United States
Department of
Agriculture

Rural
Development

Committed to the future
of rural communities.

RBS Research
Report 205

Analysis of Financial Statements: Local Farm Supply, Marketing Co-ops, 2003

Abstract

This report updates and analyzes the balance sheets and income statements of local farm supply and marketing cooperatives, comparing 2002 and 2003 and trends over the past 10 years. The data represent four cooperative sizes and types. Common-size income statements and balance sheets compare different cooperative sizes and types. Trends for major balance sheet and income statement items and ratio analysis compare and contrast cooperatives by size and type.

Key words: Cooperatives, balance sheet, income statement, farm supply, marketing, sales, and financial ratios.

Analysis of Financial Statements:
Local Farm Supply, Marketing Co-ops, 2003

Beverly L. Rotan

RBS Research Report 2005

June 2005

On the cover: Inside the co-op store at Valley Springs Farmers Cooperative in Valley Springs, S.D., are (from left): Co-op President David Kolsrud, Manager Paul Edmundson and board member John Sjaarda. The co-op is featured in the May-June 2002 issue of USDA's Rural Cooperatives magazine. Photo by Greg Latza

Preface

This report studied the financial statements of local cooperatives, comparing 2002, 2003, and the past 10 years. Trends of major balance sheet and income statement items as well as financial ratios are presented for four cooperative sizes and types. The information provides cooperative managers and boards of directors with a basis with which to compare their cooperatives' historical performance with representative cooperative data.

The author thanks the cooperatives that helped make this report possible by providing their financial statements to RBS staffers.

Contents

Profile of Respondent Cooperatives 1

Balance Sheet Analysis 2

Income Statement Analysis 7

Financial Ratio Analysis 14

Conclusions 20

Appendix Tables 21

Highlights

Financial statements of 433 local farm supply and marketing cooperatives were used for this report. The statements of 287 cooperatives were used to compare 2002 to 2003, while those of 433 cooperatives looked at trends over the past 10 years. Cooperatives were divided into four groups based on their mix of net sales between supplies sold and farm products marketed. They were also divided into four size categories, based on their total sales volume.

From 2002 to 2003, average net income was down 23 percent and net sales for all cooperatives increased almost 17 percent. In 2003, average net sales for all cooperatives studied were $18.9 million. About 29 percent of the cooperatives studied were small cooperatives with sales of less than $5 million.

In some instances, a cooperative was probably one of the community's larger employers. Overall, they employed an average of 28 full-time and 15 part-time employees with an average annual payroll (including benefits and payroll taxes) of $1.3 million, up about 4 percent from 2002.

Total sales were up about 17 percent. Total farm supply sales were up 9 percent, with rises in seed (25 percent), feed (12 percent), crop protectants (10 percent), and petroleum (9 percent). Marketing sales grew 27 percent between 2002 and 2003. Sales of grain and oilseeds were up 28 percent.

Average total assets grew about 2 percent, fueled by prepaid expenses and cash. To finance the growth in assets (mainly inventories), total liabilities grew 2 percent while owner equities increased only about 1 percent.

Interest expenses, almost 2 percent of net sales, increased by about 1 percent. Patronage refunds received had the greatest decline due to equity write-offs caused by several large regionals going out of business. Local savings increased 27 percent while net income decreased 23 percent.

Financial ratio analysis was used to look at 10-year trends for the 433 cooperatives in the data base. The financial ratio analysis revealed:

- The current assets-to-current liabilities ratio was relatively constant for the last 5 years. The ratio ranged from 1.33 to 1.39 between 1999 and 2003. The quick ratio (current assets-inventory/current liabilities) mimicked the current ratio's trend.

- After a slight drop in 2000, the total debt ratio started a small upward movement before leveling off in 2002 and 2003.

- The fixed-asset-turnover ratio, a measure of asset use, averaged around 7 percent or higher during the 10-year period. The elements of this ratio include net sales, which were 8 percent of property, plant, and equipment levels. This ratio was lowest in 1999 and 2000 at 6.70.

- Return-on-total assets measures the rate of return on total investments (equity). The ratio was highest (9.04) in 1996 and lowest (3.75) in 2003.

- Return-on-total equity before taxes declined from 1996 to 2003 and declined to its lowest point at 4.10 in 2003.

Analysis of Financial Statements: Local Farm Supply, Marketing Cooperatives, 2003

Beverly L. Rotan

This report analyzes the financial statements of 287 local cooperatives. It is meant to be used as a measuring tool by cooperative managers, directors, and members in the oversight of their local co-op's operation. Ratio analysis and trends are discussed. The information is sub-divided into four cooperative sizes and types.

Farm supply sales (petroleum, fertilizer, feed, etc.) of local cooperatives averaged $10.7 million in 2003, while marketing sales averaged $8.3 million. Average grain (corn, wheat, soybeans, etc.) sales made up 28 percent of total marketing sales. Income from services (product delivery, fertilizer application, grains and oilseeds hauling and storage, etc.) averaged $0.6 million, up from 2002 by 27 percent.

Local agricultural cooperatives played a vital role in providing goods and services to their member-patrons and the rural community. These cooperatives paid an average of $60,000 in annual property taxes, averaged 28 full-time and 15 part-time employees, and had an average annual payroll (including benefits and payroll taxes) of $1.3 million.

This study focuses on the balance sheet, income statement, and financial ratios derived from these statements.

Profile of Respondent Cooperatives

USDA's Rural Business-Cooperative Service (RBS) annually surveys farmer cooperatives and uses the data for reports. To be included in this report, a cooperative had to sell some farm supplies. Those that exclusively marketed members' products were not included. In addition to selling farm supplies, cooperatives also had to provide an annual report with a detailed income statement.

The RBS database has 433 cooperatives. This report focused on the 287 that provided information for both 2002 and 2003. When looking at long-term trends (1994 through 2003) in the financial ratio analysis section, all 433 cooperatives were used to obtain a more complete understanding of the local cooperatives' business.

