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# Financial Profile of Dairy Cooperatives, 1997



## **Abstract**

Financial statements for U.S. dairy cooperatives in 1997 are presented. The nation's dairy cooperatives were categorized into six groups based on their primary function (bargaining-only, bargaining-balancing, hard-product manufacturing, branded-cheese, fluid processing and diversified) and according to size (net volume of milk handled). Balance sheets and operating statements (common-size and per-cwt of milk), as well as financial ratios, were developed for U.S. dairy cooperatives by type and by type and size.

**Key Words:** Cooperatives, financial statements, financial structure, milk, dairy.

## **Preface**

Information for this report came from a 1998 survey of all U.S. dairy cooperatives that gathered financial and marketing data for cooperatives' fiscal years ending in calendar 1997. This report developed consolidated balance sheets, operating statements and standard financial ratios for a portion of U.S. dairy cooperatives from the survey data. For more focused analysis, financial profiles according to functional type and net volume of milk handled were also presented.

The consolidated financial statements were both "common sized" and calculated on a per-cwt of milk basis for ease of comparing the different types of cooperatives despite their differences in magnitude and to make it easier for an individual dairy cooperative to compare its financial structure with these profiled cooperatives. Relationships between various items in the balance sheet and operating statement were also used to analyze comparative dairy cooperative performance.

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## Highlights

Most of the assets held and milk handled by U.S. dairy cooperatives were accounted for by the cooperatives included in this report. They were categorized according to the type of operations in which they engaged to market a majority of their members' milk: bargaining-only, bargaining-balancing, hard-product manufacturing, branded-cheese, fluid processing, and diversified. They were also further categorized according to the net volume of milk they handled into small, medium and large size groups.

Overall, dairy cooperatives used \$5.15 per hundredweight (cwt) of milk in assets to market their members' milk in 1997. Current assets made up more than one-half of the total assets. Total liabilities came to \$3.12 per cwt while member equity amounted to \$2.03 per cwt of milk.

Bargaining-only cooperatives used the least assets to market a cwt of milk, while branded-cheese cooperatives used the most. Diversified and fluid processing cooperatives used the next highest level of assets per cwt, while hard-product manufacturing and bargaining-balancing cooperatives fell in the middle.

Likewise, branded-cheese cooperatives had the highest total liabilities per cwt, followed by diversified and fluid processing cooperatives. Hard-product manufacturing and bargaining-balancing cooperatives again fell in the middle. Bargaining-only cooperatives also had the lowest total liabilities per cwt.

Again, following the pattern for total assets and total liabilities, members of branded-cheese cooperatives had the highest equity stake per cwt of milk handled. Diversified and fluid processing cooperatives' member equity per cwt was the second highest, followed closely by hard-product manufacturing cooperatives. Bargaining-balancing member equity was relatively low, but higher than member equity in bargaining-only cooperatives that had the least capital per cwt invested.

Milk and dairy product sales were the largest single income item, \$19.85 per cwt of milk handled by the dairy cooperatives in 1997. Supply sales were the next largest item, \$1.77 per cwt. Total income was \$22.50 per cwt while net margins before tax came to 30 cents per cwt.

Branded-cheese cooperatives generated the largest milk and dairy product sales per cwt, while bargaining-balancing cooperatives yielded the least. Diversified and fluid processing cooperatives' supply sales were quite a bit larger than the other types. As a result, diversified and fluid processing cooperatives had the highest total income per cwt.

Total income varied by more than \$10 per cwt between bargaining-balancing cooperatives (lowest) and diversified and fluid processing cooperatives (highest), while just under \$3 per cwt separated the total income of bargaining-only, hard-product manufacturing, and bargaining-balancing cooperatives.

Branded-cheese cooperatives had the largest net margins before tax per cwt. Net margins for hard-product manufacturing cooperatives, diversified and fluid processing cooperatives and bargaining-balancing cooperatives ranged from 50 to 77 cents per cwt below those of branded-cheese cooperatives. Bargaining-only cooperatives had the lowest net margins.

## Highlights

Various ratios were calculated to measure the effectiveness of dairy cooperative operations. Cooperatives had \$1.28 in current assets for each \$1 of current debt in 1997. Hard-product manufacturing cooperatives had the largest current ratio and bargaining-balancing cooperatives the lowest. Sixty percent of total dairy cooperative assets were provided by liabilities (which may include milk payments owed to members).

Long-term debt came to 44 percent of total equity in 1997. Diversified and fluid processing cooperatives had the highest level of long-term debt compared with member equity, while bargaining-only cooperatives had the lowest.

Return on equity was 13.2 percent for dairy cooperatives in 1997. Bargaining-balancing cooperatives were highest by this measure and diversified and fluid processing cooperatives were lowest. Return on equity ranged widely between size groups for each type of cooperative.

Return on total assets employed in marketing milk was 7.1 percent for all dairy cooperatives. Hard-product manufacturing generated the highest return, followed by branded-cheese cooperatives. Diversified and fluid processing and bargaining-only cooperatives yielded the lowest return to assets.



# Financial Profile of Dairy Cooperatives, 1997

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## Introduction

Farmer cooperative statistics are collected annually by Rural Business-Cooperative Service (RBS) to provide information on the growth and development of cooperatives. The information is collected from individual farmer cooperatives by a mail survey. The 1998 survey (collecting 1997 data) requested additional details about marketing operations of dairy cooperatives. Furthermore, detailed balance sheet and income statement information was also gathered. This data on dairy cooperatives was used to develop financial statistics specific to dairy cooperatives for this report. The marketing operations of all U.S. dairy marketing cooperatives were discussed in RBS RR 173.

In 1997, the United States had 226 cooperatives predominantly engaged in dairy marketing (excluding dairy goat cooperatives). But, just 88 of them (38.9 percent) provided financial information in sufficient detail to be included in this report. However, they represent 95.9 percent of the combined total assets of all dairy cooperatives (table 1). Moreover, they handled 89.8 percent of the total U.S. dairy cooperative milk volume.

**Functional Types**—Dairy cooperatives perform a variety of functions for their members and have taken diverse routes to ensure a market for their members' milk. As such, they may be classified according to the method they employ in marketing a majority (50 percent or more) of their members' milk. Furthermore, the financing needs differ among these various types of dairy cooperatives. For this report, dairy cooperatives were classified into 6 groups: bargaining-only, bargaining-balancing, hard-product manufacturing, branded-cheese, fluid processing and diversified dairy cooperatives (see box).

The cooperatives in this study adequately represent all types (table 2). However, this study reflects just

27.6 percent of the bargaining-only cooperatives in the U.S. Nevertheless, almost two-thirds of all bargaining-only cooperatives' total assets (63.2 percent) and net milk volume (64 percent) were represented in this study.

This report captured 62.5 percent of the bargaining-balancing cooperatives and represented more than 90 percent of their assets. Additionally, the bargaining-balancing cooperatives in this report handled 92.1 percent of the total net milk volume handled by cooperatives of this type.

All but one of the U.S. hard-product manufacturing cooperatives were included in this study. Yet, the total net milk volume handled by these cooperatives was accounted for in this report. (The "missing" coop-

Table 1—Comparison of cooperatives in the financial profile study and all U.S. dairy cooperatives, 1997

Item	Financial profile cooperatives	U.S. dairy cooperatives <sup>1</sup>	Profile cooperatives as a percent of all U.S. cooperatives
	----- Number -----		Percent
Cooperatives	88	226	38.9
	----- Million dollars -----		Percent
Total assets	5,895.1	6,147.0	95.9
Total liabilities	3,566.5	3,717.5	95.9
Net worth	2,328.6	2,423.8	96.1
	----- Billion pounds -----		Percent
Volume of milk handled <sup>2</sup>	114.4	127.4	89.8

<sup>1</sup> Cooperatives with more than 50 percent of net sales from milk and dairy products; excludes goat dairy cooperatives.

<sup>2</sup> Milk handled by cooperatives less inter-cooperative transfers.

## FUNCTIONAL TYPES OF DAIRY COOPERATIVES

**Bargaining-only** cooperatives are the most numerous type of dairy cooperative (72 percent of all 226 U.S. dairy cooperatives). They operate at the first-handler level in seeking to secure the most profitable outlets for their members' milk and do not own plants. So further processing and sales of dairy products is left to other handlers. They have relatively few assets—just 6 percent of all assets held by U.S. dairy cooperatives. In 1997, 70 percent of these cooperatives each handled less than 50 million pounds of member milk and only 5 percent handled 1 billion pounds or more. Bargaining-only cooperatives collectively handled less than one-fourth of net U.S. cooperative milk volume.

**Bargaining-balancing** cooperatives bargain for milk prices and manufacture the surplus into commodity dairy products (such as butter, powder and cheese) for supply balancing. Their function is similar to that of bargaining-only cooperatives, but they have plant facilities to accommodate handlers' needs and/or to balance milk supplies. In 1997, 7 percent of the dairy cooperatives in the U.S. were in this category and they held 7 percent of all dairy cooperative assets. However, bargaining-balancing cooperatives handled 14 percent of the net milk volume handled by U.S. dairy cooperatives.

