "C" milk was used. Of the remainder of the grade "C" milk, some was used in other products of the milk department, and the surplus was transferred to the butter department. In allocating the cost of milk, all grade "B" milk was charged to bottled pasteurized milk and homogenized milk. The adjusted amount of butterfat used in each product and the adjusted price of grade "C" milk were used for the remainder of that used in bottled whole milk and in all of the other products.

The butterfat transferred to the butter department was assumed to be equivalent in value to premium cream. Since there was a wide difference between the price of grade "C" milk and the price of premium cream on a butterfat basis, a discrepancy arose which had to be accounted for. The value of the butterfat transferred to the butter department was not as much when used as butter as was paid for it in the form of grade "C" milk. This loss in value could not be justifiably charged to butter because the milk was bought for the milk department. The loss was incurred by the milk

department, and it was logical that the primary products of that department should share the loss. This adjustment in butterfat cost was made to bottled pasteurized milk, homogenized milk, coffee cream, whipping cream, bottled buttermilk, chocolate milk, and cottage cheese. It was allocated in proportion to the pounds of butterfat used in each of these products. None of the loss was charged to by-products or surplus products. Sour cream, sweet cream, and whole milk sold in bulk were regarded as surplus products. Skim milk, both bottled and dried, was regarded as a by-product. Cottage cheese was largely a by-product, but it had some sweet cream added to it, and to the extent of its butterfat content it was not regarded as a by-product. No charge was made for the skim milk used in casein production because casein contained no appreciable amount of butterfat. A separate operating statement for ice cream was made by the auditor, in which ice cream was charged for the butterfat used in its production.

The following figures for coffee cream produced in 1946 illustrate the method used in making the cost of butterfat allocations:

	Coffee Cream	Sub-total for all Milk Products	Total for all Milk Purchased
Weight of Product (pounds)	340,785.91		
Weight of Butterfat (pounds)	68,157.18	459,252.70	
Adjusted Weight (pounds)	58,347.04	393,150.60	740,684.50
Adjusted for Butterfat Long (lbs.)	57,733.83	389,018.69	732,900.10
Computed Value (dollars)	49,640.28	363,987.72	659,661.34
Adjusted for Loss to Butter (dollars)	53,697.17	391,098.50	659,661.34

The first adjustment in weight made was from the 459,252.70 pounds computed for all milk products to the 393,150.60 pounds shown in the 1946

audit as the total weight of butterfat used in all milk products. The adjustment for butterfat long resulted from the error made by the association in testing milk. Both adjustments were made by taking the percentage relationships of the figures for all milk products combined and applying them to the figures for coffee cream. In making the adjustment for the loss to butter, the difference between the value of the butterfat transferred as premium cream and its purchase cost as grade "C" milk was added to the computed value for all milk products. The loss was divided by the total adjusted weight of butterfat used in all milk products to determine the loss per pound of butterfat used in milk products. This unit loss was then multiplied by the adjusted weight of butterfat used in coffee cream, and the result added to the computed value of butterfat used in coffee cream.

Two grades of cream were purchased by the association, premium and standard. A two-cent premium per pound of butterfat was paid for high quality cream. The cream department made both sweet cream and sour cream butter, however, they were both made from mixed premium and standard cream. Both types of butter were sold in prints and in tubs. The cost of cream was allocated to tub butter, print butter, and dried buttermilk. The cost of premium cream, standard cream, and butterfat transferred from the milk department was totaled and an average price computed. The amount of butterfat retained in dried buttermilk was computed and multiplied by the average price of butterfat to obtain the value of the butterfat used in the dried buttermilk. The remainder of the butterfat cost was divided between print butter and tub butter in proportion to the amount of each kind produced.

Other Purchases. Other purchases included eggs from patrons, chocolate milk materials, purchases of iced novelties, materials used in ice cream, and salt, sugar, colors, and flavors. These were listed by groups in the audits. The cost of sugar, color, and flavors was divided among butter, orangeade, and bottled buttermilk, on estimates made by the plant superintendent and the internal auditor. Novelties and ice cream materials were recorded separately by the association. Most of the cost of other purchases was for eggs.

Packing Supplies. This group of expenses included the cost of packages for butter, cheese, dried buttermilk and dried skim milk, and milk cases and bottles. The total was an important item of cost in each of the years studied. Detailed records of purchases and inventories of packing supplies were kept by the association. These were used to determine the cost of packing supplies for each product. The cost of milk cases and bottles was allocated among the various bottled products in proportion to the number of units bottled.

Manufacturing and Processing Labor. The allocation of labor costs was very difficult because the division of labor made in the audits was not adequate for the purposes of this study. A payroll list for each of the three years studied was secured. These lists included the names of all employees and the total wages for each, by calendar years. The plant superintendent indicated the department in which each worker was employed and the function performed by each. This job was complicated by the inclusion of a large number of construction workers and other temporary employees on the payroll lists. Some adjustments were necessary, in summarizing the data, to make the totals agree with the total wage bills of the corresponding fiscal years.

The payroll list for each year was summarized by functions and groups of functions. A detailed breakdown of labor costs to each individual function performed was not possible. For the sake of convenience, these groups of functions will be referred to as departments. There were twelve of these departments - ice cream, milk receiving, milk processing, bottling, milk cooling and loading, cheese, butter, butter printing, casein, dried milk, egg, and general plant. The egg department was treated separately. The actual volume of each product processed in each department was determined, insofar as possible, and estimates were made in cases where the actual volume was not recorded. The total labor cost in each department was allocated, to the products which passed through it, in proportion to the volume of the product in the form in which it was processed in each department. All labor costs in the ice cream, cheese, and casein departments were allocated to their respective products. Milk receiving costs were allocated to the various milk products and by-products in proportion to the amount of butterfat used in each. The only record of the volume of milk received was in terms of pounds of butterfat.

General milk processing included separation, pasteurization, homogenization, and storage in bulk. Most of the products were processed here in their final form. The final weight of the product was used as the basis of allocation. An exception was made in the case of products sold in bulk; it was estimated that bulk whole milk was handled only one-third as much, by volume, as the products which passed through all of the processes, and an estimate of two-thirds, on the same volume basis, was used in the case of bulk cream. Bottling costs were allocated in proportion to the number of units of each product bottled. It was assumed that it cost approximately the same to process each unit regardless of the size of the unit.

Milk cooling and loading included storage in the cooling room, loading on delivery trucks, and the unloading of empty bottles. This cost was allocated to bottled products and cottage cheese, in proportion to the total weight of each.

The cream department was divided into three parts - butter making, which included cream receiving, storage, pasteurization, churning, and a part of the packaging; the print room where print butter was printed and wrapped; and the butter storage room. The cost of buttermaking was allocated to tub butter, print butter, and dried buttermilk, using pounds of butter produced and pounds of butterfat retained in buttermilk as the basis of allocation. This basis was chosen because buttermilk did not pass through all of the function performed in butter-making. All Printing costs were allocated to print butter. No labor cost was charged to butter storage.

The costs of the dried milk department were divided between dried buttermilk and dried skim milk in proportion to the weight of each product. The general plant labor included workers in the test room and janitors. This cost was allocated among all of the products in proportion to volume produced, for want of a better basis of allocation. Since eggs were not handled in the plant, none of these processes applied to eggs.

Social security taxes were allocated among the various products in proportion to the labor cost allocated to that product. The salaries of the plant foreman and his assistant were transferred to general and administrative expense because they could not be attributed to the production of any particular product.

Manufacturing and Processing Overhead. These expenses are the last to be considered. The most difficult job of allocation in this problem was in overhead expenses. All of these expenses were indirect. In order

to facilitate the allocation, these expenses were divided into three groups - utilities and taxes, machinery depreciation, and space costs. The utilities included fuel, light, heat, power, and water. Laundry and plant supplies were added to this group because the basis for allocation was the same. The plant superintendent estimated that these expense items were incurred roughly in proportion to the pounds of each product produced. Insurance and ad valorem taxes posed a special problem because they applied to machinery, buildings, and finished goods. For want of a more suitable alternative, these were also added to the utilities, and the total allocated to the various products in proportion to pounds produced.

Space cost was composed of three items - building depreciation, maintenance material, and maintenance labor. In 1947, a special item was included, a paving assessment. Some of these items were obviously capital expenditures and not true expenses because they resulted in increases in the value of assets, however, these items were treated as expenses by the association and there was little choice but to accept them as such. A floor plan of the plant building showing the amount of space used by each department was constructed. Space costs were then allocated to the departments discussed under labor costs in proportion to the amount of space used.

Machinery depreciation was also allocated to the functions or departments. No itemized record of machinery depreciation existed for machinery purchased prior to 1946. The machinery purchased in 1946 and later was listed on a depreciation schedule maintained by the auditor. A total figure was kept for all of the old machinery which was not itemized. The plant superintendent estimated the cost of the major pieces of machinery which were not itemized on the depreciation schedule. The machinery which

could be accounted for was allocated to the departments on the basis of function. The remainder of the depreciation expense had to be considered a general plant expense.

Space cost and machinery depreciation were added together by departments and allocated to the various products on the same basis as were labor costs. The cost of the space used by the office in 1946 and 1947 was transferred to general and administrative expense.

ANALYSIS OF OPERATIONS

The cost of handling a product does not, in itself, reveal much regarding the efficiency of handling the product. The interrelations existing among handling costs, purchase costs, net earnings, and net sales give a better indication of the efficiency of handling. This study was not concerned with technical efficiency, except as it is revealed in handling costs and net earnings. The term "net handling costs," as used herein, refers to total operating costs less the cost of purchases from patrons. Likewise, "net earnings" refers to net sales less total operating costs.