Cooperative Size—Cooperatives were grouped into four sizes by sales volume, using actual figures: small, medium, large, and super sales groupings in this report were the same as in prior reports. Product mix was ignored in classifying size because it may be related to the cooperative's product mix. For example, a cooperative with $10 million in sales that exclusively marketed grains and oilseeds could be considered small compared with similar marketing organizations. But, a strictly farm supply cooperative with sales of $10 million could be quite substantial.

Cooperative Type—To account for differences in operations and orientation based on product mix, cooperatives were placed in four descriptive categories: 1) farm supply; 2) mixed farm supply; 3) mixed marketing; and 4) marketing. They closely represent business operations of these cooperatives as summarized in table 1.

This report focuses on cooperatives handling farm supplies: 50 percent in 2003 sold only farm supplies; 24 percent offered mixed farm supplies; nearly 16 percent were mixed marketing; and almost 10 percent were purely marketing (table 2). Of the respondents, 29 percent were each super and small; 22 percent, medium; and 21 percent, large. Both types of marketing cooperatives had larger sales while most farm supply cooperatives' sales were smaller.

The first part of this report focuses on the 287 cooperatives. In the financial ratio analysis sections,

Table 1—**Size and type definitions used for respondent cooperatives**

Cooperative size	Definition	Number
Small	up to $5 million in total sales	83
Medium	over $5 million to $10 million	62
Large	over $10 million to $20 million	60
Super	over $20 million	82
Cooperative type		
Farm supply	total net sales from farm supplies	144
Mixed farm supply	from 50 to 99 percent	70
Mixed marketing	from 25 to 49 percent	4
Marketing	less than 25 percent	28

Table 2—**Respondent cooperatives by size and type, 2003**

	Cooperative size				
Cooperative type	Small	Medium	Large	Super	Total
		---- *Number* ----			*Percent*
Farm supply	68	36	31	9	50.2
Mixed farm supply	10	11	21	28	24.4
Mixed marketing	1	9	6	29	15.7
Marketing	4	6	2	16	9.7
Percent of total	28.9	21.6	20.9	28.6	100.0

data between the years were not completely comparable in that the same cooperatives did not respond to the RBS survey every year. Thus, it may not be statistically valid to draw industry-wide conclusions. However, the samples are large and do represent a cross section of cooperatives selling farm supplies and marketing grains and oilseeds throughout the United States.

Sales Mix—Responding cooperatives fell into five major farm supply and two marketing categories (table 3). Petroleum, fertilizer, and feed were the dominant production supplies sold. Sales of small cooperatives, the most numerous, averaged $2.9 million in 2003. Farm production supplies represented the bulk (91 percent) of their sales. As cooperatives grew in size, the importance of farm supplies declined (78 percent for medium-sized cooperatives, 82 percent for large, and 46 percent for super).

Sales of mixed farm supply cooperatives averaged $23.4 million, with $16.5 million exclusively in farm supplies. For all sizes of cooperatives, with the exception of super-sized co-ops, petroleum was the most important farm supply item sold; with fertilizer second. All farm supplies (except chemicals) and products marketed increased. Sales of seed were the lowest of all farm supplies sold, although statistically they had the largest increase between the 2 years. Grain sales increased nearly 28 percent. Average sales of marketing and mixed marketing cooperatives were both about $36 million, much larger than both categories of farm supply cooperatives.

Balance Sheet Analysis

The balance sheet of a local cooperative states its financial position at the end of a 12-month fiscal year. The balance sheet represents the cooperative's assets, liabilities, member equity, and their mutual relationship. The balance sheets of these 287 local cooperatives show typical levels for assets, liabilities, and member equities for different sizes and types.

Table 4 compares common-size balance sheets for all respondents for 2002 and 2003. Appendix tables 1-4 show common-size balance sheets by size and type for 2003. Each account is listed as a percentage of total assets. The dollar amount of total assets is listed at the

Table 3—**Average farm supplies sold and products marketed as a percent of total sales, and change from 2002 to 2003**

	2002	2003	Percentage change
	Percent		
Feed	10.1	9.8	12.93
Seed	2.1	2.2	25.36
Fertilizer	11.1	10.3	9.20
Crop protectants	8.8	8.3	9.92
Petroleum products	20.2	18.8	8.58
Other	7.7	6.8	2.52
Total	60.0	56.2	9.48
Products marketed:			
Grains and oilseeds	39.8	43.5	27.69
Other	0.2	0.3	1.08
Total	40.0	43.8	27.44
Total sales	100.0	100.0	
Based on average sales of:	$16,235,925	$18,952,753	

bottom of the table. By cooperative size, total assets ranged from $1.9 million for small to $19.6 million for super-size cooperatives. By co-op type, total assets were $4.7 million for farm supply, $12.1 million for mixed farm supply, $14.7 million for mixed marketing, and $10.8 million for marketing.

Current Assets—Cash and cash equivalents as a percent of total assets decreased as cooperative size increased. Cash was 9.3 percent of total assets for small cooperatives and dropped to 3.8 percent for super cooperatives. By type and as a percent of total assets, farm supply cooperatives were first with 5.7 percent of total assets followed by mixed farm supply and mixed marketing cooperatives, both with 4 percent of total assets.

Current assets increased by 6 percent from 2002 to 2003 due to prepaid expenses and farm supply inventories. Total inventories increased 4 percent-although individually grain and oilseed inventories fell 0.50 percent, farm supply increased almost 10 percent.

By size, small cooperatives' farm supply inventories were about 15 percent of total assets. As cooperatives' sizes increased, farm supply inventories as a percent of assets declined.

Accounts receivable in this study were farm supply trade accounts, not grains and oilseeds trade receivables. Farm supply and grains and oilseeds trade receivables (“other”current assets) were separated to allow ratio analysis elsewhere in this study. Accounts receivable for farm supply sales increased almost 10 percent as the result of 17 percent higher sales.