**Hard-product manufacturing** cooperatives use most of their members' milk in their own manufacturing plants where they make undifferentiated, commodity dairy products. Just 2 percent of U.S. dairy cooperatives were in this category, but they handled 4 percent of the cooperative net milk volume in 1997. Hard-product manufacturing cooperatives used 5 percent of all assets held by U.S. dairy cooperatives.

**Branded-cheese** cooperatives typically process all of their members' milk in the cooperative's plants, manufacturing and marketing specialty or branded cheese and other dairy products for particular market niches. They made up 8 percent of all U.S. dairy cooperatives in 1997 (the second most common type of dairy cooperative). None handled more than 1 billion pounds of member milk, and more than one-half handled less than 50 million pounds each. As a group, they handled just 1 percent of cooperative net milk volume (the smallest share among the 6 types).

**Fluid processing** cooperatives typically process all of their members' milk in their plants, primarily as bottled fluid milk. In 1997, only 2 percent of the dairy cooperatives in the U.S. were fluid processing cooperatives, yet they held 6 percent of all assets used by U.S. dairy cooperatives. They were mid-sized, handling less than 1 billion pounds of member milk each in 1997.

**Diversified** dairy cooperatives perform all or most of the functions that other types of dairy cooperatives perform. A large portion of their milk supply is sold to other handlers, while maintaining a steady volume at their own processing or manufacturing plants to make a variety of products. In 1997, 8 percent of all dairy cooperatives were diversified, but these held 73 percent of all dairy cooperative assets and handled 55 percent of the total milk volume. Two-thirds of the diversified dairy cooperatives each handled 1 billion pounds or more of member milk in 1997.

Table 2—Cooperatives in the study compared with all U.S. dairy cooperatives, by type and by size, 1997

Primary function	Financial profile	U.S. Cooperatives	Share of U.S. represented
		-----Number-----	Percent
Bargaining-only	45	163	27.6
Bargaining-balancing	10	16	62.5
Hard-product manufacturing	4	5	80.0
Branded-cheese	9	19	47.4
Diversified and fluid processing	20	23	87.0
<b>Total</b>	<b>88</b>	<b>226</b>	<b>38.9</b>
		Total assets	
		-----Million dollars-----	Percent
Bargaining-only	236.3	374.0	63.2
Bargaining-balancing	387.4	428.4	90.4
Hard-product manufacturing	265.4	303.2	87.5
Branded-cheese	127.2	140.6	90.5
Diversified and fluid processing	4,878.8	4,900.9	99.5
<b>Total</b>	<b>5,895.1</b>	<b>6,147.0</b>	<b>95.9</b>
		Net milk volume 1/	
		-----Million pounds-----	Percent
Bargaining-only	19,632	30,657	64.0
Bargaining-balancing	16,475	17,892	92.1
Hard-product manufacturing	5,434	5,434	100.0
Branded-cheese	1,265	1,562	81.0
Diversified and fluid processing	71,626	71,874	99.7
<b>Total</b>	<b>114,432</b>	<b>127,419</b>	<b>89.8</b>
		Number of cooperatives	
		-----Number-----	Percent
<b>Small:</b> Less than 50 million pounds	28	133	21.1
<b>Medium:</b> 50 to 999 million pounds	35	67	52.2
<b>Large:</b> 1 billion or more pounds	25	26	96.2
<b>Total</b>	<b>88</b>	<b>226</b>	<b>38.9</b>

<sup>1</sup> Milk handled by cooperatives less inter-cooperative transfers.

erative had two cooperatives as members, so its entire volume was considered an inter-cooperative transfer from its member cooperatives.)

Just 47.4 percent of the branded-cheese cooperatives in the U.S. were represented in this report, but they accounted for 90.5 percent of the total assets and 81 percent of the net milk volume handled by cooperatives of this type.

Fluid processing cooperatives were combined with diversified cooperatives into one category because there were so few of them in the study. Together they represented 87 percent of all U.S. diversified and fluid processing cooperatives. Additionally, these diversified and fluid processing cooperatives represented nearly all of the assets and net milk volume handled by all such cooperatives in the U.S.

**Size Categories**—The data was further categorized according to the net volume of milk the cooperatives handled into three size groups—small (less than 50 million pounds of milk), medium (50 to 999 million pounds of milk) and large (1 billion or more pounds of milk). The cooperatives in this study represented nearly all (96.2 percent) of the large U.S. dairy cooperatives in 1997. However, just 21.1 percent of the small cooperatives were represented.

There were no large branded-cheese or fluid processing cooperatives in the U.S. in 1997. Additionally, there were too few hard-product manufacturing cooperatives and small bargaining-balancing cooperatives in this study to show their financial statements according to each size group. Medium fluid processing cooperatives were not included with the medium diversified cooperatives for the presentation of financial statements by size.

### Financial Profile—Per Cwt Basis

The consolidated financial statements were expressed in terms of dollars per cwt of net milk volume handled by the cooperative. This presentation may be familiar to dairy farmers and cooperative managers because milk prices are typically expressed in terms of dollars per cwt.

**Balance Sheet**—Consolidated financial statements by type and by type and size of dairy cooperative were prepared (appendix tables 1 and 2). Overall, dairy cooperatives used \$5.15 per cwt of milk in assets to market their members' milk in 1997 (table 3).

Current assets made up the largest single item of cooperative assets (\$2.84 per cwt of net milk handled),

while property, plant and equipment was the next largest (\$1.32 per cwt). On the other side of the ledger, total liabilities were \$3.12 per cwt. The bulk were current liabilities, \$2.22 per cwt, mostly consisting of pending payments to members for their delivered milk. Total member equity amounted to \$2.03 per cwt of milk. Of the total equity, \$1.70 per cwt was allocated and \$0.34 per cwt was unallocated (unassigned to specific members).

**Balance Sheet by Type**—The structure of the balance sheet varied according to the operational type of dairy cooperative (table 4). Bargaining-only cooperatives required the least assets to market milk (\$1.20 per cwt), while branded-cheese cooperatives required the most (\$10.06 per cwt) in 1997. Diversified and fluid processing cooperatives had the next highest level of asset use, \$6.81 per cwt of milk handled. Hard-product manufacturing and bargaining-balancing cooperatives fell in the middle (\$4.88 and \$2.35 per cwt, respectively).

**Table 3—Dairy cooperatives' consolidated balance sheet, per cwt of net milk handled, 1997**

Item	Dollars per cwt
Current assets	2.84
Net property, plant and equipment	1.32
Investments in other cooperatives	0.56
Other assets	0.44
<b>Total assets</b>	<b>5.15</b>
Current liabilities	2.22
Long term liabilities	0.90
<b>Total liabilities</b>	<b>3.12</b>
Allocated equity	1.70
Unallocated equity	.34
<b>Total member equity</b>	<b>2.03</b>
<b>Total liabilities and equity</b>	<b>5.15</b>
Number of cooperatives	88
Milk handled (million pounds) <sup>1</sup>	114,432

<sup>1</sup> Total milk handled by cooperatives, net of inter-cooperative transfers.

**Note:** Totals may not add due to rounding.

Table 4—Consolidated balance sheet per cwt, by type of dairy cooperative, 1997

Item	Type of cooperative				
	Bargaining only	Bargaining-balancing	Hard-product manufacturing	Branded-cheese	Diversified & fluid processing
	<i>Dollars per cwt</i>				
Current assets	.91	1.45	2.84	6.62	3.62
Net PP&E <sup>1</sup>	.13	.78	1.86	2.89	1.70
Investments in other co-ops	.13	.09	.17	.38	.81
Other assets	.03	.04	.01	.16	.68
Total assets	1.20	2.35	4.88	10.06	6.81
Current liabilities	.80	1.32	1.94	4.69	2.79
Long-term liabilities	.04	.22	.73	.90	1.31
Total liabilities	.83	1.54	2.67	5.59	4.10
Allocated equity	.30	.78	2.08	3.55	2.23
Unallocated equity	.07	.03	.14	.92	.48
Total equity	.37	.81	2.22	4.47	2.72
Liabilities and equity	1.20	2.35	4.88	10.06	6.81
Number of cooperatives	45	10	4	9	20
Milk handled (million pounds) <sup>2</sup>	19,632	16,475	5,434	1,265	71,626

<sup>1</sup> Property, plant and equipment.

<sup>2</sup> Total milk volume handled by cooperatives, net of inter-cooperative transfers.

**Note:** Totals may not add due to rounding.

Current assets per cwt followed the same pattern. Branded-cheese cooperatives used the highest levels (\$6.62) and bargaining-only cooperatives the lowest (\$0.91). Property, plant and equipment (PPE) showed a similar pattern also. Branded-cheese cooperatives had the highest PPE per cwt (\$2.89) and bargaining-only the lowest (\$0.13).