Comparative Analysis of Costs and Efficiency, by Individual Products

Bottled Pasteurized Milk. The volume of pasteurized milk produced decreased from 1946 to 1947, however, this decrease was accompanied by the addition of a new form of product, homogenized milk, and the combined volume of the two forms of bottled milk increased during the three-year period. The cost of butterfat used in bottled milk was comparatively high because all grade "B" milk was used for bottled whole milk. The following data were summarized from Table 9:

	1946		1947		1948	
	Cents Per Quart	Percent of Net Sales	Cents Per Quart	Percent of Net Sales	Cents per Quart	Percent of Net Sales
Net Sales	13.41	100.00	15.79	100.00	17.80	100.00
Butterfat Purchased	7.66	57.12	10.80	68.37	11.92	66.96
Net Handling Cost	3.49	26.06	4.13	26.17	4.55	25.57
Net Earnings	2.26	16.82	.86	5.46	1.33	7.47

The per unit figures on net sales, butterfat cost, and net handling cost increased during the three-year period. The percentage relationships of

the various factors reveal more than do the comparative per unit figures. Both butterfat costs and net earnings fluctuated widely in relation to net sales, in contrast, handling costs remained fairly constant for the three years. The butterfat costs plus the net earnings were approximately 73.5 percent of the net sales value of the product during each of the three years. Net earnings averaged nearly 10 percent of net sales for the three-year period, slightly below the average for all products. Handling costs averaged slightly higher than the average for all milk products.

Bottled Homogenized Milk. The production of homogenized milk was begun in 1947. The characteristics of this product were similar to those of pasteurized milk, except that homogenized milk apparently was preferred in the restaurant trade while pasteurized milk was preferred in households. The following data were summarized from Table 10:

	1947		1948	
	Cents per Quart	Percent of Net Sales	Cents per Quart	Percent of Net Sales
Net Sales	16.51	100.00	16.75	100.00
Butterfat Purchased	10.80	65.41	11.92	71.15
Net Handling Cost	4.15	25.15	4.91	29.35
Net Earnings (Loss)	1.56	9.44	(-.08)	(-.50)

In terms of cents per quart, handling costs of homogenized milk were not significantly higher than those of pasteurized milk. In 1947, net earnings were higher for homogenized milk, but, in 1948, they increased for pasteurized milk and decreased to a net loss for homogenized milk. The average price received for homogenized milk in 1948 was lower than that of pasteurized milk. In 1946, all homogenized milk was sold in quarts, but much of

it was sold in one-half pint bottles in 1948, indicating that a large part of it was sold wholesale. The fact that homogenized milk was sold wholesale at a lower average price than pasteurized milk sold retail accounts for the difference in net sales. The data indicate that homogenized milk was sold wholesale at less than cost, or the cost allocations were in error, or both. In the allocation of distribution expense, it was assumed that about the same percentage of each product was sold wholesale and that it cost about the same to handle different sized units. This assumption was obviously in error in this particular case, but, due to the lack of a more adequate basis for allocation, no adjustment was possible.

Considering pricing as a factor of handling efficiency, the data indicate that homogenized milk probably was not handled as efficiently as pasteurized milk. Higher wholesale prices may not correct this situation. The differential cost of handling homogenized milk probably was much lower than the cost allocated to the product, therefore, a reduction in volume handled could conceivably result in a reduction in the total net earnings of the association.

Bottled Coffee Cream. The following data were summarized from Table 11:

	1946		1947		1948	
	Cents per Pint	Percent of Net Sales	Cents per Pint	Percent of Net Sales	Cents per Pint	Percent of Net Sales
Net Sales	23.61	100.00	29.62	100.00	32.82	100.00
Butterfat Purchases	16.61	70.33	21.96	74.16	23.88	72.75
Net Handling Cost	4.88	20.68	5.84	19.71	6.15	18.74
Net Earnings	2.12	8.99	1.82	6.13	2.79	8.51

The average price received for coffee cream increased over the three-year period and was accompanied by a similar increase in butterfat costs. While handling costs increased in cents per unit, they decreased relative to net sales. Both handling costs and net earnings were proportionately lower than those of the products previously discussed. The cost of butterfat was relatively higher because of the higher butterfat content of the product and the fact that no value was assigned to skim milk. If the value of the skim milk removed by separation were credited to coffee cream, the product would appear more profitable. Coffee cream apparently was handled more efficiently than bottled milk, but the nature of the demand for coffee cream limits the profitable expansion of its production. The relatively steady volume sold during the three-year period indicates that there was little response to price changes.

Bottled Whipping Cream. Very little whipping cream was sold in 1946, but a fairly large volume was sold in 1947 and in 1948. The following data present a good view of the 1947 and 1948 operations but a badly distorted view of the 1946 operations (Table 12):

	1946		1947		1948	
	Cents per Half-pint	Percent of Net Sales	Cents per Half-pint	Percent of Net Sales	Cents per Half-pint	Percent of Net Sales
Net Sales	24.69	100.00	25.64	100.00	29.36	100.00
Butterfat Purchased	14.73	59.67	19.49	76.01	21.18	72.14
Net Handling Cost	(-.20)	(-.82)	4.83	18.83	5.07	17.28
Net Earnings	10.16	41.15	1.32	5.16	3.11	10.58

The error in cost allocation in 1946 resulted from the use of volume sold rather than volume of production as the basis of cost allocation. Volume

sold was used because data on volume produced were not available. In most cases this basis of allocation did not seriously affect the results because beginning and ending inventories were about the same size. In the case of whipping cream, there was no beginning inventory in 1946, but the ending inventory was very large in comparison to the net sales for the year. Thus, the figures for this product in 1946 have no significance, however, this did not seriously affect the figures for other products because of the small volume of whipping cream handled. The results for 1947 and 1948 are similar to those for coffee cream. Handling efficiency was almost as high as that of coffee cream.

Bottled Chocolate Milk. The volume of chocolate milk sold increased approximately 250 percent from 1946 to 1948. A large part of this increase resulted from sales to the governmental school lunch program in 1948. Except in the case of chocolate milk sold for school lunches, this product averaged only one-half of the butterfat content of bottled whole milk. The costs of chocolate milk materials were higher than the butterfat costs in 1946, but somewhat lower than butterfat costs in 1947 and 1948. The high cost of materials other than butterfat resulted in comparatively high handling costs for chocolate milk. The following data were summarized from Table 13:

	1946		1947		1948	
	Cents per Quart	Percent of Net Sales	Cents per Quart	Percent of Net Sales	Cents per Quart	Percent of Net Sales
Net Sales	13.73	100.00	16.60	100.00	18.19	100.00
Butterfat Purchased	3.39	24.70	4.49	27.03	6.09	33.51
Net Handling Cost	10.33	75.25	9.52	57.32	9.95	54.68
Net Earnings	.01	.05	2.59	15.65	2.15	11.81

The great variation in net earnings and handling costs were largely caused by price changes. There was not a large amount of variation in per unit handling costs, but the variation which did exist was difficult to account for. Per unit handling costs for chocolate milk decreased from 1946 to 1947 and increased slightly from 1947 to 1948, while the handling costs for most of the other products increased from 1946 to 1948. The increase in butterfat cost in 1948 resulted from a higher average butterfat content of the chocolate milk sold. It was difficult to draw any conclusions regarding the handling efficiency of this product. For the three year period, chocolate milk was handled less efficiently than pasteurized milk, and it was comparatively inefficient in the utilization of skim milk as compared with the milk by-products.

Bottled Buttermilk. This product was not, as its name implies a by-product of butter-making. It was a fluid milk product containing approximately one percent butterfat. The volume of buttermilk sold was comparatively large in all of the years studied, and it was exceeded by chocolate milk production only in 1948. The following data show buttermilk production to be very profitable (Table 14):

	1946		1947		1948	
	Cents per Quart	Percent of Net Sales	Cents per Quart	Percent of Net Sales	Cents per Quart	Percent of Net Sales
Net Sales	9.10	100.00	11.46	100.00	12.95	100.00
Butterfat Purchased	1.70	18.70	2.25	19.64	2.45	18.89
Net Handling Cost	3.23	35.50	3.74	32.60	4.22	32.57
Net Earnings	4.17	45.80	5.47	47.76	6.28	48.54

The net earnings on buttermilk were higher than those of any product

previously discussed. The charges for butterfat were comparatively small because of the low butterfat content of the product. Had a charge been made for skim milk, the product would not have appeared to be so profitable. The handling costs relative to net sales were above the average, but they were less than those of chocolate milk. The average ratio of handling costs to the value added by handling was very high, indicating a high degree of handling efficiency.

Cottage Cheese. A large volume of cottage cheese was produced in each of the years studied. The manufacture of this product was one of the chief means of utilizing skim milk. Cottage cheese was not strictly a by-product because it contained about five percent butterfat. Although it was an important source of income, cottage cheese was not as efficient in the utilization of skim as were some of the other by-products. The following data were summarized from Table 16:

	1946		1947		1948	
	Cents per Pound	Percent of Net Sales	Cents per Pound	Percent of Net Sales	Cents per Pound	Percent of Net Sales
Net Sales	11.58	100.00	11.99	100.00	12.92	100.00
Butterfat Purchased	3.94	34.01	5.21	43.48	5.67	43.84
Net Handling Cost	4.76	41.11	4.83	40.24	5.23	40.50
Net Earnings	2.88	24.88	1.95	16.28	2.02	15.66

Net earnings decreased in relation to net sales from 1946 to 1948, however, the decrease was balanced by an increase in returns to producers for butterfat. Net handling costs remained fairly constant, averaging about 40.5 percent of net sales. This percentage was relatively high compared to the other products handled. The handling of cottage cheese, although

profitable, was inefficient relative to the other products.

Bottled Skim Milk. The volume of liquid skim milk sold was not significant. Some of it was bottled but a large part was sold in bulk. The following data, summarized from Table 15, indicate that the volume probably could not be profitably expanded:

	1946		1947		1948	
	Cents per Gallon:	Percent of Net Sales	Cents per Gallon:	Percent of Net Sales	Cents per Gallon:	Percent of Net Sales
Net Sales	26.31	100.00	13.85	100.00	28.29	100.00
Butterfat Purchased	.19	.42	.22	1.62	.26	.90
Net Handling Cost	7.04	26.76	6.43	46.41	7.98	28.21
Net Earnings	19.08	72.52	7.20	52.96	20.05	70.89

The net earnings in 1946 and 1948 were very high, however, there was a significant decrease in both net earnings and net sales in 1947. This decrease was accompanied by, but not necessarily a result of, an increase in volume sold. In no year did the volume sold exceed 1,000 gallons (Table 29). The handling costs were significantly higher than those of dried skim milk.