Investments and Other Assets—There was a decline in investment due to the demise of several large regional farm supply cooperatives. Investment showed a 2-percent decrease. About 24 percent of cooperatives' total assets was invested in other cooperatives and/or CoBank in 2003. Surprisingly, medium and small cooperatives' investment amounted to 28 and 27 percent of total assets, respectively (table 5). As a percentage of assets, mixed marketing and marketing cooperatives had less invested than the farm supply cooperatives (table 6).

Property, Plant, and Equipment—Net property, plant, and equipment (net PP&E) decreased 0.47 percent from the previous year. As a percent of total assets, net PP&E ranged between 22 percent and 28 percent for all cooperative sizes. Marketing and mixed farm supply cooperatives handling grains and

Table 4—**Common-size balance sheet and change in accounts, 2002 to 2003**

	2002	2003	Percentage change
	Percent		
Assets			
Current assets			
Cash and cash equivalents	3.92	4.57	18.90
Accounts receivable	10.35	10.10	-0.50
Inventories—grains and oilseeds	9.85	9.34	-2.73
—farm supplies	14.50	15.66	9.53
Prepaid expenses	1.13	1.67	30.65
Other current assets	6.35	6.66	7.17
Total current assets	46.28	48.00	5.67
Investments and other assets			
Investments	23.97	23.16	1.88
Other assets	2.27	1.98	-13.09
Net property, plant, and equipment	27.48	26.86	-0.47
Total assets	100.00	100.00	1.75
Liabilities and owner equities			
Current liabilities			
Current portion of long term debt	5.16	4.51	-10.84
Notes payable seasonal	11.36	10.65	-4.43
Accounts payable	6.61	7.43	14.61
Patrons credit balances & other liabilities	8.53	10.34	23.70
Accrued taxes	0.60	0.52	-10.33
Accrued expenses	1.60	1.68	7.03
Patronage refunds (cash)	0.85	0.65	-22.29
Total current liabilities	34.71	35.79	5.14
Long term debt	10.95	10.10	-6.56
Total liabilities	39.38	38.95	2.34
Owner equities			
Allocated equity	39.38	38.95	0.51
Unallocated equity	14.96	15.17	3.22
Total owner equities	54.34	54.11	1.25
Total liabilities and owner equities	100.00	100.00	1.75
Based on total assets of:	$8,147,610	$8,678,236	

Table 5—**Common-size balance sheets by cooperative size, 2003**

	Small	Medium	Large	Super
	Percent of total assets			
Assets				
Current assets				
Cash and cash equivalents	9.26	5.77	5.26	3.75
Accounts receivable	10.27	11.61	11.33	9.53
Inventories—grains and oilseeds	0.40	2.94	3.49	12.42
—farm supplies	24.60	18.15	18.70	13.92
Prepaid expenses	1.28	2.31	1.76	1.59
Other current assets	3.19	3.53	5.27	7.82
Total current assets	49.00	44.31	45.82	49.03
Investments and other assets				
Investments	26.76	27.62	24.69	21.77
Other assets	2.53	2.01	2.99	1.64
Net property, plant, and equipment	21.71	26.07	26.51	27.56
Total assets	100.00	100.00	100.00	100.00
Liabilities and owner equities				
Current liabilities				
Current portion of long term debt	1.45	2.49	1.63	5.90
Notes payable seasonal	5.99	6.98	9.74	11.87
Accounts payable	8.44	7.61	8.27	7.07
Other liabilities	5.99	8.67	10.50	10.94
Accrued taxes	0.16	0.21	0.48	0.62
Accrued expenses	1.53	1.56	1.66	1.72
Patronage refunds (cash)	0.59	0.47	0.97	0.59
Total current liabilities	24.15	27.99	33.25	38.71
Long term debt	7.01	7.78	7.69	11.39
Total liabilities	31.16	35.77	40.94	50.10
Owner equities				
Allocated equity	50.13	46.02	41.94	36.05
Unallocated equity	18.71	18.21	17.12	13.85
Total owner equities	68.84	64.23	59.06	49.90
Total liabilities and owner equities	100.00	100.00	100.00	100.00
Based on total assets of:	$1,896,686	$3,729,323	$7,713,824	$19,853,729

Table 6—**Common-size balance sheets by cooperative type, 2003**

	Farm supply	Mixed farm supply	Mixed marketing	Marketing
	Percent of total assets			
Assets				
Current assets				
Cash and cash equivalents	5.71	4.28	4.63	2.75
Accounts receivable	10.21	12.36	8.55	7.02
Inventories—grains and oilseeds	0.03	7.31	16.60	17.45
—farm supplies	22.16	16.13	12.44	9.26
Prepaid expenses	2.23	1.03	2.23	1.02
Other current assets	3.91	6.44	9.19	7.79
Total current assets	44.25	47.55	53.64	45.29
Investments and other assets				
Investments	27.53	22.81	20.01	21.41
Other assets	2.25	2.58	1.02	0.73
Net, property, plant, and equipment	25.47	27.06	25.33	32.57
Total assets	100.00	100.00	100.00	100.00
Liabilities and owner equities				
Current liabilities				
Current portion of long term debt	2.14	4.34	7.98	2.71
Notes payable seasonal	6.76	12.39	13.76	7.76
Accounts payable	8.95	8.23	6.01	4.99
Patrons credit balances & other liabilities	8.51	7.60	12.69	16.72
Accrued taxes	0.29	0.40	0.81	0.75
Accrued expenses	1.80	1.69	1.64	1.48
Patronage refunds (cash)	0.73	0.62	0.53	0.82
Total current liabilities	29.18	35.27	43.42	35.23
Long term debt	8.05	11.27	9.92	11.70
Total liabilities	37.23	46.54	53.34	46.93
Owner equities				
Allocated equity	46.13	39.07	33.63	34.41
Unallocated equity	16.64	14.39	13.03	18.66
Total owner equities	62.77	53.46	46.66	53.07
Total liabilities and owner equities	100.00	100.00	100.00	100.00
Based on assets of:	$4,675,454	$12,140,881	$14,738,946	$10,791,458

oilseeds had higher dollar amounts of PP&E, probably due to extensive storage and handling facilities.