However, hard-product manufacturing cooperatives had the second highest (\$1.86 per cwt) followed by diversified and fluid processing cooperatives (\$1.70 per cwt). Compared with other types, diversified and fluid processing cooperatives had much higher investments in other cooperatives (\$0.81 per cwt) and in other assets (\$0.68 per cwt). Bargaining-balancing cooperatives had the lowest investment in other cooperatives (\$0.09 per cwt), while hard-product manufacturing cooperatives had the lowest investment in other assets (\$0.01 per cwt).

Branded-cheese cooperatives also had the highest total liabilities per cwt (\$5.59) followed by diversified and fluid processing cooperatives (\$4.10). Hard-product manufacturing and bargaining-balancing cooperatives fell in the middle (\$2.67 and \$1.54 per cwt,

respectively). Bargaining-only cooperatives had the lowest total liabilities (\$0.83 per cwt) where current liabilities made up most of the total.

Current liabilities ranged from 80 cents per cwt for bargaining-only cooperatives to \$4.69 per cwt for branded-cheese cooperatives. Diversified and fluid processing cooperatives had \$2.79 in current liabilities per cwt, followed by hard-product manufacturing (\$1.94) and bargaining-balancing cooperatives (\$1.32).

Bargaining-only cooperatives also had the lowest long-term liabilities (\$0.04 per cwt) and diversified and fluid processing cooperatives had the highest (\$1.31 per cwt). Branded-cheese cooperatives were second highest (\$.90 per cwt), and hard-product manufacturing cooperatives (\$0.73 per cwt) and bargaining-balancing cooperatives again fell in the middle.

Following the pattern seen for total assets and total liabilities, members of branded-cheese cooperatives had the highest stake, \$4.47 per cwt of milk handled by the cooperative. In contrast, bargaining-only cooperative members had just \$0.37 per cwt invested in their cooperatives. Diversified and fluid processing cooperatives' member equity of \$2.72 per cwt was the

second highest level of equity, but was \$1.75 per cwt less than the member equity of branded-cheese cooperatives.

Hard-product manufacturing cooperative members had slightly less invested in their cooperatives than those in diversified and fluid processing cooperatives (\$2.22 per cwt). Bargaining-balancing member equity was relatively low (\$0.81 per cwt).

**Balance Sheet by Type and Size**—For each of the four types of dairy cooperatives further grouped by size (bargaining-only, bargaining-balancing, branded-cheese and diversified), the structure of the balance sheet varied among the different size groups, but no pattern common to all

four types of cooperatives was evident (table 5). For bargaining-only and bargaining-balancing cooperatives, the larger the size, the lower the total assets, total liabilities, and total equity per cwt. For branded-cheese and diversified cooperatives, the opposite pattern was seen for total assets and liabilities.

*Bargaining-only* cooperatives' total assets dropped as the size increased (\$5.89 per cwt for small, \$1.54 for medium, and \$0.98 for large). In fact, the large bargaining-only cooperatives used the least assets per cwt among all type and size groups. Each category of assets (except for other assets), equity, current and total liabilities were lower on a per-cwt basis for the larger size groups of bargaining-only cooperatives.

Table 5—Balance sheet per cwt, by type and size of cooperative, 1997

Type of co-op: Size group:	Bargaining-only			Bargaining-balancing		Branded-cheese		Diversified	
	Small	Medium	Large	Medium	Large	Small	Medium	Medium	Large
	<i>\$ per Cwt</i>								
Current assets	2.83	1.05	.82	2.07	1.37	1.15	6.99	2.83	3.42
Net PP&E <sup>1</sup>	.78	.24	.09	.46	.81	.57	3.04	1.37	1.63
Investments in other cooperatives	2.11	.24	.04	.14	.07	.00	.41	.65	.75
Other assets	.17	.01	.03	.02	.04	.13	.17	.47	.70
<b>Total assets</b>	<b>5.89</b>	<b>1.54</b>	<b>.98</b>	<b>2.70</b>	<b>2.29</b>	<b>1.85</b>	<b>10.61</b>	<b>5.32</b>	<b>6.49</b>
Current liabilities	1.41	.82	.77	1.70	1.28	1.14	4.92	2.37	2.71
Long term liabilities	.13	.01	.04	.03	.24	.36	.94	.42	1.35
<b>Total liabilities</b>	<b>1.54</b>	<b>.83</b>	<b>.81</b>	<b>1.72</b>	<b>1.52</b>	<b>1.50</b>	<b>5.86</b>	<b>2.79</b>	<b>4.06</b>
Allocated equity	3.68	.53	.14	.87	.75	.22	3.77	1.92	2.14
Unallocated equity	.66	.18	.03	.11	.02	.13	.97	.62	.30
<b>Total equity</b>	<b>4.35</b>	<b>.71</b>	<b>.18</b>	<b>.97</b>	<b>.76</b>	<b>.35</b>	<b>4.74</b>	<b>2.53</b>	<b>2.44</b>
<b>Total liabilities and equity</b>	<b>5.89</b>	<b>1.54</b>	<b>.98</b>	<b>2.70</b>	<b>2.29</b>	<b>1.85</b>	<b>10.61</b>	<b>5.32</b>	<b>6.49</b>
Number of cooperatives	22	16	7	4	4	4	6	5	12
Milk handled (million pounds) <sup>2</sup>	527	3,097	16,008	1,705	14,717	79	1,186	2,013	67,780

<sup>1</sup> Property, plant and equipment.

<sup>2</sup> Total volume of milk handled by cooperatives, net of inter-cooperative transfers.

**Note:** Totals may not add due to rounding. Not all categories by type and size are shown. Size group categories: **Small:** less than 50 million pounds of milk, net of inter-cooperative transfers. **Medium:** 50 to 999 million pounds of milk, net of inter-cooperative transfers. **Large:** 1 billion or more pounds of milk, net of inter-cooperative transfers.

However, the differences in assets, liabilities, and equity per cwt were smaller between the medium and large than between the small and medium cooperatives.

*Bargaining-balancing* cooperatives' total assets, liabilities and equity, per cwt, were all lower for the large cooperatives compared with the medium cooperatives. Current assets of large bargaining-balancing cooperatives were \$0.70 per cwt lower than for the medium cooperatives. Current liabilities were \$0.42 lower for the large bargaining-balancing cooperatives. Yet, net property plant and equipment, other assets and long-term liabilities per cwt were higher for the large bargaining-balancing cooperatives than for the medium. However, bargaining-balancing cooperatives showed smaller differences per cwt in most balance sheet items between size groups (medium and large) than did the other types of cooperatives.

*Branded-cheese* cooperatives showed a marked increase in assets, liabilities, and equity per cwt between the small and medium size groups, which contrast with bargaining-only cooperatives (the only other type with a small size category shown). Furthermore, every balance sheet item per cwt was higher for medium branded-cheese cooperatives than for small. With the exception of three balance sheet items (investments in other cooperatives, other assets and long-term liabilities), medium branded-cheese cooperatives had the highest balance sheet items per cwt of any other group shown by type and size.

*Diversified* cooperatives showed an increase in assets and liabilities per cwt from the medium to the large cooperatives. One-half of the increase in total assets was due to higher current assets, while almost three-fourths of the increase in total liabilities was due to higher long-term liabilities. However, total equity was lower for the large diversified cooperatives, due to less use of unallocated equity per cwt. Among the large cooperatives of all types, diversified cooperatives used the most assets per cwt.

**Operating Statement**—Dairy cooperatives included in this study generated \$19.85 in milk and dairy product sales per cwt of milk handled in 1997 (table 6). Supply sales were the next largest item, \$1.77 per cwt. Total income was \$22.50 per cwt of net milk handled by the cooperatives. After expenses of \$22.20 per cwt, dairy cooperatives realized net margins before tax of \$0.30 per cwt in 1997.

**Operating Statement by Type**—Milk and dairy product sales per cwt ranged from \$14.90 for

Table 6—Dairy cooperatives' consolidated operating statement, per cwt of net milk handled, 1997

Item	Dollars per cwt
Milk and dairy product sales	19.85
Supply sales	1.77
Other sales	.60
Service receipts and other income	.20
Patronage income	<u>.06</u>
Total income	<u>22.50</u>
Estimated Expenses	22.20
Net margins before tax	.30
Net margins after tax	.27
Number of cooperatives	88
Milk handled (million pounds) <sup>1</sup>	114,432

<sup>1</sup> Total volume of milk handled by cooperatives, net of inter-cooperative transfers.

**Note:** Totals may not add due to rounding.

bargaining-balancing cooperatives to \$23.16 for branded-cheese cooperatives (table 7). Diversified and fluid milk processing cooperatives had the second largest milk and dairy product sales (\$22.23 per cwt). Hard-product manufacturing cooperatives' milk and dairy product sales came to \$16.79, followed by bargaining-only cooperatives (\$15.98 per cwt). Diversified and fluid processing cooperatives' supply sales of \$2.68 per cwt were quite a bit larger than the other types of cooperatives where supply sales per cwt ranged from \$.09 (hard-product manufacturing cooperatives) to \$.77 (branded-cheese cooperatives).