Dried Skim Milk. The average volume of dried skim milk sold was larger than that of cottage cheese and the net sales were somewhat higher. As in the case of the other by-products, the lack of a charge for non-fat milk solids resulted in a high rate of net earnings. The cost of handling dried skim milk was comparatively small, but the lack of an adequate basis for allocating milk receiving and separation costs to this product probably caused a lower cost figure to result than was actually the case. The following data, summarized from Table 23, indicate that the production of

dried skim milk was both profitable and efficient:

	1946		1947		1948	
	Cents per Pound	Percent of Net Sales	Cents per Pound	Percent of Net Sales	Cents per Pound	Percent of Net Sales
Net Sales	16.87	100.00	9.07	100.00	13.40	100.00
Butterfat Purchased	.73	4.32	.87	9.62	.99	7.39
Net Handling Cost	2.75	16.33	2.13	23.49	2.56	19.10
Net Earnings	13.39	79.35	6.07	66.89	9.85	73.51

The consideration of skim milk products apart from the butterfat products produced from the same milk is somewhat unrealistic. The joint costs involved in their production can be divided only by arbitrary means. Valid comparisons can be made only among alternative uses of the same raw product. The data indicate that drying was the most efficient method of processing skim milk. If a charge had been made for the skim milk used in the various by-products, the results probably would have been different because of the different amounts of liquid skim milk required to make a pound of the finished products.

Casein. Casein was not produced in any large quantity except in 1947. The following data were summarized from Table 24:

	1947		1948	
	Cents per Pound	Percent of Net Sales	Cents per Pound	Percent of Net Sales
Net Sales	18.72	100.00	19.45	100.00
Net Handling Cost	1.74	9.30	5.86	30.13
Net Earnings	16.98	90.70	13.59	69.87

No valid comparisons can be obtained from the data because of the variation in volume sold. No charge was made for butterfat because casein contains no appreciable amount of fat. The cost of handling casein in 1947 was lower than that of dried skim milk. The higher average cost in 1948 was partly the result of the effect of fixed costs on the small volume sold. The profitability of expanding casein production is largely dependent upon the market outlets for the product. Since no data were obtained regarding the amount of skim milk required to produce a pound of casein as compared to a pound of dried skim milk, it was difficult to determine their relative efficiencies in the utilization of skim milk.

Feed Milk. This product, like liquid skim milk, was insignificant from the standpoint of volume sold. Feed milk was composed of waste products of the milk department. No data were available regarding either the volume sold or the composition of the product, therefore, no charge was made for butterfat or manufacturing expense. The operating expenses amounted to only about 1.5 percent of the net sales in 1946 and 1947, and no feed milk was sold in 1948 (Table 17).

Bulk Whole Milk. The handling of this product, as indicated by the following figures, was comparatively efficient (Table 18):

	1946		1947		1948	
	Cents per Pound	Percent of Net Sales	Cents per Pound	Percent of Net Sales	Cents per Pound	Percent of Net Sales
Net Sales	103.63	100.00	127.46	100.00	124.67	100.00
Butterfat Purchased	85.08	82.10	89.21	69.99	100.61	80.70
Net Handling Cost	5.73	5.52	9.31	7.31	9.62	7.72
Net Earnings	12.82	12.38	28.94	22.70	14.44	11.58

The preceding per unit figures were based on pounds of butterfat sold as whole milk in bulk. Most of the product was sold in the same form in which it was received and only a small part of it was pasteurized. This resulted in very low handling costs but the handling added but little to the value of the milk. In comparison to bottled milk, this type of market outlet was more profitable in 1947 and 1948 and less profitable in 1946. The handling efficiency, as measured by the ratio of handling costs to value added to the product, was very high in comparison to the other milk products.

Bulk Sweet Cream. The volume of sweet cream sold in bulk was considerably greater than that of whole milk, in terms of pounds of butterfat. The market outlet for sweet cream was not as profitable as that of whole milk. The following data were summarized from Table 19:

	1946		1947		1948	
	Cents per Pound	Percent of Net Sales	Cents per Pound	Percent of Net Sales	Cents per Pound	Percent of Net Sales
Net Sales	78.91	100.00	95.42	100.00	101.22	100.00
Butterfat Purchased	85.08	107.82	89.21	93.48	100.61	99.39
Net Handling Cost	2.60	3.30	4.77	5.00	4.38	4.33
Net Earnings (Loss)	(-8.77)	(-11.12)	1.44	1.52	(-3.77)	(-3.72)

The handling of this product resulted in a net loss in 1946 and 1948 and a small net earning in 1947. Apparently, this was one of the least profitable outlets used for surplus butterfat. Had this product been credited with the value of the skim milk taken from it, and been charged the price paid for butterfat at the time the product was sold rather than the average annual price, the resulting figures may have shown net earnings for

each of the three years. Compared to whole milk sold in bulk, this product was not handled very efficiently.

Bulk Sour Cream. Sour cream was sold in 1946 only. Handling costs were slightly lower than those of sweet cream in the same year. A 34.6 percent loss was incurred in the sale of sour cream. It was sold for 65 cents per pound of butterfat, while the average annual cost of butterfat purchased was 85.08 cents (Table 25). The same criticism of charging an average annual price for butterfat can be made here as was made in the case of sweet cream, however, the price received for sour cream probably was lower than the price paid for it as whole milk.

Ice Cream. The production of ice cream was begun in 1948. The costs incurred before getting into production caused a net loss for the year. Most of the extra cost charged to ice cream was in depreciation and advertising. The average sales price for ice cream was $1.40 per gallon as compared to 67 cents for butterfat and $1.10 for net handling cost per gallon (Table 26). A net loss of 37.4 cents per gallon was incurred in ice cream production. It was difficult to determine whether or not the addition of the ice cream department added to the total net earnings of the firm, although much of the cost charged to ice cream would have been incurred regardless of production. Included in the ice cream department was the handling of iced novelties, such as ice cream bars, fudge bars, popsickles, drum sticks, etc. Most of these were purchased from another firm and handled as a side-line of the ice cream department. A net earning of 21.6 percent was made on the sales of novelties. No conclusions regarding the efficiency of the ice cream department can be drawn from the limited data.

Tub Butter. Tub butter was the major product and the major source of

income for the association. The product contributed slightly less than one-half of the total net sales and net earnings of the firm in 1946, and more than one-half of each in 1947 and 1948 (Tables 20 and 8). The following figures were abstracted from Table 20:

	1946		1947		1948	
	Cents per Pound	Percent of Net Sales	Cents per Pound	Percent of Net Sales	Cents per Pound	Percent of Net Sales
Net Sales	58.35	100.00	64.98	100.00	74.52	100.00
Butterfat Purchased	48.58	83.25	54.05	83.17	61.83	82.97
Net Handling Cost	3.40	5.82	3.94	6.07	4.58	6.15
Net Earnings	6.37	10.93	6.11	10.76	8.11	10.88

Net handling costs were much lower and net earnings averaged slightly lower than in the case of milk products. The general upward trend in average net sales was accompanied by similar increases in prices paid for butterfat and in net handling cost. This resulted in approximately constant percentage relationships in each of the three years. Tub butter production was very efficient from the standpoint of handling costs relative to value added by handling. A very high percentage of the net sales value was paid for butterfat and the result was lower net earnings than would be expected by comparing handling costs with net sales.

Print Butter. A one-third reduction in the volume of print butter occurred from 1946 to 1948. The major differences between tub butter and print butter were in the form and manner in which they were sold. Both sour cream butter and sweet cream butter were sold in both forms. The cost of butterfat and butter-making was the same in each case, however, print butter incurred the expenses of printing and wrapping, local distribution and selling. The following data reveal significantly higher

average handling costs than were incurred by tub butter (Table 21):

	1946		1947		1948	
	Cents per Pound	Percent of Net Sales	Cents per Pound	Percent of Net Sales	Cents per Pound	Percent of Net Sales
Net Sales	57.39	100.00	69.30	100.00	76.99	100.00
Butterfat Purchased	48.51	84.52	53.94	77.83	61.75	80.20
Net Handling Cost	5.15	8.99	7.97	11,51	8.75	11.37
Net Earnings	3.73	6.49	7.39	10.66	6.49	8.43

The average cost of handling print butter was 3.32 cents higher than that of tub butter for the three-year period, and in 1947 and 1948 the difference in handling costs was more than four cents per pound. The average net sales of print butter was 2.21 cents per pound higher than that of tub butter for the three-year period, although it was lower in 1946. Print butter was handled much less efficiently than tub butter.

Dried Buttermilk. A large volume of dried buttermilk was sold in each of the years studied, especially in 1947. Since a corresponding variation did not occur in the total volume of butter produced, the variation must be largely attributed to the large carry-overs at the end of 1946 and 1948 and the purchase of a small amount of dried buttermilk in 1947. Here again, as in the case of whipping cream, a serious bias was introduced by allocating costs in proportion to the volume sold, and, as in the case of whipping cream, the bias did not become obvious until the final results were compared. The inventories were not so large in dollar volume, however, the finished goods inventories were usually made at a very conservative cost estimate, frequently resulting in failures to carry forward to the new accounting period values as great as the actual costs

incurred. The following data were summarized from Table 22:

	1946		1947		1948	
	Cents per Pound	Percent of Net Sales	Cents per Pound	Percent of Net Sales	Cents per Pound	Percent of Net Sales
Net Sales	10.83	100.00	6.61	100.00	10.04	100.00
Butterfat Purchased	3.03	27.96	3.41	51.58	3.90	38.81
Net Handling Cost	2.02	18.63	2.20	33.32	1.59	15.82
Net Earnings	5.78	53.41	1.00	15.09	4.55	45.37

Not all of the variations in the percentage relationships can be attributed to the bias mentioned above because the average net sales in 1947 was only 61 percent of the 1946 price. Both the bias in cost allocation and the decrease in sales price had an adverse effect on the net earnings figure in 1947. Net handling costs in 1946 and 1948 were about the same as those of dried skim milk. The production of dried buttermilk was an important source of revenue to the association because it utilized a by-product which would have been lost otherwise.