***Current Liabilities*—**Current liabilities grew at a rate of about 5 percent between 2002 and 2003. The largest increase was in patron credit balances and other liabilities and accounts payable. Revolving equity redeemed had the largest decrease of 31.8 percent, reflecting multiple causes-losses were allocated, the cooperative didn't need more capital, merger, capital stock buy back, etc. At about 39 percent of total assets, allocated equity remained almost constant between the 2 years.

Current-term and seasonal-short-term debt used for financing operating expenses grew. Accrued expenses grew 7 percent. Allocated equity--cash declined 22 percent.

***Long-term Debt*—**Long-term debt decreased about 7 percent from 2002 to 2003. Except for super cooperatives, as a percent of total assets by size, long-term debt was around 7 percent. By type, mixed farm supply and marketing cooperatives had 11 percent in long-term debt. Twenty-one percent (59 of 287) of the cooperatives had no long-term debt. The Bank for Cooperatives, CoBank, commercial banks, and regional cooperatives were sources of debt capital.

Member Equities—Member equities consisted of both allocated (preferred, common, and other kinds of ownership certificates) and unallocated equity. Comparing this to total assets represents the percent of the cooperative's assets owned by the members, with creditors claiming the rest. Member equity ranged from 50 to 69 percent by size of cooperative. By type the range was from 47 to 63 percent.

Members of small cooperatives had the highest percentage of ownership (69 percent) while those in super-size cooperatives had the lowest (50 percent). By type, members of farm supply cooperatives had the highest percent of total assets. Both types of marketing cooperatives had slightly lower member ownership-53 percent for marketing and 47 percent for mixed marketing.

Allocated equity as a percentage of total assets declined as size grew, with small co-ops at 50 percent to super co-ops at 36 percent. Both farm supplies cooperatives had the highest percent of allocated equity as a percent of total assets.

Unallocated equity averages ranged from 13.0 to 18.7 percent of total assets for all types and sizes of cooperatives.

Income Statement Analysis

This shows the net results of cooperative operations. Because most managers' performance is judged by net income, members attach great importance to the income statement. The underlying values of the income statement are studied. Table 7 presents a common-size income statement for 287 cooperatives and the change between 2002 and 2003. Appendix tables 5 to 8 show common-size income statements by size and type for 2003.

***Net Sales*—**Net sales are obtained by subtracting sales discounts and returns and allowances from gross sales. Average net sales for the 287 cooperatives in 2003 were $18.9 million, up more than $2 million or 16.7 percent from 2002. Table 8 shows net sales by cooperative size and table 9 by type. Net sales of all sizes and types of cooperatives grew from 2002 to 2003.

Cost of Goods Sold (COGS)—This represented the largest single expense component expressed as a percent of net sales. For this study, COGS includes the beginning inventory plus purchases and freight costs, minus purchase returns and allowances, purchase discounts, and ending inventory. COGS, therefore, was the purchase price of the farm supplies sold or products marketed. Table 9 shows COGS as a percent of net sales for different cooperative types. COGS for all types and sizes were at least 83 percent of net sales.

***Gross Margins*—**The excess of net sales over the cost of goods sold averaged 12.5 percent of sales for all cooperatives, up three-quarters of a percent from 2003. The gross margin or gross margin percentage is an important operating ratio. A small change in the gross margin can tremendously impact local savings. A cooperative manager must maintain a gross margin near industry averages. Thus, marketing co-ops must develop least-cost sources of supplies and pay market rates on the products they purchase.

Cooperatives are often characterized as businesses that provide goods and services "at cost." However, a cooperative cannot operate at cost on a daily basis. Cooperatives need to be profitable so as to afford to finance essential future-directed discretionary expenditures, such as expansion and advertising.

Table 7—**Income statement and change in accounts, 2002 to 2003**

	2002	2003	Percentage change
	Percent of net sales		
Net sales	100.00	100.00	16.73
Cost of goods sold	88.95	87.55	18.61
Gross margin	11.05	12.45	0.75
Service and other income	4.23	4.57	10.44
Gross revenue	15.28	17.02	15.64
Operating expenses			
Employee[1]	7.08	7.95	3.70
Administrative[2]	0.62	0.72	3.87
General[3]	4.10	4.51	0.02
Depreciation	1.86	2.14	1.36
Interest expense	0.60	0.70	-0.06
Bad debts	0.12	0.15	-9.25
Total expenses	14.38	16.17	3.62
Local savings	0.91	0.85	27.27
Patronage refunds received	0.19	0.84	-73.73
Savings before income taxes	1.10	1.69	-23.07
Less income taxes	0.10	0.14	-18.42
Net income	1.00	.55	-23.49
Based on sales of:	$16,235,925	$18,952,753	

[1] Includes salaries and wages, employee insurance, payroll taxes, and pension expense.

[2] Includes professional services, office supplies (includes postage), telephone, markets, meetings and travel, donations, dues and subscriptions, directors' fees and expense, and annual meetings expense.

[3] Advertising and promotion, delivery (auto and truck) expense, insurance, property and business taxes, other taxes /and licenses, rent and lease expense, plant supplies and repairs, repairs and maintenance, utilities (includes dryer expense), miscellaneous expenses, patronage refunds paid out, and other expenses.

Gross margin equals net sales less cost of goods sold, so cooperatives with higher COGS had lower gross margins. COGS were slightly larger for marketing and super cooperatives. As a proportion of sales, farm supply cooperatives had the highest gross margin: 17.1 percent. Although both types of farm supply cooperatives generally had less business volume than their marketing counterparts, their gross margin was from 6 to 11 percentage points higher.