Total income varied by more than \$10 per cwt between the different types of cooperatives. Diversified and fluid processing cooperatives had the highest total net income per cwt, \$25.67, followed by branded-cheese cooperatives, at \$24.04. Just under \$3 per cwt separated bargaining-only, hard-product manufacturing, and bargaining-balancing cooperatives (\$18.25, \$17.03, and \$15.41, respectively). Likewise, expenses per cwt ranged from \$15.21 for bargaining-balancing cooperatives to \$25.31 for diversified and fluid processing cooperatives. Branded-cheese, bargaining-only, and hard-product manufacturing cooperatives fell in between, in the same order as seen for total income.

Table 7—Consolidated operating statement per cwt, by type of dairy cooperative, 1997

Item	Type of cooperative				
	Bargaining only	Bargaining-balancing	Hard-product manufacturing	Branded-cheese	Diversified & fluid processing
	<i>Dollars per cwt</i>				
Milk and dairy product sales	15.98	14.90	16.79	23.16	22.23
Supply sales	.33	.18	.09	.77	2.68
Other sales	1.64	.00	.00	.00	.51
Service receipts and other income	.29	.32	.07	.07	.17
Patronage income	.01	.01	.08	.03	.09
Total income	<u>18.25</u>	<u>15.41</u>	<u>17.03</u>	<u>24.04</u>	<u>25.67</u>
Total expenses	18.19	15.21	16.55	23.06	25.31
Net margins before tax	.06	.21	.48	.98	.36
Net margins after tax	.06	.21	.47	.95	.31
Number of cooperatives	45	10	4	9	20
Milk handled (million pounds) <sup>1</sup>	19,632	16,475	5,434	1,265	71,626

<sup>1</sup> Total volume of milk handled by cooperatives, net of inter-cooperative transfers.

**Note:** Totals may not add due to rounding.

Net margins before tax per cwt ranged from \$0.06 (bargaining-only cooperatives) to \$0.98 (branded-cheese cooperatives). Hard-product manufacturing cooperatives generated the second largest net margins before taxes (\$0.48 per cwt), followed by diversified and fluid processing cooperatives (\$0.36 per cwt). Bargaining-balancing cooperatives had the second lowest net margins before tax (\$0.21 per cwt).

### **Operating Statement by Type and Size—**

As seen with the balance sheets by type and size, the structure of the operating statement varied among the different size groups, but no pattern common to all four types of cooperatives was evident (table 8). For branded-cheese and diversified cooperatives, the larger the size, the higher the income and expenses per cwt. For three of the four types of cooperatives examined (bargaining-only, bargaining-balancing and diversified), net margins per cwt were smaller as the cooperatives grew in size.

*Bargaining-only* cooperatives' milk and dairy product sales per cwt for the small cooperatives were lower than those of both the medium and large bargaining-only cooperatives. In fact, small bargaining-only cooperatives' milk and dairy product sales (\$13.55 per cwt) were lower than all categories by type and size. However, small bargaining-only coopera-

tives' supply sales of \$7.06 per cwt far exceeded the medium and large bargaining-only cooperatives, as well as those of any other type and size of dairy cooperative. As a result, total income was highest for small cooperatives (\$22.32 per cwt), while total net income per cwt for medium (\$17.56) and large (\$18.25) bargaining-only cooperatives were more similar.

Net margins before tax were largest for the small bargaining-only cooperatives (\$0.46 per cwt) and lowest for the large bargaining-only cooperatives (\$0.04 per cwt). Small bargaining-only cooperatives generated the second highest net margins before tax per cwt of any category shown by type and size of dairy cooperative.

*Bargaining-balancing* cooperatives' sales per cwt were lower for the larger cooperatives. This contrasts with bargaining-only and diversified cooperatives where total net income increased between the medium and large size groups. However, large bargaining-balancing cooperatives had higher service receipts and other income than the medium cooperatives. Medium bargaining-balancing cooperatives' net margins before taxes (\$0.45 per cwt) were more than twice as large as the large bargaining-balancing cooperatives (\$0.18 per cwt).

*Branded-cheese* cooperatives' sales, total income and net margins per cwt were all much larger for the



Table 8—Consolidated operating statement per cwt, by type and size of cooperative, 1997

Type of co-op:	Bargaining-only			Bargaining-balancing			Branded-cheese			Diversified		
	Small	Medium	Large	Medium	Large	Small	Medium	Large	Medium	Large	Medium	Large
	\$ per Cwt											
Milk and dairy product sales	13.55	16.04	16.05	16.49	14.72	14.94	23.71	20.05	21.20			
Supply sales	7.06	.89	.00	.96	.09	.13	.83	.69	2.81			
Other sales	.95	.00	1.98	.00	.00	.00	.00	.20	.52			
Service receipts and other income	.46	.62	.22	.14	.34	.00	.08	.22	.13			
Patronage income	.30	.01	.00	.02	.00	.00	.03	.13	.09			
Total income	<u>22.32</u>	<u>17.56</u>	<u>18.25</u>	<u>17.61</u>	<u>15.16</u>	<u>15.06</u>	<u>24.64</u>	<u>21.28</u>	<u>24.76</u>			
Total expenses	21.87	17.42	18.22	17.16	14.98	15.04	23.60	20.90	24.49			
Net margins before tax	.46	.14	.04	.45	.18	.02	1.05	.39	.26			
Net margins after tax	.44	.14	.03	.45	.17	.02	1.01	.36	.24			
Number of cooperatives	22	16	7	4	4	4	5	8	12			
Milk handled (million pounds) <sup>1</sup>	527	3,097	16,008	1,705	14,717	79	1,186	2,013	67,780			

<sup>1</sup> Volume of milk handled by cooperatives, net of inter-cooperative transfers.

**Note:** Totals may not add due to rounding. Not all categories by type and size are shown. Size group categories: **Small:** less than 50 million pounds of milk, net of inter-cooperative transfers. **Medium:** 50 to 999 million pounds of milk, net of inter-cooperative transfers. **Large:** 1 billion or more pounds of milk, net of inter-cooperative transfers.

medium than for the small cooperatives. Moreover, the milk and dairy product sales (\$23.71 per cwt) and net margins before taxes (\$1.05 per cwt) of medium branded-cheese cooperatives were the largest among the cooperatives by any type and size category shown. The range between the small and medium branded-cheese cooperatives' total income was +\$10.42 per cwt, larger than between any two size categories for the other types of cooperatives shown. Likewise, medium cooperatives' net margins before tax were \$1.03 per cwt more than small branded-cheese cooperatives, a wider spread than between size groups of any other type of cooperative.

*Diversified* cooperatives' total income per cwt was higher for the large than for the medium cooperatives. Furthermore, large diversified cooperatives had the largest total net income per cwt of any of the cooperatives by type and size. Large diversified cooperatives' net margins before tax were one-third lower than medium cooperatives'.

## Common-Sized Financial Profile

In the previous section, consolidated financial statements were common-sized on a per-cwt basis by dividing the balance sheet and operating statement items by the volume of milk handled. This part follows the more conventional approach by using total assets (balance sheet) or total income (operating statement) as the common denominator. This method facilitates comparison of different types and sizes of cooperatives and also makes it easier for an individual dairy cooperative to compare its financial structure with these profiled cooperatives.

**Balance Sheet**—The balance sheet elements are expressed as a percent of total assets in table 9. Overall, current assets made up more than one-half (55.1 percent) of dairy cooperatives' total assets. Net property, plant and equipment (PPE) constitute one-fourth (25.6 percent). However, there were differences in the financial structure of the dairy cooperatives depending upon their primary function.

Table 9—Common-sized balance sheet, by type of dairy cooperative, 1997

Item	Bargaining only	Bargaining-balancing	Hard product manufacturing	Branded-cheese	Diversified & fluid processing	All
	<i>Percent of total assets</i>					
Current assets	75.4	61.5	58.1	65.8	53.1	55.1
Net PP&E <sup>1</sup>	11.1	33.1	38.1	28.7	25.0	25.6
Investments in other co-ops	10.6	3.9	3.5	3.8	11.9	10.8
Other assets	2.9	1.5	0.3	1.6	10.0	8.5
Total assets	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>
Current liabilities	66.1	56.2	39.7	46.6	41.0	43.0
Long-term liabilities	3.1	9.4	14.9	9.0	19.2	17.5
Total liabilities	<u>69.1</u>	<u>65.7</u>	<u>54.6</u>	<u>55.6</u>	<u>60.1</u>	<u>60.5</u>
Allocated equity	24.8	33.0	42.6	35.3	32.8	33.0
Unallocated equity	6.1	1.3	2.8	9.1	7.1	6.5
Total equity	<u>30.9</u>	<u>34.3</u>	<u>45.4</u>	<u>44.4</u>	<u>39.9</u>	<u>39.5</u>
Liabilities and equity	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>
Number of cooperatives	45	10	4	9	20	88
Milk handled (million pounds) <sup>2</sup>	19,632	16,475	5,434	1,265	71,626	114,432

<sup>1</sup> Property, plant and equipment.