Orangeade. Orangeade was a minor source of income during the years studied. Much of the orangeade produced was used at the annual members' picnics and similar functions. Only a small part of the total volume produced was sold. No orangeade was bottled after 1946 and no records of volume produced or sold were kept. On the basis of such cost allocations as were possible, orangeade production resulted in a net loss in 1946 and net earnings in 1947 and 1948 (Table 27).

Eggs. The association handled a large volume of eggs in each of the years studied. The volume handled in 1948 was more than two and one-half times as great as that of 1946. The following data were abstracted from

Table 28:

	1946		1947		1948	
	Cents per Dozen	Percent of Net Sales	Cents per Dozen	Percent of Net Sales	Cents per Dozen	Percent of Net Sales
Net Sales	36.86	100.00	40.30	100.00	43.66	100.00
Egg Purchases	31.17	84.59	36.90	91.58	38.47	88.10
Net Handling Cost	3.40	9.21	2.62	6.51	4.33	9.95
Net Earnings	2.29	6.20	.78	1.91	.86	1.95

The handling margin on eggs was comparatively small, averaging 4.76 cents per dozen for the three-year period. Handling costs relative to the handling margin were high. There was no basis for comparison as far as handling efficiency was concerned.

Comparative Analysis of Costs and Efficiency, by Major Departments

This analysis was primarily concerned with fluid milk products as compared to cream products. The egg department, discussed above, required little further analysis. These products were brought together by groups because the comparison of individual products, especially in the cases of joint products, did not fully reveal the significance of operating costs and efficiency. The problem of joint costs was not so serious in the comparison of departments as it was in the comparisons of individual products.

Milk Department. In this section, the milk department represented the combination of all fluid milk products - pasteurized milk, homogenized milk, coffee cream, whipping cream, chocolate milk, buttermilk, skim milk, cottage cheese, dried skim milk, casein, feed milk, bulk whole milk, bulk sweet cream, bulk sour cream, and ice cream. The data for all of these

were combined as follows:

	1946		1947		1948	
	Cents per Pound	Percent of Net Sales	Cents per Pound	Percent of Net Sales	Cents per Pound	Percent of Net Sales
Net Sales	152.65	100.00	187.24	100.00	205.51	100.00
Butterfat Purchased	95.02	62.25	117.33	62.26	127.46	62.02
Net Handling Cost	32.61	21.36	46.59	24.88	55.93	27.22
Net Earnings	25.02	16.39	23.32	12.46	22.12	10.76
Patronage Refunds[4]	7.00		10.00		10.40	

The per unit figures were based on pounds of butterfat used in milk products. The cost of butterfat, which included the loss on butterfat transferred to the cream department, averaged slightly more than 62 percent of the net sales value during each of the years studied. Both net handling costs and net earnings were high for the milk department. The ratio of handling costs to value added by handling averaged 1:1.52 for the three-year period. This efficiency ratio was relatively low in comparison to the cream department. The average net earnings were 23.49 cents per pound, while the average of the patronage refunds was only 9.13 cents, a difference of 14.36 cents per pound. The milk producers collectively received approximately 67.5 percent of the total net sales of the milk department during the three-year period.

Cream Department. The cream department, as referred to in this section, included dried buttermilk as well as tub and print butter, all being products of cream. The data for these products were combined in the

[4] Annual Audits of the Association, 1946, 1947, and 1948.

following table:

	1946		1947		1948	
	Cents per Pound	Percent of Net Sales	Cents per Pound	Percent of Net Sales	Cents per Pound	Percent of Net Sales
Net Sales	73.17	100.00	83.67	100.00	95.86	100.00
Butterfat Purchased	60.57	82.78	68.20	81.51	78.44	81.83
Net Handling Cost	5.17	7.06	6.43	7.69	6.94	7.27
Net Earnings	7.43	10.16	9.04	10.80	10.45	10.90
Patronage Refunds 5/	7.00		10.00		10.40	

These unit figures were also based on pounds of butterfat used. Handling costs in the cream department were comparatively low. The average ratio, for the three-year period, of net handling cost to value added by handling was 1:2.45 for the cream department as compared to 1:1.52 for the milk department, indicating that the operations of the cream department were more efficient than those of the milk department. The value added to cream by handling was comparatively low, resulting in low net earnings in spite of the low handling costs. The average net earnings of the cream department for the three-year period were approximately 8.97 cents per pound of butterfat, while the patronage refunds averaged 9.13 cents. The net earnings per pound of butterfat were slightly higher than the refunds paid in 1946 and 1948, but they were considerably lower than the refunds in 1947.

Egg Department. The patronage refunds to egg patrons were based on the quantities of grade "A" eggs purchased. During the three-year period,

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5 Annual Audits of the Association, 1946, 1947, and 1948.

the total net earnings made on eggs were $14,411.71, and the total refunds on eggs were $24,914.36.[6] The total refunds exceeded the total net returns by $10,502.65.

Patronage Refunds. Although operating efficiency was higher in the cream department, a difference arose in the payment of patronage refunds. The patronage refunds were based on the pounds of butterfat received from each patron, and the same rate was paid to both cream producers and milk producers. During the three-year period, total refunds to cream producers amounted to $980,702.62, and the refunds to milk producers amounted to $239,226.62. During this same period, the net earnings of the cream department were $1,039,896.67, including $79,269.72 earned on butterfat transferred from the milk department. The total net earnings of the milk department were $408,894.41. After making an adjustment on the butterfat transferred, the total net earnings from milk were $488,163.93 and those from cream were $960,626.95. The refunds to cream producers were $20,075.67 more than the total net earnings made on cream, while the milk producers received $248,937.31 less than the total net earnings made on milk. In other words, the milk producers received less than one-half of the net earnings made on milk. Of the $248,937.31 balance, $20,075.67 were diverted to cream patrons as refunds, $10,502.65 were diverted to egg producers, and the balance was added to the reserves of the firm.

If patronage refunds are considered a cost to the firm, both cream and eggs were handled at a net loss for the three years combined. Whether or not these refunds are considered as costs, some of the net earnings made on milk were shifted to the cream and egg producers.

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[6] Annual Audits of the Association, 1946, 1947, and 1948.

Several solutions to this problem are possible. The most obvious solution is to make an adjustment in the relative prices paid for milk and cream. This solution might create a worse problem by changing the relative quantities of milk and cream received. The problem of seasonal surpluses in milk production could easily be intensified. Another solution is to establish a price for the value of skim milk or non-fat milk solids. All butterfat in milk could be purchased at the same price as premium cream and a differential paid for the value of the skim milk based upon total weight of the milk, weight of the liquid skim milk, or the weight of the non-fat milk solids. To illustrate this method, the pool prices paid from December 1 to 15, 1949, were 60 cents per pound of butterfat for premium cream, 58 cents for standard cream, $1.18 for grade "B" milk, and 75 cents for grade "C" milk.[7] Assuming the average butterfat content of both types of milk to be four percent, a price of 60 cents per pound of butterfat in milk could be paid, plus $2.32 per hundredweight for grade "B" milk, or, in the case of grade "C" milk, plus 60 cents per hundredweight.

Using either method, the grade "B" milk producer would receive $4.72 per hundredweight for four-percent milk, and the grade "C" milk producer would receive $3.00 per hundredweight for four-percent milk. The producer of five-percent milk would not be paid more than its actual value to the firm, and the producer of three-percent milk would receive the full value of the non-fat portion of his milk. At the end of the fiscal year a patronage refund based on pounds of butterfat could be declared, plus a refund based on the non-fat portion of milk. Since the present system of basing refunds on weight of butterfat tends to encourage seasonal production,

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[7] Gold Spot News, IX (January, 1950), No. 1.

the use of value as the basis for refunds would be more equitable to the steady producer. Whether or not refunds should be paid on value rather than weight depends largely on the pattern of seasonal variation in milk and cream production and the seriousness of the problem. The seasonal factor was not investigated in this study.

The determination of the relative refunds to be paid on butterfat and non-fat milk would necessitate the employment of a cost accounting system which would determine the costs and earnings of the milk department and cream department separately. The problem of refunds on eggs could be solved in the same manner. It might be profitable to the association to extend the cost accounting to individual products. The results would be very valuable in making price and production decisions.

The present accounting system, adopted when the firm was comparatively small, has become inadequate for the purposes of the association. It might be well for the management to investigate the possibilities of adopting a cost accounting system. Such a system might involve only a division of costs between the three major departments, or it might involve a fairly complete breakdown of costs among individual products to determine the relative cost and efficiency of producing each product. The expense of using a cost accounting system should be compared with the possibilities of improving operating efficiency and establishing a better basis for the division of net earnings among patrons.

One general conclusion may be drawn from the analysis of operations, the operating efficiency of the firm as a whole was very high. It can also be concluded that some profitable adjustments could probably be made among the primary products which compete for whole milk and butterfat, and among by-products which compete for skim milk. Although the cost of handling

a product is only one of the factors to be considered in making production decisions, it is an important factor.

SUMMARY AND CONCLUSIONS

Since its organization in 1931, the Enid Cooperative Creamery Association has grown rapidly in size, volume of sales, net earnings, and membership. Rapid growth in a business firm often leads to increasing inefficiencies, but the data discussed indicated that the association was operated efficiently during the three years studied despite its rapid growth.