Sixty, or 21 percent, of cooperatives provided their individual product gross margins (table 10). Gross margins vary not only by cooperative, but also by farm supplies sold or products marketed. Cooperatives have different margins for different products. For instance, fertilizer sold by the truckload has a different margin than a single-bag sale. The services offered in conjunction with a sale (e.g., fertilizer spread by a cooperative truck) also have an impact on margins. Margins are also subject to competition. The

Table 8—**Abbreviated income statement as a percent of net sales for cooperatives by size, 2003**

	Small	Medium	Large	Super
	Percent of net sales			
Net sales	100.00	100.00	100.00	100.00
Cost of goods sold	83.75	86.54	85.11	90.34
Gross margin	16.25	13.46	14.89	9.66
Service and other income	3.81	3.85	4.52	4.24
Gross revenue	20.06	17.31	19.41	13.90
Operating expenses				
Employee[1]	10.57	8.36	9.32	6.25
Administrative[2]	1.19	.93	0.82	0.50
General[3]	4.95	4.65	4.79	3.85
Depreciation	2.06	1.99	2.23	1.75
Interest	0.51	0.54	0.55	0.63
Bad debts	0.23	0.13	0.18	0.09
Total expenses	19.51	16.60	17.89	13.07
Local savings	0.54	0.71	1.52	0.83
Patronage refunds received	0.16	0.47	0.48	0.10
Savings before income taxes	0.70	1.18	2.00	0.93
Less income taxes	0.00	0.05	0.14	0.10
Net income	0.70	1.13	1.86	0.83
Based on total sales of:	$2,883,596	$7,069,936	$13,738,809	$47,488,462

[1] Employee expenses include salaries and wages, payroll taxes, employee insurance, unemployment compensation, and pension expense.
[2] Administrative costs include professional services, office supplies, telephone, meetings and travel, donations, dues and subscriptions, directors' fees and expens be, and annual meetings.
[3] General expenses include advertising and promotion, delivery (auto and truck), insurance, property, business and other taxes and licenses, rent and lease expenses, plant supplies and repairs, repairs and maintenance, utilities, miscellaneous, and other.

gross margin represents a blended margin derived from all products the cooperative sold and services it rendered.

The highest weighted (by volume) gross margin for the five main farm supplies (feed, seed, fertilizer, crop protectants, and petroleum products) was for fertilizer at 4.6 percent. Margins for other farm supplies ranged from 2 to 16 percent. Grains and oilseeds were the only products marketed for which gross margins were known.

Service and Other Income—This mostly consisted of trucking services (delivery of purchases and transfer of products to market), custom application of fertilizers and crop protectants, and drying and storing of grains and oilseeds. While local cooperatives provided many other services to their patrons, these were the primary ones. Service and other income increased 7.6 percent over the 2-year

Table 9—**Abbreviated income statement as a percent of net sales for cooperatives by type, 2003**

	Farm supply	Mixed farm supply	Mixed marketing	Marketing
	Percent of net sales			
Net sales	100.00	100.00	100.00	100.00
Cost of goods sold	82.89	86.44	92.83	93.89
Gross margin	17.11	13.56	7.47	6.11
Service and other income	3.77	4.71	4.63	3.35
Gross revenue	20.88	18.27	12.10	9.46
Operating expenses				
Employee[1]	10.35	8.93	5.07	3.71
Administrative[2]	0.97	0.77	0.43	0.37
General[3]	5.01	4.66	3.67	2.93
Depreciation	2.22	2.11	1.64	1.40
Interest	0.60	0.71	0.61	0.44
Bad debts	0.22	0.13	0.09	0.02
Total expenses	19.37	17.31	11.51	8.77
Local savings	1.51	0.96	0.59	0.69
Patronage refunds received	0.63	0.45	-0.25	-0.02
Savings before income taxes	2.14	1.41	0.34	0.67
Less income taxes	0.17	0.09	0.06	0.08
Net income	1.97	1.32	0.27	0.59
Based on sales of:	$7,834,450	$23,581,563	$35,923,682	$36,141,710

[1] Employee expenses include salaries and wages, payroll taxes, employee insurance, unemployment compensation, and pension expense.
[2] Administrative costs include professional services, office supplies, telephone, meetings and travel, donations, dues and subscriptions, directors' fees and expense, and annual meetings.
[3] General expenses include advertising and promotion, delivery (auto and truck), insurance, property, business and other taxes and licenses, rent and lease expenses, plant supplies and repairs, repairs and maintenance, utilities, miscellaneous, and other.

period and averaged between 3 to 4 percent of net sales for all sizes and types of cooperatives.

Other income, derived from non-operating sources such as interest and finance charges on cash equivalents and interest charged on credit sales, increased 10.4 percent over the 2 years. Other income also included that from the sale of property, plant, and equipment, rentals, and extraordinary items. Sometimes property, plant, and equipment were sold to generate income, but usually they were fully depreciated and the market value was greater than the book value. In some cases, however, disposal of a fully depreciated asset may mean a loss. Rental income from unused facilities or equipment provided income flows. Extraordinary items might be either gains or losses. A gain could result from a fire loss where the insurance

Table 10—**Gross margin on farm supplies sold and grains and oilseeds marketed, 2003**

Farm supply	Weighted margin	Maximum	Minimum	Number of observations
	Percent			*Number*
Feed	2.49	16.42	0.00	57
Seed	3.41	5.16	0.00	59
Fertilizer	4.65	6.79	0.00	60
Crop protectants	3.56	12.22	0.00	56
Petroleum products	2.12	10.36	0.00	43
Tires, batteries, and auto accessories	16.41	44.55	-0.01	
Machinery	1.16	53.18	2.31	5
Building materials	4.84	41.70	0.40	8
Hardware	7.62	44.30	(0.14)	17
Food	2.71	40.59	0.32	7
Other farm supplies	2.48	11.26	(0.84)	62
Grains and oilseeds	1.09	18.80	(0.27)	33

settlement was greater than the book value. A loss might occur from flood damage for which the cooperative had no coverage.

Operating Expenses—Total operating expenses increased about 4 percent in 2 years. These were divided into four main categories--employee; administrative; general; and depreciation, interest, and bad debts. Employee expenses were those related to labor costs. Administrative expenses included overhead costs associated with a cooperative and indirectly related to revenue production. General expenses were directly related to revenue production. The bulk of expenses were in the employee, general, and depreciation categories.