<sup>2</sup> Volume of milk handled by cooperatives, net of inter-cooperative transfers.

**Note:** Totals may not add due to rounding.

Three-quarters (75.4 percent) of the total assets held by bargaining-only cooperatives were current assets, while current assets made up between 53.1 percent (diversified and fluid processing cooperatives) and 65.8 percent (branded-cheese cooperatives) of total assets for the other types. PPE accounted for only 11.1 percent of bargaining-only cooperatives' total assets, reflecting their lack of facilities. In contrast, 38.1 percent of hard-product manufacturing cooperatives' assets were tied up in PPE.

Overall, total liabilities were 60.5 percent of total assets. Current liabilities were 43 percent of total assets and made up 71.1 percent of total liabilities, mostly reflecting accrued payments to their members for milk. For bargaining-only cooperatives total liabilities were 69.1 percent of total assets and 95.6 percent of their liabilities were current. Diversified and fluid cooperatives had the most long-term liabilities (19.2 percent of total assets), reflecting a greater investment in plants and facilities and reliance on borrowed capital.

Member equity represented 39.5 percent of the total assets used by the dairy cooperatives in 1997. Among the different types of cooperatives, members of bargaining-only cooperatives held the lowest equity stake in their cooperatives (30.9 percent of total assets), while members of hard-product manufacturing cooperatives owned the largest share of their cooperative's assets (45.4 percent). It should be noted, however, that to the extent that most of bargaining-only cooperatives' current assets are member milk, members' claim on assets may be higher than for the other types of cooperatives.

Most of the members' equity was allocated (directly assigned to individual members), regardless of the cooperative's primary function. Bargaining-balancing and hard-product manufacturing cooperatives had the smallest portions of unallocated equity (not assigned to members) among the different types (3.8 percent and 6.1 percent of total equity, respectively). About one-fifth of the branded-cheese (20.6 percent) and bargaining-only (19.7 percent) cooperatives' equity was unallocated.

**Balance Sheet by Size**—Balance sheet items expressed as a percent of total assets are shown by type and size of dairy cooperative in table 10. Again, the structure of the balance sheet varied among the different size groups for each type of cooperative. Current assets ranged from 48 percent of total assets for small bargaining-only cooperatives to 83.1 percent for large ones. Current assets made up similar proportions of total assets between size categories for

both branded-cheese (62 percent, small vs. 65.9 percent, medium) and diversified cooperatives (53.1 percent, medium vs. 52.7 percent, large). In contrast, current assets of medium bargaining-balancing cooperatives made up 76.9 percent of total assets, while for large bargaining-balancing cooperatives, current assets were 59.7 percent of total assets.

Bargaining-balancing cooperatives were the only type of cooperative where net property, plant and equipment's share of total assets varied widely between size groups, and the only type where it was larger for the larger size group. Investments in other cooperatives as a percentage of total assets tended to be lower for the larger size groups of each type, except for branded-cheese cooperatives, where the small cooperatives reported no investments in other cooperatives.

Total liabilities were a larger proportion of total assets for the larger size group(s) of each type of cooperative, except for branded-cheese cooperatives where the opposite was true. The reverse pattern was seen for total member equity.

**Operating Statement**—Items in this operating statement for all dairy cooperatives and by type are expressed as a percent of total income in table 11. As could be expected, milk and dairy product sales accounted for the bulk of total income (88.3 percent, overall). Net margins to income, which reflects the profit margin of the cooperative (before paying income taxes), came to 1.3 percent, overall, in 1997.

Nearly all (98.6 percent) of the hard-product manufacturing cooperatives' income came from milk and dairy product sales, the highest proportion among the different types of cooperatives. Milk and dairy product sales were the smallest proportion of total income for diversified and fluid processing cooperatives (86.6 percent). However, diversified and fluid cooperatives had the largest proportion of supply and other income (12.4 percent of total income) along with bargaining-only cooperatives where 10.8 percent of total income were from the sale of supplies and other items. The other three types of cooperatives had minimal sales of these types. Expenses ranged from 95.9 percent of branded-cheese cooperatives' total income to 99.7 percent of bargaining-only cooperatives' total income.

Branded-cheese cooperatives realized the highest profit margin (4.1 percent of total sales). Hard-product manufacturing cooperatives yielded the second highest net margins to sales (2.8 percent). Diversified and fluid processing and bargaining-balancing coopera-

Table 10—Common-sized balance sheet, by type and size of dairy cooperative, 1997

Type of co-op:	Bargaining-only			Bargaining-balancing			Branded-cheese			Diversified		
	Small	Medium	Large	Medium	Large	Small	Medium	Large	Medium	Large	Medium	Large
	<i>Percent of total assets</i>											
Current assets	48.0	68.0	83.1	76.9	59.7	62.0	65.9	53.1	52.7			
Net PP&E <sup>1</sup>	13.2	15.3	9.4	17.2	35.6	31.1	28.7	25.7	25.0			
Investments in other co-ops	35.9	15.9	4.0	5.0	3.1	0.0	3.9	12.2	11.5			
Other assets	2.9	0.7	3.5	0.9	1.6	6.9	1.6	8.9	10.8			
Total assets	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0			
Current liabilities	23.9	53.2	78.2	62.9	56.0	61.9	46.4	44.5	41.7			
Long-term liabilities	2.2	0.6	4.0	1.0	10.7	19.3	8.9	8.0	20.8			
Total liabilities	26.2	53.8	82.2	63.9	66.6	81.2	55.3	52.4	62.5			
Allocated equity	62.6	34.6	14.4	32.1	32.6	11.9	35.6	36.0	32.9			
Unallocated equity	11.3	11.6	3.4	4.0	0.7	6.9	9.2	11.6	4.6			
Total equity	73.8	46.2	17.8	36.1	33.4	18.8	44.7	47.6	37.5			
Liabilities and equity	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0			
Number of cooperatives	22	16	7	4	4	4	5	5	12			
Milk handled (million pounds) <sup>2</sup>	527	3,097	16,008	1,705	14,717	79	1,186	2,013	67,780			

<sup>1</sup> Property, plant and equipment.

<sup>2</sup> Total volume of milk handled by cooperative, net of inter-cooperative transfers.

**Note:** Totals may not add due to rounding. The numbers by type and size will not add to totals by size because not all categories are shown. **Small:** less than 50 million pounds of milk, net. **Medium:** 50 to 999 million pounds of milk, net. **Large:** 1 billion or more pounds of milk, net.

Table 11—Common-sized operating statement, by type of dairy cooperative, 1997

Item	Bargaining only	Bargaining-balancing	Hard product manufacturing	Branded-cheese	Diversified & fluid processing	All
	<i>Percent of total income</i>					
Milk and dairy product sales	87.6	96.7	98.6	96.3	86.6	88.3
Supply sales	1.8	1.2	0.5	3.2	10.4	7.9
Other sales	9.0	0.0	0.0	0.0	2.0	2.7
Service receipts and other income	1.6	2.1	0.4	0.3	0.6	0.9
Patronage refunds	0.1	0.1	0.5	0.1	0.4	0.3
Total income	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>
Total expenses	99.7	98.7	97.2	95.9	98.6	98.7
Net margins before tax	<u>0.3</u>	<u>1.3</u>	<u>2.8</u>	<u>4.1</u>	<u>1.4</u>	<u>1.3</u>
Number of cooperatives	45	10	4	9	20	88
Milk handled (million pounds) <sup>1</sup>	19,632	16,475	5,434	1,265	71,626	114,432

<sup>1</sup> Total volume of milk handled by cooperative, net of inter-cooperative transfers.

**Note:** Totals may not add due to rounding.

tives generated similar net margins (1.4 and 1.3 percent of total income, respectively). Bargaining-only cooperatives generated the lowest net margins (0.3 percent of total income).

**Operating Statement by Size**—Operating statements expressed as a percent of total income according to type and size of cooperative are shown in table 12. Milk and dairy product sales made up the bulk of total income, regardless of type and size with one exception. Small bargaining-only cooperatives' milk and dairy product sales accounted for just 60.7 percent of total income, while supply sales made up 31.6 percent.

Net margins before taxes were generally a smaller portion of total income for the larger cooperatives of each type, except for branded-cheese cooperatives where net margins to income were larger for the larger cooperatives. Medium branded-cheese cooperatives had the highest net margins as a percent of total income (4.2 percent) of all the subgroups by type and size, while small branded-cheese cooperatives had the narrowest net margins (0.2 percent), along with large bargaining-only cooperatives (also 0.2 percent of total income).

## Ratios

The relationships between various items in the balance sheet and operating statement can be used to analyze comparative dairy cooperative performance. The overall ratios and by type are shown in table 13, while those calculated according to type and size are presented in table 14.

**Liquidity**—The effectiveness of current operations can be evaluated by calculating the cooperative's current ratio. Dividing current assets by current liabilities measures the cooperative's ability to meet current obligations. Overall, cooperatives had \$1.28 in current assets for each \$1 of current liabilities, ranging from \$1.09 for bargaining-balancing to \$1.46 for hard-product manufacturing cooperatives.