The handling costs of the various products were determined in this study. Many of the costs were of such an indirect nature that they had to be allocated arbitrarily. Inadequate records were kept of many of the expenses, especially of the depreciation of plant machinery and equipment. Many of the cost allocations were based on estimates of the management and were subject to some degree of subjective error. The greatest problem involved the allocation of joint costs. At best, the cost allocations were good estimates of the actual costs involved in the production of each product; at worst, most of the allocations resulted in reasonably close estimates of actual costs. A few biases which seriously affected the results of the analysis were noted, but, unfortunately, there was no opportunity to correct them.

The policy of purchasing milk on the basis of its butterfat content made no allowance for the value of the non-fat portion of the milk. This caused some of the milk products containing a high percentage of butterfat to appear less profitable and efficient than they actually were. In the case of milk by-products, the failure to assign a value to skim milk made them appear more profitable than they actually were.

In the comparison of the cream and milk departments, it was concluded that the cream department was operated more efficiently on the basis of

the comparison of handling costs with added value. The handling costs of the cream department were relatively lower than those of the milk department, however, the milk department had a higher rate of net earnings because of the wide margin between butterfat costs and net sales. The cream producers were paid a higher percentage of the net sales value of cream products than the milk producers were of milk products, however, the basis of paying patronage refunds was the same in each case.

The cream producers received more in patronage refunds than was earned on cream during the three-year period. The milk producers received less than one-half of the net earnings of the milk department as patronage refunds.

The egg department operated on a very narrow handling margin, thus, a high rate of net earnings was impossible. During the three years studied, the egg producers received in patronage refunds an amount almost twice as great as the net earnings of the egg department.

The management of the association might consider the possibility of paying patronage refunds in proportion to the net earnings made on each type of product purchased from patrons.

In general, the operations of the association were both efficient and profitable during the period studied. The management might consider the possibility of adopting a cost accounting system to further improve operating efficiency and net earnings.

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A P P E N D I K

TABLE 7

Growth in Total Assets, Net Sales, Net Earnings, and Membership, Enid Cooperative Creamery Association, Fiscal Years Ending November 30, 1931 through 1948.

Year	Total Assets	Net Sales	Net Earnings	Membership
	(Dollars)	(Dollars)	(Dollars)	(Number)
1931	56,953.07	88,336.01	3,430.58	375
1932	50,990.22	103,638.81	3,351.68	392
1933	46,388.43	105,909.92	3,634.84	392
1934	37,929.04	126,794.95	10,701.51	433
1935	38,405.79	179,777.12	12,325.56	460
1936	49,755.65	242,908.17	18,812.58	676
1937	79,817.29	334,566.85	20,953.90	1,025
1938	129,658.63	554,815.22	34,428.75	2,736
1939	171,357.28	949,084.04	68,790.21	4,044
1940	203,216.67	1,042,584.85	65,439.53	4,900
1941	295,529.12	1,680,927.80	124,438.75	5,894
1942	406,407.07	2,389,143.19	187,991.93	6,600
1943	473,992.87	3,339,140.69	219,271.55	7,000
1944	489,276.91	3,122,744.28	233,239.38	7,000
1945	568,640.38	3,128,930.81	285,073.15	7,257
1946	832,058.01	3,693,761.15	430,318.11	7,400
1947	981,377.36	4,455,412.58	487,843.69	7,900
1948	1,062,055.66	5,279,615.13	547,999.07	8,300

SOURCE: Annual Audits and Membership Records of the Association, 1931 through 1948.

TABLE 8

Combined Operating Statement of the Enid Cooperative Creamery Association, Fiscal Years Ending November 30, 1946, 1947, and 1948.

	1946	Percentage of Total Net Sales	1947	Percentage of Total Net Sales	1948	Percentage of Total Net Sales
	(Dollars)	(Percent)	(Dollars)	(Percent)	(Dollars)	(Percent)
Sales - Milk Department	885,231.62		936,326.58		1,089,345.73	
Less: Wholesale Allowance	15,466.69		13,258.72		9,186.81	
Net Sales	869,764.93	23.55	923,067.86	20.72	1,080,158.92	20.46
Sales - Butter Department	2,613,881.89		3,307,065.73		3,739,763.78	
Less: Freight-Out	17,823.02		18,123.98		23,431.64	
Net Sales	2,596,058.87	70.28	3,288,941.75	73.82	3,716,331.14	70.39
Sales - Other Products	228,128.39		244,794.26		483,273.54	
Less: Freight-Out	191.04		1,391.29		148.47	
Net Sales	227,937.35	6.17	243,402.97	5.46	483,125.07	9.15
Total Net Sales	3,693,761.15	100.00	4,455,412.58	100.00	5,279,615.13	100.00
Cost of Sales						
Inventory, Dec. 1	16,136.22		33,594.81		44,998.70	
Cost of Goods:						
Butterfat	2,859,739.16	77.42	3,430,568.89	77.00	3,919,832.82	74.24
Other Materials	84,400.53		121,145.48		286,464.31	
Egg Hauling	160.74		149.83		2,193.54	
Labor	68,920.99		81,441.59		101,553.12	
Packing Supplies	56,412.82		53,885.36		74,412.62	
Overhead	52,152.21		83,668.89		103,747.06	
Total	3,140,922.67		3,804,454.85		4,533,202.17	
Inventory, Nov. 30	33,594.81		44,998.70		32,814.65	
Cost of Goods Sold	3,107,327.86	84.12	3,759,456.15	84.38	4,500,387.52	85.24

(Continued)

TABLE 8 (Continued)

Combined Operating Statement of the Enid Cooperative Creamery Association, Fiscal Years Ending November 30, 1946, 1947, and 1948.

	1946	Percentage of Total Net Sales	1947	Percentage of Total Net Sales	1948	Percentage of Total Net Sales
	(Dollars)	(Percent)	(Dollars)	(Percent)	(Dollars)	(Percent)
Gross Margin	586,433.29	15.88	695,956.43	15.62	779,277.61	14.76
Operating Expenses						
Distribution Expense	78,639.01		89,071.06		121,929.65	
Selling Expense	22,767.39		29,799.48		30,813.50	
Shop and Garage Expense	4,810.36		7,560.84		8,293.31	
General and Adm. Expense	59,845.93		76,251.48		84,667.17	
Provision for Bad Debts	2,942.13		14,795.54		1,839.75	
Total	169,004.82	4.58	217,478.40	4.88	247,543.38	4.69
Net Operating Margin	417,428.47	11.30	478,478.03	10.74	531,684.23	10.07
Other Revenue						
Purchase Discounts	1,816.15		1,479.20		2,535.54	
Interest Income and Refunds	1,009.10		517.69		764.92	
Equipment Rentals					2,909.27	
Gain on Sales of Assets			1,912.62		1,905.44	
Margin on Fountain Sales					130.78	
Margin on Trade Supplies	6,452.58		2,063.20		5,829.65	
Miscellaneous	3,611.81		3,392.95		2,179.24	
Total	12,889.64	0.35	9,365.66	0.21	16,314.84	0.31
Net Earnings	430,318.11	11.65	487,843.69	10.95	547,999.07	10.38

SOURCE: Annual Audits of the Association, 1946, 1947, and 1948.

TABLE 9

Combined Operating Statement for Bottled Pasteurized Milk,
Enid Cooperative Creamery Association,
Fiscal Years Ending November 30, 1946, 1947, and 1948.

	1946	1947	1948
	(Dollars)	(Dollars)	(Dollars)
Gross Sales	566,816.77	615,023.15	604,895.79
Less: Wholesale Credits	12,447.28	9,225.26	5,358.94
Net Sales	554,369.49	605,797.89	599,536.85
Cost of Sales			
Inventory, Dec. 1	1,931.02	1,364.10	1,480.27
Cost of Goods:			
Butterfat	316,653.86	414,204.99	401,456.49
Labor	18,277.85	21,956.71	19,516.99
Packing Supplies	22,470.53	15,382.98	13,841.03
Overhead	23,834.37	35,042.89	34,247.06
Total	383,167.63	487,951.67	470,541.84
Inventory, Nov. 30	1,364.10	1,480.27	1,357.11
Cost of Goods Sold	381,803.53	486,471.40	469,184.73
Gross Margin on Sales	173,565.96	119,326.49	130,352.12
Operating Expenses			
Distribution Expense	58,945.18	59,248.82	64,459.87
Selling Expense	10,002.45	11,813.74	9,517.01
Shop and Garage Expense	2,889.44	4,113.81	3,307.60
General and Adm. Expense	8,981.84	10,367.85	9,614.54
Provision for Bad Debts	441.56	2,011.73	208.42
Total	81,260.47	87,555.95	87,107.94
Net Operating Margin	91,305.49	31,770.54	43,244.18
Other Revenue	1,934.51	1,273.44	1,522.30
Net Earnings	93,240.00	33,043.98	44,766.48
Net Handling Cost			
Total	144,475.63	158,548.92	153,313.88
Per Quart Sold	.0349	.0413	.0455

SOURCE: Annual Audits of the Association, 1946, 1947, and 1948.

TABLE 10

Combined Operating Statement for Bottled Homogenized Milk,
Enid Cooperative Creamery Association,
Fiscal Years Ending November 30, 1947 and 1948.

	1947	1948
	(Dollars)	(Dollars)
Gross Sales	64,665.10	192,782.61
Less: Wholesale Credits	969.97	1,707.92
Net Sales	63,695.13	191,074.69
Cost of Sales		
Inventory, Dec. 1	--	328.44
Cost of Goods:		
Butterfat	41,661.85	135,960.35
Labor	2,189.99	6,840.00
Packing Supplies	1,428.08	6,167.92
Overhead	3,972.96	12,455.85
Total	49,252.88	161,752.56
Inventory, Nov. 30	328.44	1,010.03
Cost of Goods Sold	48,924.44	160,742.53
Gross Margin on Sales	14,770.69	30,332.16
Operating Expenses		
Distribution Expense	5,959.82	24,170.95
Selling Expense	1,242.13	3,033.11
Shop and Garage Expense	385.07	1,444.07
General and Adm. Expense	1,090.10	3,064.19
Provision for Bad Debts	211.52	66.58
Total	8,888.64	31,778.90
Net Operating Margin (Loss)	5,882.05	(-1,446.74)
Other Revenue	133.89	485.16
Net Earnings (Loss)	6,015.94	(-961.58)
Net Handling Cost		
Total	16,017.34	56,075.92
Per Quart Sold	.0415	.0491

SOURCE: Annual Audits of the Association, 1947 and 1948.