Employee Expenses—These costs included salaries, wages, and benefits (payroll taxes, employee insurance, unemployment compensation, and pension expense) and averaged at least 7.0 percent of net sales for both years.

Cooperatives surveyed had both part-time and full-time employees. For study purposes, four part-time employees were considered equivalent to one full-time employee. The expense for a single employee averaged $41,569, up about 4 percent from 2002, with co-ops each having an average of 34 employees. By size, employee expenses ranged from $36,296 for small to $50,287 for super cooperatives and by type from $44,904 for those selling only farm supplies to $49,895 for mixed marketing cooperatives (table 11). Small cooperatives averaged 8 full-time employees (excludes part-time); medium, 14; large, 27; and super, 59. Farm supply cooperatives averaged 18 employees; mixed farm supply, 44; mixed marketing, 36; and marketing, 27.

Cooperatives with significant farm supply sales tended to be more labor intensive. Operating a feed mill or service station, applying chemicals and fertilizers, and selling hardware required the use of several employees. For instance, a small farm supply cooperative had eight full-time employees while a small marketing cooperative used fewer employees--often only a manager, bookkeeper, and two others. As a proportion of net sales, employee expenses ranged from 10.6 to 6.3 percent. For small co-ops, they took 10.6 percent; for medium, 8.4; for large, 9.3; and for super, 6.3 percent. By type, employee expenses were 10.3 percent of net sales for farm supply cooperatives; 8.9 for mixed farm supply; 5.1 for mixed marketing; and 3.7 percent for marketing cooperatives.

Administrative Expenses—These were indirectly related to generating income. Managers usually had more control over administrative expenses than any other cost. In years when revenues were down, managers could reduce expenses here more easily than elsewhere. Administrative costs include professional services, donations, dues and subscriptions, directors' fees and expenses, annual meetings, meetings and travel, office supplies, and telephone and market information.

Total administrative expenses were 0.72 percent of net sales. They ranged from 0.50 percent for super

Table 11—**Calculated wages (using both full- and part-time employee expenses and including benefits) and actual number of full-time employees, 2003**

	Small	Medium	Large	Super	All
Farm supply salaries	$37,492	$41,125	$48,923	$48,284	$44,904
Full-time employees	8	17	29	61	18
Part-time/seasonal employees	6	14	24	46	14
Mixed farm supply salaries	28,696	38,821	45,646	49,309	47,459
Full-time employees	10	15	30	80	44
Part-time/seasonal employees	3	9	16	38	22
Mixed marketing salaries	23,651	44,278	44,241	51,694	50,879
Full-time employees	5	9	12	50	36
Part-time/seasonal employees	1	3	2	19	13
Marketing salaries	41,385	45,261	48,529	50,463	49,895
Full-time employees	5	8	8	41	27
Part-time/seasonal employees	1	5	3	12	8
All salaries	36,256	41,235	47,442	50,287	47,569
Full-time employees	8	14	27	59	28
Part-time/seasonal employees	5	11	18	27	15

Table 12—**Board member compensation, 2003**

Cooperative type	Compensation	Cooperative size	Compensation
Farm supply	$ 770	Small	$ 416
Mixed farm supply	1,401	Medium	559
Mixed marketing	1,013	Large	1,039
Marketing	459	Super	1,594
Average of all	805		

cooperatives to 1.19 percent for small cooperatives. Professional services, the largest administrative expense, comprised 0.19 percent of net sales.

Although directors' fees and expenses were a small part of total costs, director compensation was important to many cooperatives. This fee was a small incentive for farmers to sacrifice time normally spent on their own operations and devote several hours of service each month to guiding their cooperative. Table 12 shows the fees paid to directors by cooperative size and type. In 2003, data were provided by 246 cooperatives with fees ranging from a low of $270 to a high of $69,140 annually. These fees were divided between 2 to 15 directors. Small cooperatives paid directors an average of $416 while super cooperatives paid the most: $1,594. By type, mixed farm supply cooperatives paid the most at $1,401.

General Expenses—Those were usually fixed in the short run and associated with income production--advertising and promotion, delivery (auto and truck), general insurance, property, business and other taxes and licenses, rent and lease expenses, plant supplies and repairs, repairs and maintenance, utilities (including dryer expenses), miscellaneous, and "other." Most expenses, except advertising and promotion, were not under direct management control.

General expenses averaged 4.5 percent of net sales in 2003. Delivery expenses and repairs and maintenance at 0.76 and 0.74, respectively, represented the largest in the general category, followed by insurance and utilities, at 0.67 and 0.56 percent. For

Table 13—**Respondent cooperatives that had losses, 2003**

Cooperative type	Cooperative size				
	Small	Medium	Large	Super	Average
	Percent				
Farm supply	21.69	11.29	6.67	0.00	40.28
Mixed farm supply	2.41	9.68	5.00	6.10	30.00
Mixed marketing	0.00	4.84	3.33	13.41	48.89
Marketing	3.61	1.61	0.00	1.22	35.71
Average	28.92	21.60	20.91	28.57	23.00

all sizes of co-ops, general expenses were at least 4 percent of net sales. By type of cooperative, expenses ranged from 2.9 to 5.0 percent of net sales.

Depreciation, Interest, and Bad Debts— Depreciation expenses averaged 2.1 percent of net sales; interest, 0.70 percent; and bad debts, 0.15 percent. By co-op size, depreciation expense as a percent of net sales was at about 2 percent for all cooperatives with the exception of super-sized cooperatives at 1.7 percent. For co-op type, the range was from a low 0.02 percent of net sales for marketing cooperatives to 0.09 for mixed marketing cooperative, 0.13 for mixed farm supply co-ops and 0.22 percent for farm supply cooperatives.