The ability of the bargaining-only and bargaining-balancing cooperatives to meet current obligations was lower for the larger cooperatives. Conversely, the ability of branded-cheese and diversified cooperatives to meet current obligations was greater for the larger cooperatives of these types.

Another measure of short-term solvency is current liabilities divided by total assets. For all cooperatives, the ratio was .43, indicating that cooperatives had 43 cents of current liabilities for each \$1 of assets held. Bargaining-only cooperatives' ratio was the largest among the different types of dairy cooperatives

Table 12—Common-sized operating statement, by type and size of dairy cooperative, 1997

Type of co-op: Size group:	Bargaining-only			Bargaining-balancing			Branded-cheese			Diversified		
	Small	Medium	Large	Medium	Large	Small	Medium	Large	Medium	Large	Medium	Large
	<i>Percent of total income</i>											
Milk and dairy product sales	60.7	91.3	87.9	93.6	97.1	99.2	96.2	94.2	85.6			
Supply sales	31.6	5.1	0.0	5.4	0.6	0.8	3.4	3.2	11.3			
Other sales	4.3	0.0	10.9	0.0	0.0	0.0	0.0	1.0	2.1			
Service receipts and other income	2.0	3.5	1.2	0.8	2.2	0.0	0.3	1.0	0.5			
Patronage refunds	1.4	0.1	0.0	0.1	0.0	0.0	0.1	0.6	0.4			
Total income	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0			
Total expenses	98.0	99.2	99.8	97.4	98.8	99.8	95.8	98.2	98.9			
Net margins before tax	2.0	0.8	0.2	2.6	1.2	0.2	4.2	1.8	1.1			
Number of cooperatives	22	16	7	4	4	4	5	5	12			
Milk handled (million pounds) <sup>1</sup>	527	3,097	16,008	1,705	14,717	79	1,186	2,013	67,780			

<sup>1</sup> Total volume of milk handled by cooperative, net of inter-cooperative transfers.

**Note:** Totals may not add due to rounding. The numbers by type and size will not add to totals by size because not all categories are shown. Small: less than 50 million pounds of milk, net of inter-cooperative transfers. Medium: 50 to 999 million pounds of milk, net of inter-cooperative transfers. Large: 1 billion or more pounds of milk, net of inter-cooperative transfers.

Table 13—Financial ratios, by type of dairy cooperative, 1997

Item	Bargaining only	Bargaining-balancing	Hard-product manufacturing	Branded-cheese	Diversified & fluid processing	All
<i>Ratio</i>						
<b>Capitalization</b>						
Current ratio	1.14	1.09	1.46	1.41	1.30	1.28
Current liabilities:						
Total assets	.66	.56	.40	.47	.41	.43
Long-term liabilities:equity	.10	.27	.33	.20	.48	.44
Total liabilities:						
Total assets	.69	.66	.55	.56	.60	.60
Equity:total assets	.31	.34	.45	.44	.40	.40
Equity:fixed assets and investments	1.26	.89	1.08	1.30	.85	.88
Unallocated equity:						
Total equity	.20	.04	.06	.21	.18	.17
<i>Percent</i>						
<b>Profitability</b>						
Return <sup>1</sup> on equity	16.3	25.4	21.3	21.2	11.5	13.2
Return <sup>1</sup> on allocated equity	20.3	26.4	22.7	26.7	14.0	15.8
Return <sup>2</sup> on fixed assets	22.7	23.7	25.7	29.0	14.4	15.8
Return <sup>2</sup> on total assets	5.6	9.1	10.8	9.9	6.8	7.1
Number of cooperatives	45	10	4	9	20	88
Milk handled (million lbs)	19,632	16,475	5,434	1,265	71,626	114,432

<sup>1</sup> Net margins **after** taxes and interest expense used in calculation.

<sup>2</sup> Net margins **before** taxes and interest expense used in calculation.

(.66). In comparison, hard-product manufacturing cooperatives had the lowest level of current liabilities in relation to total assets (.40) followed closely by diversified and fluid processing cooperatives (.41).

For bargaining-only cooperatives, current liabilities ranged from 24 percent of total assets to 78 percent for large bargaining-only cooperatives. In contrast, for the other types of cooperatives the ratio fell for the larger size groups. Diversified cooperatives had the lowest ratio of current liabilities to total assets for both the medium (.44) and large (.42) cooperatives of any type.

**Long-Term Solvency**—Longer-term measures of financial health compare obligations with assets or equity. Total long-term liabilities divided by member equity shows the level at which members are providing the cooperative's risk capital. Overall, long-

term liabilities came to 44 percent of total equity in 1997. Diversified and fluid processing cooperatives had the highest level of debt compared with member equity (48 cents of long-term liabilities for each \$1 of member equity). Bargaining-only cooperatives had the lowest ratio of long-term liabilities to equity (10 cents per \$1 of equity).

For three of the four types of cooperatives considered, long-term liabilities were a smaller percentage of equity for the smaller cooperatives, with branded-cheese cooperatives being the exception. In fact, small branded-cheese cooperatives had more long-term liabilities than equity and the highest ratio of any cooperative by type and size (1.03). Among both the medium and large cooperatives of any type, bargaining-only cooperatives had the lowest ratio of long-term liabilities to equity (1 and 22 percent, respectively).

Table 14—Financial ratios, by type and size of dairy cooperative, 1997

Type of co-op:	Bargaining-only			Bargaining-balancing		Branded-cheese		Diversified	
	Small	Medium	Large	Medium	Large	Small	Medium	Medium	Large
Size Group:	Ratio								
<b>Capitalization</b>									
Current ratio	2.00	1.28	1.06	1.22	1.07	1.00	1.42	1.20	1.26
Current liabilities: total assets	.24	.53	.78	.63	.56	.62	.46	.44	.42
Long-term liabilities: equity	.03	.01	.22	.03	.32	1.03	.20	.17	.55
Total liabilities: total assets	.26	.54	.82	.64	.67	.81	.55	.52	.62
Equity: total assets	.74	.46	.18	.36	.33	.19	.45	.48	.38
Equity:fixed assets and investments	1.42	1.44	1.05	1.56	.83	.49	1.31	1.02	.79
Unallocated equity:total equity	.15	.25	.19	.11	.02	.37	.20	.24	.12
<b>Profitability</b>									
Return <sup>1</sup> on equity	10.0	19.5	18.9	46.4	22.9	4.7	21.3	14.1	9.6
Return <sup>1</sup> on allocated equity	11.8	26.1	23.4	52.2	23.4	7.5	26.8	18.6	11.0
Return <sup>2</sup> on fixed assets	15.5	29.5	23.2	73.3	20.1	7.2	29.1	18.1	11.8
Return <sup>2</sup> on total assets	8.1	9.4	3.9	17.0	8.1	2.7	9.9	8.5	5.6
Number of cooperatives	22	16	7	4	4	4	5	5	12
Milk handled (million pounds) <sup>3</sup>	527	3,097	16,008	1,705	14,717	79	1,186	2,013	67,780

<sup>1</sup> Net margins after taxes and interest expense used in calculation.

<sup>2</sup> Net margins before taxes and interest expense used in calculation.

<sup>3</sup> Total volume of milk handled by cooperative, net of inter-cooperative transfers.

**Note:** Not all categories by type and size are shown. **Small:** less than 50 million pounds of milk, net of inter-cooperative transfers. **Medium:** 50 to 999 million pounds of milk, net of inter-cooperative transfers. **Large:** 1 billion or more pounds of milk, net of inter-cooperative transfers.



Table 15—Average financial profile of dairy cooperatives, by type, 1997

Item	Bargaining only	Bargaining-balancing	Hard-product manufacturing	Branded-cheese	Diversified & fluid processing	All
<i>Million dollars per cooperative</i>						
Total assets	5.3	38.7	66.3	14.1	243.9	67.0
Total liabilities	3.6	25.4	36.2	7.8	146.6	40.5
Total equity	1.6	13.3	30.1	6.3	97.3	26.5
Milk and dairy product sales	69.7	245.5	228.1	32.5	796.0	258.2
Net margins before tax	.3	3.0	6.5	1.4	12.9	3.9
Milk handled per cooperative (million pounds) <sup>1</sup>	436	1,648	1,359	141	3,581	1,300

<sup>1</sup> Net of inter-cooperative transfers.

**Note:** Totals may not add due to rounding.

Total liabilities divided by total assets indicates the portion of total assets financed by long- and short-term creditors. Overall, 60 percent of total dairy cooperative assets were provided by liabilities (which may include milk payments owed to members). This means that members supplied at least 40 percent of the capital employed by the cooperatives (equity divided by total assets). Bargaining-only cooperatives had the highest ratio of total liabilities to total assets (69 percent); however, most of the bargaining-only cooperatives' liabilities are current obligations (the bulk of which are to members for milk).