TABLE 11

Combined Operating Statement for Bottled Coffee Cream,
Enid Cooperative Creamery Association,
Fiscal Years Ending November 30, 1946, 1947, and 1948.

	1946	1947	1948
	(Dollars)	(Dollars)	(Dollars)
Gross Sales	78,060.25	99,254.07	105,696.85
Less: Wholesale Credits	1,714.21	1,488.80	936.40
Net Sales	76,346.04	97,765.27	104,760.45
Cost of Sales			
Inventory, Dec. 1	792.38	552.40	624.65
Cost of Goods:			
Butterfat	53,697.17	72,498.48	76,214.47
Labor	1,232.83	1,936.85	1,925.49
Packing Supplies	1,869.81	1,384.59	1,504.31
Overhead	1,200.50	2,064.23	2,068.22
Total	58,792.69	78,436.55	82,337.14
Inventory, Nov. 30	552.40	624.65	556.55
Cost of Goods Sold	58,240.29	77,811.90	81,780.59
Gross Margin on Sales	18,105.75	19,953.37	22,979.86
Operating Expenses			
Distribution Expense	6,919.70	7,994.09	9,375.73
Selling Expense	3,045.43	3,785.35	2,863.84
Shop and Garage Expense	250.27	388.62	375.04
General and Adm. Expense	1,236.95	1,673.19	1,680.00
Provision for Bad Debts	60.81	324.66	36.50
Total	11,513.16	14,165.91	14,331.11
Net Operating Margin	6,592.59	5,787.46	8,648.75
Other Revenue	266.42	205.51	266.00
Net Earnings	6,859.01	5,992.97	8,914.75
Net Handling Cost			
Total	15,789.86	19,273.82	19,631.23
Per Pint Sold	.0488	.0584	.0615

SOURCE: Annual Audits of the Association, 1946, 1947, and 1948.

TABLE 12

Combined Operating Statement for Bottled Whipping Cream,
Enid Cooperative Creamery Association,
Fiscal Years Ending November 30, 1946, 1947, and 1948.

	1946	1947	1948
	(Dollars)	(Dollars	(Dollars)
Gross Sales	1,058.43	21,821.09	24,757.38
Less: Wholesale Credits	23.24	327.31	219.33
Net Sales	1,035.19	21,493.78	24,538.05
Cost of Sales			
Inventory, Dec. 1	--	190.80	207.00
Cost of Goods:			
Butterfat	617.65	16,337.90	17,702.47
Labor	11.21	374.42	383.00
Packing Supplies	17.62	295.64	320.39
Overhead	9.45	337.71	331.06
Total	655.93	17,536.47	18,943.92
Inventory, Nov. 30	190.80	207.00	223.80
Cost of Goods Sold	465.13	17,329.47	18,720.12
Gross Margin on Sales	570.06	4,164.31	5,817.93
Operating Expenses			
Distribution Expense	86.28	1,745.04	2,130.08
Selling Expense	41.30	832.21	670.80
Shop and Garage Expense	2.46	83.24	80.75
General and Adm. Expense	16.77	367.85	393.51
Provision for Bad Debts	.83	71.38	8.55
Total	147.64	3,099.72	3,283.69
Net Operating Margin	422.42	1,064.59	2,534.24
Other Revenue	3.61	45.18	62.30
Net Earnings	426.03	1,109.77	2,596.54
Net Handling Cost			
Total	(-8.49)	4,046.11	4,239.04
Per Half-pint Sold	(-.0020)	.0483	.0507

SOURCE: Annual Audits of the Association, 1946, 1947, and 1948.

TABLE 13

Combined Operating Statement for Bottled Chocolate Milk,
Enid Cooperative Creamery Association.
Fiscal Years Ending November 30, 1946, 1947, and 1948.

	1946	1947	1948
	(Dollars)	(Dollars)	(Dollars)
Gross Sales	6,204.12	15,693.90	28,796.65
Less: Wholesale Credits	136.24	235.41	255.12
Net Sales	6,067.88	15,458.49	28,541.53
Cost of Sales			
Inventory, Dec. 1	35.01	36.57	161.20
Cost of Goods:			
Butterfat	1,499.00	4,178.31	9,564.86
Chocolate Milk Materials	2,075.99	3,785.15	5,386.83
Labor	219.20	520.84	944.54
Packing Supplies	600.89	731.88	1,440.61
Overhead	281.67	882.38	1,684.56
Total	4,711.76	10,135.13	19,182.60
Inventory, Nov. 30	36.57	161.20	200.94
Cost of Goods Sold	4,675.19	9,973.93	18,981.66
Gross Margin on Sales	1,392.69	5,484.56	9,559.87
Operating Expenses			
Distribution Expense	991.25	1,993.69	4,682.74
Selling Expense	242.04	598.53	780.24
Shop and Garage Expense	74.41	190.05	330.97
General and Adm. Expense	98.31	264.56	457.71
Provision for Bad Debts	4.83	51.33	9.95
Total	1,410.84	3,098.16	6,261.61
Net Operating Margin (Loss)	(-18.15)	2,386.40	3,298.26
Other Revenue	21.17	32.49	72.47
Net Earnings	3.02	2,418.89	3,370.73
Net Handling Cost			
Total	4,565.86	8,861.29	15,605.94
Per Quart Sold	.1033	.0952	.0995

SOURCE: Annual Audits of the Association, 1946, 1947, and 1948.

TABLE 14

Combined Operating Statement for Bottled Buttermilk,
Enid Cooperative Creamery Association,
Fiscal Years Ending November 30, 1946, 1947, and 1948.

	1946	1947	1948
	(Dollars)	(Dollars)	(Dollars)
Gross Sales	9,868.88	15,641.75	19,062.28
Less: Wholesale Credits	216.72	234.62	168.88
Net Sales	9,652.16	15,407.13	18,893.40
Cost of Sales			
Inventory, Dec. 1	110.65	72.27	122.20
Cost of Goods:			
Butterfat	1,805.05	3,026.92	3,568.88
Other Materials	106.07	134.46	145.85
Labor	411.00	620.33	686.77
Packing Supplies	535.94	497.65	596.93
Overhead	585.01	1,152.30	1,426.23
Total	3,553.72	5,503.93	6,546.86
Inventory, Nov. 30	72.27	122.20	105.30
Cost of Goods Sold	3,481.45	5,381.73	6,441.56
Gross Margin on Sales	6,170.71	10,025.40	12,451.84
Operating Expenses			
Distribution Expense	1,167.11	1,657.34	2,363.29
Selling Expense	385.02	596.55	516.49
Shop and Garage Expense	67.75	131.32	139.92
General and Adm. Expense	156.38	263.68	302.99
Provision for Bad Debts	7.69	51.16	6.58
Total	1,783.95	2,700.05	3,329.27
Net Operating Margin	4,386.76	7,325.35	9,122.57
Other Revenue	33.68	32.39	47.97
Net Earnings	4,420.44	7,357.74	9,170.54
Net Handling Cost			
Total	3,426.67	5,022.47	6,153.98
Per Quart Sold	.0323	.0374	.0422

SOURCE: Annual Audits of the Association, 1946, 1947, and 1948.

TABLE 15

Combined Operating Statement for Bottled Skim Milk,
Enid Cooperative Creamery Association,
Fiscal Years Ending November 30, 1946, 1947, and 1948.

	1946	1947	1948
	(Dollars)	(Dollars)	(Dollars)
Net Sales	80.76	131.13	201.98
Cost of Sales			
Butterfat	.58	2.13	1.82
Labor	3.96	14.06	10.60
Packing Supplies	.85	.72	.08
Overhead	6.14	29.25	25.63
Total	11.53	46.16	38.13
Gross Margin on Sales	69.23	84.97	163.85
Operating Expenses			
Distribution Expense	6.22	9.11	12.25
Selling Expense	3.22	5.08	5.52
Shop and Garage Expense	.13	.24	.10
General and Adm. Expense	1.31	2.24	3.24
Provision for Bad Debts	.06	.44	.07
Total	10.94	17.11	21.18
Net Operating Margin	58.29	67.86	142.67
Other Revenue	.28	.28	.51
Net Earnings	58.57	68.14	143.18
Net Handling Cost			
Total	21.61	60.86	56.98
Per Gallon Sold	.0704	.0643	.0798

SOURCE Annual Audits of the Association, 1946, 1947, and 1948.

TABLE 16

Combined Operating Statement for Cottage Cheese,
Enid Cooperative Creamery Association,
Fiscal Years Ending November 30, 1946, 1947, and 1948.

	1946	1947	1948
	(Dollars)	(Dollars)	(Dollars)
Gross Sales	42,304.14	51,824.20	60,978.14
Less: Wholesale Credits	929.00	777.35	540.22
Net Sales	41,375.14	51,046.85	60,437.92
Cost of Sales			
Butterfat	14,071.28	22,193.50	26,494.99
Labor	3,636.54	4,273.92	4,236.06
Packing Supplies	4,325.87	3,867.59	5,896.09
Overhead	2,082.90	3,685.24	3,840.74
Total	24,116.59	34.020.25	40.467.88
Gross Margin on Sales	16,258.55	17,026.60	19,970.04
Operating Expenses			
Distribution Expense	4,522.39	5,387.91	7,570.03
Selling Expense	1,650.44	1,976.48	1,652.20
Shop and Garage Expense	231.06	416.86	448.66
General and Adm. Expense	670.36	873.63	969.22
Provision for Bad Debts	32.96	169.52	21.06
Total	7,107.21	8,824.40	10,661.17
Net Operating Margin	10,151.34	8,202.20	9,308.87
Other Revenue	144.38	107.30	153.46
Net Earnings	10,295.72	8,309.50	9,462.33
Net Handling Cost			
Total	17,008.14	20,543.85	24,480.60
Per Pound Sold	.0476	.0483	.0523

SOURCE: Annual Audits of the Association, 1946, 1947, and 1948.