Interest expenses-long- and short-term debt financing-decreased 0.06 percent. As a percent of sales, they rose slightly from 0.60 percent in 2002 to 0.70 percent in 2003. Interest expenses were lowest among small cooperatives at 0.51 and highest among super cooperatives at 0.63. For medium and large cooperatives, interest expense was about the same at 0.54 and 0.55 percent, respectively. By type, interest expenses went from a low of 0.44 percent of net sales for marketing co-ops to 0.71 percent for mixed farm supply co-ops. Farm supply and mixed marketing cooperatives were about the same, with 0.60 and 0.61 percent, respectively.

Bad debts as a proportion of net sales fell for small cooperatives to 0.3 percent; medium co-ops had 0.2 percent; large co-ops, 0.25 percent; and super co-ops, 0.10 percent. By co-op type, bad debts were 0.02 percent for marketing, 0.06 percent for mixed marketing, 0.18 percent for mixed farm supply co-ops and 0.28 percent for farm supply cooperatives.

Local Savings—Local savings were generated from operations before taxes and patronage refunds from other cooperatives. Local savings were a little more than 1 percent of net sales for all sizes of cooperatives, except small cooperatives, which had 0.43 percent. By type, they were the highest for farm supply cooperatives-1.61 percent--and the lowest for marketing cooperatives, at 0.70 percent.

About 26 percent of the cooperatives studied had losses. While small cooperatives have higher returns on net sales, 23 out of 83 small cooperatives lost money. Thirty-six percent of the mixed farm supply cooperatives lost money (table 13).

Patronage Refunds Received—Refunds received or income from other cooperatives resulted from business local co-ops generated with other cooperatives, generally regionals or cooperative banks such as CoBank. The patronage refund from regionals was based on business volume and consisted of cash refunds and equity stock. Stock was usually revolved back to the local cooperative on a set schedule. Many cooperatives that borrowed funds from CoBank and the Bank for Cooperatives received both cash and noncash patronage income. The noncash patronage from CoBank or the Bank for Cooperatives was from investing in the bank, which was usually required in proportion to funds borrowed.

The dollar amount of patronage refunds between 2002 and 2003 was down 74 percent. This great decline may have been the result of several large regionals going out of business in 2003. Patronage refunds received were less than 1 percent for all cooperative sizes. By type, patronage refunds as a percent of net sales were higher for farm supply than for marketing cooperatives, which had negative patronage refunds. The refunds were an important source of revenues and allowed 16 out of 71 cooperatives that had local losses to show net income. A unique situation occurred in 2003 with the demise of several large regional cooperatives. Cooperatives that originally had positive net

Table 14—**Distribution of net income before taxes**

Item	2002	2003
	------------------- *Percent*	--------------------
Non-cash patronage allocations	70.64	66.17
Cash patronage refunds	26.55	27.06
Retained earnings	-7.09	-2.02
Taxes	9.75	8.66
Dividends	0.15	0.15
Net income before taxes:	$253,173	$208,139
Number of cooperatives:	287	287

income ended up with negative net incomes. Twenty-nine of the 71 cooperatives with losses had losses because of equity write-offs.

Income Taxes—Cooperatives paid income taxes on earnings not allocated to members (retained earnings) and on dividend payments. Each board of directors determined the amounts of income allocated to retained earnings and to members. Nonmember business has an impact on retained earnings because cooperatives can allocate the earnings to nonmembers or retain the income. Income tax paid was 0.14 percent of net sales in 2003.

Income tax paid by cooperatives varied by size and type. Small cooperatives paid income taxes equal to less than to 0.01 percent of their net sales, medium, 0.5; large, 0.14; and super, 0.10. Marketing cooperatives paid less as a percent of net sales in income taxes--0.08 percent; mixed marketing, 0.06; farm supply, 0.17; and mixed farm supply, 0.09 percent.

Net Income—In 2003, net income decreased 23 percent. As a percent of net sales, it was 0.55 percent. By co-op size, the breakdown was: large, 1.86 percent; medium, 1.13 percent; super, 0.83 percent; and small cooperatives, 0.70 percent. By type, farm supply co-ops had returns of 1.97 percent on net sales; mixed farm supply co-ops, 1.32 percent; mixed marketing cooperatives, 0.32 percent; and marketing cooperatives, 0.59 percent.

Pretax net income was generally distributed five ways-non-cash patronage allocations, cash patronage refunds, retained earnings, income taxes, and dividends on patrons' equity (table 14). Sixty-six percent of net income before taxes was held as non-cash patronage allocations by the 287 cooperatives that provided income allocations. Cash patronage refunds were 27 percent.

Financial Ratio Analysis

Looking beyond levels of assets, liabilities, member equities, sales, and expenses, managers and boards of directors need comparative measures to evaluate their cooperatives' financial performance.

Standard ratios used in this report included financial ratio analyses that allow performance comparisons between years and different cooperatives. No single financial indicator provides enough information to determine a cooperative's financial health, so ratios must be carefully interpreted. It is important to look at a group of financial ratios over a period of time, evaluate other cooperatives with similar sales and functions, and/or compare performance with others in the same geographical area.

Most figures show ratios for the 10-year period for all 433 cooperatives. Data for 2002 and 2003 reflect information gathered from the same 287 cooperatives that reported for both years. Performance ratios measure various levels of cooperative operations and generally have both a financial and operational impact. Four categories were used: liquidity, leverage, activity, and profitability. Many factors underlie each, and examining one ratio may not pinpoint problems.

Liquidity Ratios—These include current and quick ratios and measure the cooperative's ability to meet short-term obligations. They focus on its ability to remain solvent. The current ratio is current assets divided by current liabilities. However, this ratio does not consider the degree of liquidity of current asset components. If the current assets of a cooperative were mainly cash, they would be much more liquid than if comprised of mainly inventory.

If the ratio is less than 1, current liabilities exceed current assets and the cooperative's liquidity is threatened. Improvements can be achieved by selling additional capital stock, borrowing additional long-term debt, or disposing of unproductive fixed assets and retaining proceeds. Current liabilities may also be reduced by retaining a greater portion of allocated savings (reducing the cash portion).