For three of the four types of cooperatives examined by size, the level of liabilities in relation to assets increased as size increased. Bargaining-only cooperatives' total liabilities ranged from 26 percent (small cooperatives) to 82 percent of total assets (large cooperatives). The ratio was more similar between medium and large cooperatives for diversified (.52 vs. .62) and bargaining-balancing cooperatives (.64 vs. .67). In contrast, the liabilities-to-assets ratio for branded-cheese cooperatives shrunk between the small and medium sized cooperatives (from .81 to .55).

Fixed assets and investments are the most permanent assets owned by cooperatives. The ratio of member equity to fixed assets and investments indicates the degree to which these permanent assets are financed by the most permanent capital, member's equity. Overall, cooperatives had 88 cents in equity for each \$1 invested in fixed assets and investments. Bargaining-only, hard-product manufacturing and branded-cheese cooperatives had ratios above 1, indicating an ability to finance all of their fixed assets and investments with member capital. For bargaining-balancing and diversi-

fied and fluid processing cooperatives, equity was 89 and 85 percent, respectively, of fixed assets and investments.

The ratio of equity to fixed assets and investments dropped as size increased for three of the four types of cooperatives considered (although the ratio for medium bargaining only cooperatives was slightly higher than for small). The reverse was true for branded-cheese cooperatives. Small branded-cheese, large diversified, and large bargaining-balancing cooperatives had more fixed assets and investments than equity (49, 79 and 83 cents of member equity, respectively, for each \$1 invested in fixed assets and investments).

**Ownership**—A portion of member equity is often retained by the cooperative for its operations and designated as unallocated—not assigned to a specific member. If the ratio of unallocated equity to total equity rises too high, it may raise questions of member control and ownership of the cooperative. Overall, 17 percent of dairy cooperative equity was unallocated. Bargaining-balancing cooperatives, as well as hard-product manufacturing cooperatives, had relatively low levels of unallocated equity (4 and 6 percent, respectively). Around 20 percent of the equity of the other types of cooperatives was unallocated.

Small branded-cheese cooperatives had the highest proportion of unallocated equity in relation to total equity of any of the cooperatives by size and type (37 percent). The proportion of unallocated equity to total equity fell as size increased for 3 of the 4 types of cooperatives considered. Bargaining-only cooperatives

were the exception, where unallocated equity ranged from 15 percent of total equity (small cooperatives) to 25 percent (medium).

**Return on Investment**—Return to members', lenders', or other's investment in a cooperative can be measured in several ways. The ratios calculated here indicate a cooperative's success in providing a financial return on member investment. In a dairy cooperative, "profit" may be an elusive term, and depends largely on the cooperative's pricing policy. Profits may be lower if the board decides to pay higher milk prices, premiums, etc. (but in that case, the membership may benefit from the relatively higher prices).

Return on equity measures profitability relative to member investment after all claims on those returns are accounted for. Net margin after taxes (government's claim) and interest expense (creditor's claim) divided by total member equity was 13.2 percent for dairy cooperatives overall. Ideally, return to member equity (the opportunity cost of investing in the cooperative) should equal or exceed what they could earn if the capital were invested elsewhere. Return on equity ranged from 11.5 percent for diversified and fluid processing cooperatives to 25.4 percent for bargaining-balancing cooperatives in 1997.

Return on equity showed a wide range between size groups for each type of cooperative. For branded-cheese cooperatives, return on equity increased as the size increased. To the contrary, return on equity for bargaining-balancing and diversified cooperatives fell as size increased.

Return on allocated equity measures the return to members' assigned stake in the cooperative, or to the risk capital they have tied up in the cooperative and was 15.8 percent for dairy cooperatives overall. Return to members for the capital invested in their cooperatives (allocated equity) ranged from 14.0 percent for diversified and fluid processing cooperatives to 26.7 percent for branded-cheese cooperatives.

Return on fixed assets measures return to cooperative investment in plant, property and equipment, other cooperatives and other assets. Net margins before taxes and interest are used to show the return to cooperative assets regardless of who has a claim on those returns, i.e., before any claims on those returns are made by government (taxes) or creditors (interest). Return on fixed assets was 15.8 percent overall—lowest for diversified and fluid processing cooperatives (14.4 percent) and highest for branded-cheese cooperatives (29 percent).

Return on total assets (net margins before taxes and interest expense divided by total assets) measures the effectiveness of the cooperative in employing its assets to generate profits and was 7.1 percent for all dairy cooperatives. Hard-product manufacturing cooperatives generated the highest return on assets (10.8 percent), followed by branded-cheese cooperatives (9.9 percent). Bargaining-balancing cooperatives realized a 9.1 percent return to the assets employed in marketing milk. Bargaining-only cooperatives yielded the lowest return to total assets (5.6 percent) while diversified and fluid processing had the next lowest (6.8 percent).

Except for branded-cheese cooperatives, return on total assets fell for the larger cooperatives. Bargaining-balancing cooperatives yielded the highest return on total assets among both the medium and large cooperatives (17 and 8.1 percent, respectively). Small branded-cheese cooperatives had the lowest return on total assets of any cooperative by type and size.

### Average

Computing the average (per cooperative) financial statement for each type of cooperative highlights the differences in magnitude between the various types of cooperatives (table 15 and appendix table 3). It is readily apparent that diversified and fluid processing cooperatives were the largest cooperatives on average, in terms of total assets, milk and dairy product sales, net margins and volume of milk handled. On average, a diversified and fluid processing cooperative used \$243.9 million in assets—almost 50 times the assets used by bargaining-only cooperatives (\$5.3 million per cooperative) and 4 times the assets used by the second largest type of cooperative in terms of assets—hard-product manufacturing cooperatives (\$66.3 million per cooperative).

Diversified and fluid processing cooperatives' average milk and dairy product sales (\$796 million per cooperative) were \$550 million more than bargaining-balancing cooperatives' (\$245.5 million per cooperative), the second largest cooperative type in terms of average sales. Branded-cheese cooperatives had the lowest average milk and dairy product sales (\$32.5 million per cooperative).

Diversified and fluid processing cooperatives had the highest average net margins (\$12.9 million per cooperative), almost twice those of the second highest, hard-product manufacturing cooperatives (\$6.5 million per cooperative). Bargaining-only cooperatives had the smallest average net margins before tax (\$0.3 million

per cooperative). Branded-cheese cooperatives had the next smallest net margins (\$1.4 million per cooperative), but these were more than 4 times the average net margins of bargaining-only cooperatives and were generated with less than one-half the average milk and dairy product sales of bargaining-only cooperatives, an indication of the value-added nature of branded-cheese cooperatives' operations.

Hard-product manufacturing cooperatives and bargaining-balancing cooperatives, on average, were mid-sized cooperatives, but hard-product manufacturing cooperatives used almost twice the assets per cooperative of bargaining-balancing cooperatives. While average milk and dairy product sales were similar between these two types of cooperatives, hard-product manufacturing cooperatives' average net margins were more than twice that of bargaining-balancing cooperatives, on average.

Appendix table 1—Consolidated financial statements by type of dairy cooperative, 1997

Item	Type of cooperative					
	Bargaining only	Bargaining-balancing	Hard-product manufacturing	Branded-cheese	Diversified & fluid processing	All financial profile dairy cooperatives
<i>\$1,000</i>						
<b>Balance sheet</b>						
Current assets	178,221.9	238,256.7	154,153.1	83,735.0	2,591,305.9	3,245,672.7
Net PP&E <sup>1</sup>	26,210.4	128,262.5	101,157.0	36,551.8	1,217,375.6	1,509,557.3
Invest. in other co-ops	25,054.9	14,947.4	9,408.0	4,842.7	582,253.8	636,506.8
Other assets	6,803.3	5,988.2	682.4	2,079.5	487,817.3	503,370.7
Total assets	<u>236,290.5</u>	<u>387,454.9</u>	<u>265,400.5</u>	<u>127,209.0</u>	<u>4,878,752.6</u>	<u>5,895,107.5</u>
Current liabilities	156,075.6	217,935.6	105,345.4	59,251.5	1,997,949.5	2,536,557.5
Long-term liabilities	<u>7,230.5</u>	<u>36,449.7</u>	<u>39,643.3</u>	<u>11,432.0</u>	<u>935,204.5</u>	<u>1,029,960.0</u>
Total liabilities	163,306.0	254,385.3	144,988.6	70,683.5	2,933,154.0	3,566,517.5
Allocated equity	58,574.3	128,049.0	113,051.3	44,907.7	1,599,782.0	1,944,364.4
Unallocated equity	<u>14,410.2</u>	<u>5,020.5</u>	<u>7,360.5</u>	<u>11,617.7</u>	<u>345,816.6</u>	<u>384,225.6</u>
Total equity	72,984.5	133,069.5	120,411.8	56,525.5	1,945,598.7	2,328,590.0
Liabilities and equity	<u>236,290.5</u>	<u>387,454.9</u>	<u>265,400.5</u>	<u>127,209.0</u>	<u>4,878,752.6</u>	<u>5,895,107.5</u>
<i>Million dollars</i>						
<b>Sales and Income</b>						
Milk & dairy product sales	3,137.7	2,455.3	912.3	292.9	15,920.6	22,718.9
Supply sales	64.8	30.4	4.9	9.8	1,916.8	2,026.8
Other sales	322.7	0.0	0.0	0.0	366.7	689.4
Service receipts & other inc.	56.3	52.4	3.7	0.9	119.5	232.7
Patronage refunds	<u>2.2</u>	<u>1.3</u>	<u>4.5</u>	<u>0.4</u>	<u>65.8</u>	<u>74.2</u>
Total income	<u>3,583.7</u>	<u>2,539.4</u>	<u>925.4</u>	<u>304.0</u>	<u>18,389.4</u>	<u>25,741.9</u>
Total expenses	3,571.3	2,505.5	899.4	291.6	18,130.9	25,398.6
Net margins before tax	12.4	33.9	26.0	12.4	258.5	343.3
Net margins after tax	11.9	33.8	25.7	12.0	224.0	307.4
Number of cooperatives	45	10	4	9	20	88
Milk handled (billion pounds) <sup>2</sup>	19,632	16,475	5,434	1,265	71,626	114,432

<sup>1</sup> Property, plant and equipment.