TABLE 17

Combined Operating Statement for Feed Milk,
Enid Cooperative Creamery Association,
Fiscal Years Ending November 30, 1946 and 1947.

	1946	1947
	(Dollars)	(Dollars)
Net Sales	320.68	201.74
Cost of Sales*		
Gross Margin	320.68	201.74
Operating Expenses		
Shop and Garage Expense	.10	.08
General and Adm. Expense	5.20	3.45
Provision for Bad Debts	.26	.67
Total	5.56	4.20
Net Operating Margin	315.12	197.54
Other Revenue	1.12	.42
Net Earnings	316.24	197.96
Net Handling Cost	4.44	3.78

* Feed milk was composed of waste products and no record was made of the volume sold. No allocations of cost of sales were possible.

SOURCE: Annual Audits of the Association, 1946 and 1947.

TABLE 18

Combined Operating Statement for Bulk Whole Milk,
Enid Cooperative Creamery Association,
Fiscal Years Ending November 30, 1946, 1947, and 1948.

	1946	1947	1948
	(Dollars)	(Dollars)	(Dollars)
Net Sales	77,722.41	23,308.68	15,576.74
Cost of Sales			
Butterfat	63,810.34	16,313.22	12,570.23
Labor	1,271.57	510.79	374.79
Overhead	1,946.67	755.85	616.23
Total	67,028.58	17,579.86	13,551.25
Gross Margin on Sales	10,693.83	5,728.82	2,025.49
Operating Expenses			
Shop and Garage Expense	25.30	9.89	6.12
General and Adm. Expense	1,259.25	398.81	249.80
Provision for Bad Debts	61.91	77.40	5.43
Total	1,346.46	486.20	261.35
Net Operating Margin	9,347.37	5,242.62	1,764.14
Other Revenue	271.22	49.00	39.55
Net Earnings	9,618.59	5,291.62	1,803.69
Net Handling Cost			
Total	4,293.48	1,703.84	1,202.82
Per Pound of Butterfat Sold	.0573	.0931	.0962

SOURCE: Annual Audits of the Association, 1946, 1947, and 1948.

TABLE 19

Combined Operating Statement for Bulk Sweet Cream,
Enid Cooperative Creamery Association,
Fiscal Years Ending November 30, 1946, 1947, and 1948.

	1946	1947	1948
	(Dollars)	(Dollars)	(Dollars)
Net Sales	102,795.18	28,761.77	36,597.31
Cost of Sales			
Butterfat	110,832.04	26,888.43	36,374.69
Labor	1,189.27	537.91	662.44
Overhead	782.78	359.96	402.34
Total	112,804.09	27,786.30	37,439.47
Gross Margin on Sales (Loss)	(-10,008.91)	975.47	(-842.16)
Operating Expenses			
Shop and Garage Expense	33.47	12.20	14.37
General and Adm. Expense	1,665.47	492.24	586.90
Provision for Bad Debts	81.88	95.51	12.75
Total	1,780.82	599.95	614.02
Net Operating Margin (Loss)	(-11,789.73)	375.52	(-1,456.18)
Other Revenue	358.71	60.46	92.92
Net Earnings (Loss)	(-11,431.02)	435.98	(-1,363.26)
Net Handling Cost			
Total	3,394.16	1,437.36	1,585.88
Per Pound of Butterfat Sold	.0260	.0477	.0438

SOURCE: Annual Audits of the Association, 1946, 1947, and 1948.

TABLE 20

Combined Operating Statement for Tub Butter,
Enid Cooperative Creamery Association,
Fiscal Years Ending November 30, 1946, 1947, and 1948.

	1946	1947	1948
	(Dollars)	(Dollars)	(Dollars)
Gross Sales	1,748,042.16	2,574,042.33	3,027,657.32
Less: Freight-Out	17,823.02	18,123.98	23,431.64
Net Sales	1,730,219.14	2,555,918.35	3,004,225.68
Cost of Sales			
Inventory, Dec. 1	6,139.43	13,642.85	23,239.68
Cost of Goods:			
Butterfat	1,493,883.71	2,194,341.36	2,568,188.25
Other Materials	871.59	1,283.36	3,303.25
Labor	16,820.41	21,459.78	20,609.18
Packing Supplies	3,358.33	6,689.96	10,992.13
Overhead	9,790.00	18,844.31	21,574.95
Total	1,530,863.47	2,256,261.62	2,647,907.44
Inventory, Nov. 30	13,642.85	23,239.68	13,263.25
Cost of Goods Sold	1,517,220.62	2,233,021.94	2,634,644.19
Gross Margin on Sales	212,998.52	322,896.41	369,581.49
Operating Expenses			
Shop and Garage Expense	563.31	1,084.35	1,179.77
General and Adm. Expense	28,032.83	43,742.88	48,177.62
Provision for Bad Debts	1,378.14	8,487.70	1,046.86
Total	29,974.28	53,314.93	50,404.25
Net Operating Margin	183,024.24	269,581.48	319,177.24
Other Revenue	6,037.72	5,372.76	7,628.09
Net Earnings	189,061.96	274,954.24	326,805.33
Net Handling Cost			
Total	100,652.15	155,182.69	184,749.31
Per Pound Sold	.0340	.0394	.0458

SOURCE: Annual Audits of the Association, 1946, 1947, and 1948.

TABLE 21

Combined Operating Statement for Print Butter,
Enid Cooperative Creamery Association,
Fiscal Years Ending November 30, 1946, 1947, and 1948.

	1946	1947	1948
	(Dollars)	(Dollars)	(Dollars)
Net Sales	865,839.73	733,023.40	412,105.46
Cost of Sales			
Inventory, Dec. 1	5,272.10	15,673.64	16,519.92
Cost of Goods:			
Butterfat	758,931.92	588,910.61	588,418.61
Other Materials	442.79	344.43	756.84
Labor	15,896.84	15,148.03	18,885.46
Packing Supplies	14,396.99	18,157.05	12,606.04
Overhead	5,617.18	6,097.37	5,983.44
Total	800,558.02	644,331.13	643,170.31
Inventory, Nov. 30	15,673.64	16,519.92	11,438.35
Cost of Goods Sold	784,884.38	627,811.21	631,731.96
Gross Margin on Sales	80,955.35	105,212.19	80,373.50
Operating Expenses			
Distribution Expense	5,519.88	4,672.49	4,226.42
Selling Expense	6,952.50	8,322.20	5,709.79
Shop and Garage Expense	557.59	605.44	531.71
General and Adm. Expense	14,028.24	12,545.23	11,419.76
Provision for Bad Debts	689.65	2,434.22	248.14
Total	27,747.86	28,579.58	22,135.82
Net Operating Margin	53,207.49	76,632.61	58,237.68
Other Revenue	3,021.41	1,540.88	1,808.12
Net Earnings	56,228.90	78,172.49	60,045.80
Net Handling Cost			
Total	77,796.68	84,339.21	80,943.42
Per Pound Sold	.0515	.0797	.0875

SOURCE: Annual Audits of the Association, 1946, 1947, and 1948.

TABLE 22

Combined Operating Statement for Dried Buttermilk,
Enid Cooperative Creamery Association,
Fiscal Years Ending November 30, 1946, 1947, and 1948.

	1946	1947	1948
	(Dollars)	(Dollars)	(Dollars)
Gross Sales	42,598.31	53,130.38	53,090.52
Less: Freight-Out	97.28	959.53	70.02
Net Sales	42,501.03	53,170.85	53,020.50
Cost of Sales			
Inventory, Dec. 1	360.19	1,200.00	98.00
Cost of Goods:			
Butterfat	11,882.18	26,912.01	20,577.82
Dried Buttermilk	--	2,907.10	--
Labor	2,765.34	4,325.24	2,980.77
Packing Supplies	2,564.99	1,689.65	1,365.89
Overhead	2,840.03	6,382.91	4,379.81
Total	20,412.73	43,416.91	29,402.29
Inventory, Nov. 30	1,200.00	98.00	1,190.00
Cost of Goods Sold	19,212.73	43,318.91	28,212.29
Gross Margin on Sales	23,288.30	8,851.94	24,808.21
Operating Expenses			
Shop and Garage Expense	13.84	22.13	20.82
General and Adm. Expense	688.60	892.87	850.27
Provision for Bad Debts	33.85	173.25	18.48
Total	736.29	1,088.25	889.57
Net Operating Margin	22,552.01	7,763.69	23,918.64
Other Revenue	148.31	109.67	134.63
Net Earnings	22,700.32	7,873.36	24,053.27
Net Handling Cost			
Total	7,918.53	17,385.48	8,389.41
Per Pound Sold	.0202	.0220	.0159

SOURCE: Annual Audits of the Association, 1946, 1947, and 1948.

TABLE 23

Combined Operating Statement for Dried Skim Milk,
Enid Cooperative Creamery Association,
Fiscal Years Ending November 30, 1946, 1947, and 1948.

	1946	1947	1948
	(Dollars)	(Dollars)	(Dollars)
Gross Sales	63,883.64	32,652.36	79,370.73
Less: Freight-Out	93.76	431.76	78.45
Net Sales	63,789.88	32,220.59	79,292.28
Cost of Sales			
Inventory, Dec. 1	872.15	430.00	580.00
Cost of Goods:			
Butterfat	2,753.91	3,099.18	5,859.78
Labor	2,783.76	2,112.32	3,668.67
Packing Supplies	3,479.22	1,937.86	5,281.44
Overhead	2,827.74	3,064.25	5,182.41
Total	12,716.78	10,643.61	20,572.30
Inventory, Nov. 30	430.00	580.00	700.00
Cost of Goods Sold	12,286.78	10,063.61	19,872.30
Gross Margin on Sales	51,503.10	22,156.98	59,419.98
Operating Expenses			
Shop and Garage Expense	20.77	13.67	31.14
General and Adm. Expense	1,033.52	551.43	1,271.58
Provision for Bad Debts	50.81	107.00	27.63
Total	1,105.10	672.10	1,330.35
Net Operating Margin	50,398.00	21,484.88	58,089.63
Other Revenue	222.60	67.73	201.33
Net Earnings	50,620.60	21,552.61	58,290.96
Net Handling Cost			
Total	10,415.37	7,568.80	15,141.54
Per Pound Sold	.0275	.0213	.0256

SOURCE: Annual Audits of the Association, 1946, 1947, and 1948.

TABLE 24

Combined Operating Statement for Casein,
Enid Cooperative Creamery Association,
Fiscal Years Ending November 30, 1947 and 1948.

	1947	1948
	(Dollars)	(Dollars)
Net Sales	34,759.94	2,913.00
Cost of Sales		
Inventory, Dec. 1	--	84.00
Cost of Goods:		
Labor	1,668.40	289.01
Overhead	997.28	463.09
Total	2,665.68	836.10
Inventory, Nov. 30	84.00	--
Cost of Goods Sold	2,581.68	836.10
Gross Margin on Sales	32,178.26	2,076.90
Operating Expenses		
Shop and Garage Expense	14.75	1.14
General and Adm. Expense	594.89	46.71
Provision for Bad Debts	115.43	1.02
Total	725.07	48.87
Net Operating Margin	31,453.19	2,028.03
Other Revenue	73.07	7.40
Net Earnings	31,526.26	2,035.43
Net Handling Cost		
Total	3,233.68	877.57
Per Pound Sold	.0174	.0586

SOURCE: Annual Audits of the Association, 1947 and 1948.

TABLE 25

Operating Statement for Bulk Sour Cream,
Enid Cooperative Creamery Association,
Fiscal Year Ending November 30, 1946.

	(Dollars)
Net Sales	22,385.80
Cost of Sales	
Butterfat	29,300.47
Labor	314.40
Overhead	206.94
Total	29,821.81
Gross Loss	7,436.01
Operating Expenses	
Shop and Garage Expense	7.29
General and Adm. Expense	362.69
Provision for Bad Debts	17.83
Total	387.81
Net Operating Loss	7,823.82
Other Revenue	78.12
Net Loss	7,745.70
Net Handling Cost	
Total	831.03
Per Pound of Butterfat Sold	.0241

SOURCE: Annual Audit of the Association, 1946.

TABLE 26

Operating Statement for the Ice Cream Department,
Enid Cooperative Creamery Association,
Fiscal Year Ending November 30, 1948.

	Ice Cream	Novelties	Total
	(Dollars)	(Dollars)	(Dollars)
Net Sales	35,040.93	9,034.14	44,075.07
Cost of Sales			
Butterfat	16,879.11		16,879.11
Other Materials	3,043.93		3,043.93
Novelty Purchases		6,437.58	6,437.58
Labor	7,402.98		7,402.98
Packing Supplies	5,159.65		5,159.65
Overhead	9,065.44		9,065.44
Total	41,551.11	6,437.58	47,988.69
Gross Margin on Sales (Loss)	(-6,510.18)	2,596.56	(-3,912.62)
Operating Expenses			
Distribution Expense	979.41	173.52	1,152.93
Selling Expense	3,557.58	917.21	4,474.79
Shop and Garage Expense	119.04	22.20	141.24
General and Adm. Expense	561.94	144.88	706.82
Provision for Bad Debts	12.21	3.15	15.36
Total	5,230.18	1,260.96	6,491.14
Net Operating Margin (Loss)	(-11,740.36)	1,335.60	(-10,404.76)
Other Revenue			
Equipment Rentals	2,312.95	596.32	2,909.27
Other	88.97	22.94	111.91
Total	2,401.92	619.26	3,021.18
Net Earnings (Loss)	(-9,338.44)	1,954.86	(-7,383.58)
Net Handling Cost			
Total	27,500.26	7,079.28	34,579.54
Per Gallon Sold	1.1026		

SOURCE: Annual Audit of the Association, 1948.

TABLE 27

Combined Operating Statement for Orangeade,
Enid Cooperative Creamery Association,
Fiscal Years Ending November 30, 1946, 1947, and 1948.

	1946	1947	1948
	(Dollars)	(Dollars)	(Dollars)
Net Sales	250.47	1,411.23	471.94
Cost of Sales			
Raw Materials	157.83	195.81	133.99
Labor	50.71	--*	--*
Packing Supplies	186.77	--*	--*
Overhead	140.63	--*	--*
Total	535.94	195.81	133.99
Gross Margin on Sales (Loss)	(-285.47)	1,215.42	337.92
Operating Expenses			
Distribution Expense	182.24	--	--
Selling Expense	2.61	14.98	5.49
Shop and Garage Expense	22.60	.60	.18
General and Adm. Expense	4.06	24.15	7.57
Provision for Bad Debts	.20	4.69	.16
Total	211.71	44.42	13.40
Net Operating Margin (Loss)	(-497.18)	1,171.00	324.55
Other Revenue	.88	2.97	1.20
Net Earnings (Loss)	(-496.30	1,173.97	325.75
Net Handling Cost	746.77	237.26	146.19

* No record of volume sold was kept for 1947 and 1948. No allocations of cost of sales were possible, with the exception of raw materials.

SOURCE: Annual Audits of the Association, 1946, 1947, and 1948.

TABLE 28

Combined Operating Statement for Eggs,
Enid Cooperative Creamery Association,
Fiscal Years Ending November 30, 1946, 1947, and 1948.

	1946	1947	1948
	(Dollars)	(Dollars)	(Dollars)
Net Sales	99,010.17	122,840.36	303,352.28
Cost of Sales			
Inventory, Dec. 1	623.29	432.18	1,553.34
Cost of Goods:			
Egg Purchases	83,746.26	112,495.17	267,256.04
Labor	4,036.10	3,792.00	12,146.37
Packing Supplies	2,605.01	1,821.71	9,240.11
Hauling	160.74	149.83	2,193.54
Overhead	*	*	*
Total	91,171.40	118,690.89	292,389.40
Inventory, Nov. 30	432.18	1,553.34	2,769.32
Cost of Goods Sold	90,739.22	117,137.55	289,620.08
Gross Margin on Sales	8,270.95	5,702.81	13,732.20
Operating Expenses			
Distribution Expense	298.76	402.75	1,785.36
Selling Expense	442.38	612.23	1,584.22
Shop and Garage Expense	50.57	88.52	239.71
General and Adm. Expense	1,604.15	2,102.33	4,864.74
Provision for Bad Debts	78.86	407.93	105.71
Total	2,474.72	3,613.76	8,579.74
Net Operating Margin	5,796.23	2,089.05	5,152.46
Other Revenue	345.50	258.22	770.25
Net Earnings	6,141.73	2,347.27	5,922.71
Net Handling Cost			
Total	9,122.18	7,997.92	30,173.53
Per Dozen Sold	.0340	.0262	.0433

SOURCE: Annual Audits of the Association, 1946, 1947, and 1948.

TABLE 29

Combined Quantity Analysis of Sales,
Enid Cooperative Creamery Association,
Fiscal Years Ending November 30, 1946, 1947, and 1948.

	1946	1947	1948
Bottled Pasteurized Milk			
Quarts	4,030,547	3,729,521	3,353,963
Pints			27,899
Half-Pints	416,678	426,865	
Total in Quarts	4,134,716	3,836,237	3,367,912
Bottled Homogenized Milk			
Quarts	-	385,859	1,018,456
Half-Pints	-	-	488,589
Total in Quarts		385,859	1,140,603
Bottled Coffee Cream			
Quarts	74,239	73,530	65,295
Pints	54,028	65,456	75,023
Half-Pints	241,794	235,122	227,238
Total in Pints	323,403	330,077	319,232
Bottled Whipping Cream			
Quarts	64	753	1,313
Pints	515	1,705	1,355
Half-Pints	2,907	77,421	75,615
Total in Half-Pints	4,193	83,843	83,577
Bottled Chocolate Milk			
Quarts	19,232	58,219	91,832
Pints	194	-	-
Half-Pints	99,497	139,529	260,161
Total in Quarts	44,203	93,101	156,872
Bottled Buttermilk			
Quarts	106,071	134,463	145,853
Bottled Skim Milk			
Gallons	265	898	709
Quarts	168	195	19
Total in Gallons	307	947	714
Cottage Cheese			
Pounds	357,210	425,902	467,768
Bulk Whole Milk			
Pounds of Butterfat	75,002.49	18,286.92	12,494.19

(Continued)

TABLE 29 (Continued)

Combined Quantity Analysis of Sales,
Enid Cooperative Creamery Association,
Fiscal Years Ending November 30, 1946, 1947, and 1948.

	1946	1947	1948
Bulk Sweet Cream			
Pounds of Butterfat	130,271.65	30,141.60	36,154.64
Tub Butter			
Pounds	2,965,335	3,933,297	4,031,610
Print Butter			
Pounds	1,508,677.75	1,057,768	924,907
Dried Buttermilk			
Pounds	392,347	789,213	528,223
Dried Skim Milk			
Pounds	378,118	355,119	591,861
Casein			
Pounds	-	185,650	14,980
Bulk Sour Cream			
Pounds of Butterfat	34,439.69	-	-
Ice Cream			
Gallons	-	-	9,247.75
Half-Gallons	-	-	6,299.00
Pints	-	-	100,349.62
Total in Gallons			24,940.97
Novelties (Ice Cream, etc.)			
Dozens	-	-	20,532.61
Orangeade			
Gallons	135	-	-
Quarts	34,103	-	-
Half-Pints	2,863	-	-
Total in Quarts	35,361		
Eggs			
Cases	7,952	8,853	18,735
Dozens	30,087	39,236	132,733
Total in Dozens	268,647	304,826	694,783

SOURCE: Annual Audits of the Association, 1946, 1947, and 1948.

Typist: Harold A. Coonrad