<sup>2</sup> Total milk volume handled by cooperatives, net of inter-cooperative transfers.

**Note:** Totals may not add due to rounding.

Appendix table 2—Consolidated financial statements, by type and size of dairy cooperative, 1997

Type of co-op:	Bargaining-only			Bargaining-balancing			Branded-cheese			Diversified		
	Small	Medium	Large	Small	Medium	Large	Small	Medium	Large	Small	Medium	Large
Size group:												
	\$1,000											
<b>Balance Sheet</b>												
Current assets	14,886.8	32,398.9	130,936.2	35,332.2	188,293.7	201,056.5	905.7	82,829.2	56,940.9	2,318,190.1		
Net PP&E <sup>1</sup>	4,089.9	7,306.5	14,813.9	7,907.8	36,004.1	119,775.2	453.5	36,098.4	27,542.5	1,101,830.7		
Invest. in other co-ops	11,140.0	7,575.7	6,339.2	2,319.9	10,294.8	10,294.8	0.0	4,842.7	13,105.8	507,874.5		
Other assets	912.0	355.2	5,536.2	413.2	5,410.1	5,410.1	100.5	1,979.0	9,543.6	473,962.6		
Total assets	31,028.7	47,636.3	157,625.5	45,973.0	336,536.6	336,536.6	1,459.7	125,749.3	107,132.8	4,401,858.0		
Current liabilities	7,429.5	25,353.1	123,293.0	28,930.1	188,293.7	188,293.7	903.9	58,347.6	47,623.5	1,835,700.6		
Long-term liabilities	693.2	271.6	6,265.7	445.6	36,004.1	36,004.1	281.9	11,150.1	8,545.6	913,825.1		
Total liabilities	8,122.7	25,624.7	129,558.7	29,375.7	224,297.8	224,297.8	1,185.8	69,497.7	56,169.1	2,749,525.7		
Allocated equity	19,411.9	16,470.9	22,691.4	14,750.2	109,848.8	109,848.8	173.0	44,734.8	38,554.6	1,450,094.3		
Unallocated equity	3,494.2	5,540.6	5,375.4	1,847.2	2,390.0	2,390.0	100.9	11,516.8	12,409.1	202,238.0		
Total equity	22,906.1	22,011.6	28,066.8	16,597.4	112,238.8	112,238.8	273.9	56,251.6	50,963.7	1,652,332.3		
Liabilities and equity	31,028.7	47,636.3	157,625.5	45,973.0	336,536.6	336,536.6	1,459.7	125,749.3	107,132.8	4,401,858.0		
	Million dollars											
<b>Sales and Income</b>												
Milk & dairy product sales	71.4	496.7	2,569.5	281.2	2,166.5	2,166.5	11.8	281.1	403.5	14,369.8		
Supply sales	37.2	27.6	0.0	16.3	13.4	13.4	0.1	9.8	13.8	1,902.9		
Other sales	5.0	0.0	317.6	0.0	0.0	0.0	0.0	0.0	4.1	354.3		
Service receipts & other inc.	2.4	19.2	34.7	2.4	50.0	50.0	0.0	0.9	4.4	90.2		
Patronage refunds	1.6	0.3	0.3	0.4	0.6	0.6	0.0	0.4	2.6	62.4		
Total income	117.6	543.8	2,922.1	300.3	2,230.5	2,230.5	11.9	292.2	428.4	16,779.6		
Total expenses	115.2	539.5	2,916.4	292.6	2,204.7	2,204.7	11.9	279.8	420.6	16,602.3		
Net margins before tax	2.4	4.3	5.7	7.7	25.8	25.8	0.0	12.4	7.8	177.3		
Net margins after tax	2.3	4.3	5.3	7.7	25.7	25.7	0.0	12.0	7.2	159.3		
Number of cooperatives	22	16	7	4	4	4	4	5	5	12		
Milk handled (million lbs) <sup>2</sup>	527	3,097	16,008	1,705	14,717	14,717	79	1,186	2,013	67,780		

<sup>1</sup> Property, plant and equipment.

<sup>2</sup> Volume of milk handled by cooperative, net of inter-cooperative transfers.

**Note:** Totals may not add due to rounding. The numbers by type and size will not add to totals by size because not all categories are shown. **Small:** handling less than 50 million pounds of

Appendix table 3—Average financial statements by type of dairy cooperative, 1997

Item	Type of cooperative					
	Bargaining only	Bargaining-balancing	Hard-product manufacturing	Branded-cheese	Diversified & fluid processing	All financial profile dairy cooperatives
<i>\$1,000 per cooperative</i>						
<b>Balance sheet</b>						
Current assets	3,960	23,826	38,538	9,304	129,565	36,883
Net PP&E <sup>1</sup>	582	12,826	25,289	4,061	60,869	17,154
Invest. in other co-ops	557	1,495	2,352	538	29,113	7,233
Other assets	151	599	171	231	24,391	5,720
Total assets	<u>5,251</u>	<u>38,745</u>	<u>66,350</u>	<u>14,134</u>	<u>243,938</u>	<u>66,990</u>
Current liabilities	3,468	21,794	26,336	6,584	99,897	28,825
Long-term liabilities	<u>161</u>	<u>3,645</u>	<u>9,911</u>	<u>1,270</u>	<u>46,760</u>	<u>11,704</u>
Total liabilities	3,629	25,439	36,247	7,854	146,658	40,529
Allocated equity	1,302	12,805	28,263	4,990	79,989	22,095
Unallocated equity	<u>320</u>	<u>502</u>	<u>1,840</u>	<u>1,291</u>	<u>17,291</u>	<u>4,366</u>
Total equity	1,622	13,307	30,103	6,281	97,280	26,461
Liabilities and equity	<u>5,251</u>	<u>38,745</u>	<u>66,350</u>	<u>14,134</u>	<u>243,938</u>	<u>66,990</u>
<b>Sales and Income</b>						
Milk & dairy product sales	69,727	245,530	228,075	32,544	796,030	258,169
Supply sales	1,440	3,040	1,225	1,089	95,840	23,032
Other sales	7,171	0	0	0	18,335	7,834
Service receipts & other inc.	1,251	5,240	925	100	5,975	2,644
Patronage refunds	<u>49</u>	<u>130</u>	<u>1,125</u>	<u>44</u>	<u>3,290</u>	<u>843</u>
Total income	<u>79,638</u>	<u>253,940</u>	<u>231,350</u>	<u>33,778</u>	<u>919,470</u>	<u>292,522</u>
Total expenses	79,362	250,550	224,850	32,400	906,545	288,621
Net margins before tax	276	3,390	6,500	1,378	12,925	3,901
Net margins after tax	264	3,380	6,425	1,333	11,200	3,493
Number of cooperatives	45	10	4	9	20	88
Milk handled per cooperative (million pounds) <sup>2</sup>	436	1,648	1,359	141	3,581	1,300

<sup>1</sup> Property, plant and equipment.

<sup>2</sup> Total milk volume handled by cooperatives, net of inter-cooperative transfers.

**Note:** Totals may not add due to rounding.

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## U.S. Department of Agriculture

### Rural Business–Cooperative Service

Stop 3250

Washington, D.C. 20250-3250

Rural Business–Cooperative Service (RBS) provides research, management, and educational assistance to cooperatives to strengthen the economic position of farmers and other rural residents. It works directly with cooperative leaders and Federal and State agencies to improve organization, leadership, and operation of cooperatives and to give guidance to further development.

The cooperative segment of RBS (1) helps farmers and other rural residents develop cooperatives to obtain supplies and services at lower cost and to get better prices for products they sell; (2) advises rural residents on developing existing resources through cooperative action to enhance rural living; (3) helps cooperatives improve services and operating efficiency; (4) informs members, directors, employees, and the public on how cooperatives work and benefit their members and their communities; and (5) encourages international cooperative programs. RBS also publishes research and educational materials and issues *Rural Cooperatives* magazine.

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