A high current ratio is a favorable condition financially because it indicates the ability to pay current liabilities from the conversion of current assets into cash. Operationally, this same high ratio tends to increase operating freedom and reduce the probability of bill-paying difficulty from write-downs of accounts receivable or inventory.

Figure 1 shows the current and quick ratios for the surveyed cooperatives. Current ratio was relatively constant for the last 5 years. The total current assets and liabilities increased 5.7 and 5.1 percent, respectively. From 2002 to 2003, all elements of current assets except accounts receivables-cash (18.9 percent), other receivables (7.7 percent), prepaid expenses (30.7 percent), and inventory (4.4 percent)-increased. Revolving equity redeemed and allocated equity (cash) declined over the 2-year period. Current liabilities that grew in that time period included accrued expenses, accounts payable, patron prepayment and other liabilities. All other current liabilities fell.

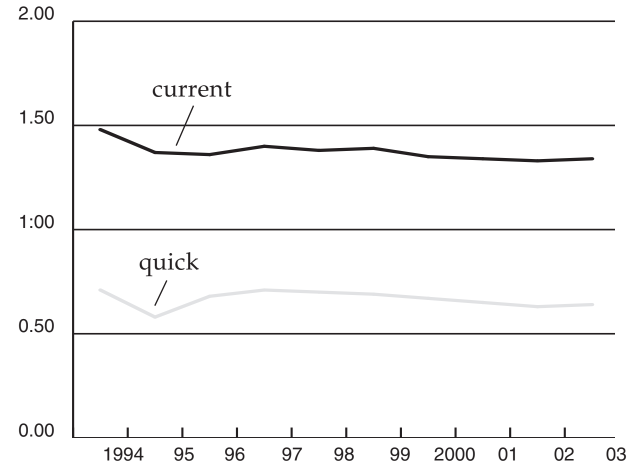
The current ratio fell as cooperative size increased. The ratio was highest for small cooperatives, 2.03, and lowest at 1.27 for super cooperatives (table 15). By type, the ratio was 1.52 percent for farm supply co-ops, 1.35 for mixed farm supply co-ops, 1.29 for marketing co-ops, and 1.24 for mixed marketing cooperatives (table 16).

Quick ratio is current assets minus inventories, divided by current liabilities. Inventories--the least liquid of all current assets--are excluded. Financially, a high ratio allows much less dependence on the salability of inventory to meet current obligations. Operationally, the results are the same as with the current ratio.

The quick ratio mimicked the movement of the current ratio. Small cooperatives had the highest ratio at 0.99 and it decreased as size increased to 0.59 for super cooperatives (Table 15). The quick ratio ranged from 0.53 for marketing cooperatives to 0.76 for farm supply cooperatives. This ratio was highest in 1994 and lowest in 1995 (figure 1).

Leverage Ratios—These ratios look at the long-term solvency of the cooperative and help analyze the use of debt and the ability to meet obligations in times of crisis. Debt ratio is defined as total debt divided by total assets. Elements include long-term debt, short-term debt, and total assets.

Figure 1—**Current and Quick Ratios**



Long-term debt increased at about half the same rate of total assets, which may indicate that some short-term obligations were being carried and converted to long-term debt.

With inventories increasing in the short term, quick financing is needed, usually through the use of short-term debt. Between 2002 and 2003, both short-term and long-term debt decreased, 4.4 and 6.6 percent, respectively. Lenders would rather see a low ratio indicating the cooperative's ability to repay the loan. Overall, the debt ratio remained the same for both years (figure 2 and table 17). Reducing debt, increasing savings, or financing a greater portion of assets with working capital may improve this ratio.

Larger cooperatives financed more assets with debt, but the highest ratio for any cooperative size was still only 0.50 (table 15). Small cooperatives had the lowest use of debt at 0.31. By type, farm supply cooperatives had the lowest use of debt and mixed marketing cooperatives had the highest.

Debt-to-total equity ratio is calculated by dividing long-term debt by total member equity. This ratio shows the financial flexibility and the long-term capital structure of the cooperative. High ratios indicate inadequate borrowing power. Debt-to-total equity ratio increased slightly from 0.84 in 2002 to 0.85 in 2003 (figure 2 and table 17). A low ratio is more favorable and gives the cooperative independence from outside sources of funds relative to owners' equity. A low ratio may indicate low return on equity. Operationally, a low ratio tends to reduce interest cost. Improvement of the debt-to-total equity ratio may be gained by disposing of unproductive assets and using proceeds to liquidate debt, or accelerating payments

Table 15—**Financial analysis ratios by cooperative size, 2003**

Ratio	Small	Medium	Large	Super
Liquidity				
Current	2.03	1.58	1.38	1.27
Quick	0.99	0.83	0.71	0.59
Leverage				
Debt	0.31	0.36	0.41	0.50
Debt-to-total equity	0.45	0.56	0.69	1.00
Times-interest-earned	2.37	3.16	4.62	2.48
Activity				
Total-asset turnover	1.52	1.90	1.78	2.39
Fixed-asset turnover	7.00	7.27	6.72	8.68
Profitability				
Gross profit margin	16.25	13.46	14.89	9.66
Return-on-total-assets before interest & taxes	1.85	3.26	4.55	3.72
Return-on-total-equity	2.12	4.65	7.88	5.53

Table 16—**Financial analysis ratios by cooperative type, 2003**

Ratio	Farm supply	Mixed farm supply	Marketing	Mixed marketing
Liquidity				
Current	1.52	1.35	1.29	1.24
Quick	0.76	0.68	0.53	0.57
Leverage				
Debt	0.37	0.47	0.47	0.53
Debt-to-total equity	0.59	0.87	0.88	1.14
Times-interest-earned	4.57	3.00	2.54	1.55
Activity				
Total-asset turnover	1.68	1.94	3.35	2.44
Fixed-asset turnover	6.58	7.18	10.28	9.62
Profitability				
Gross profit margin	17.11	13.56	6.11	7.47
Return-on-total-assets before interest & taxes	4.59	4.12	3.73	2.29
Return-on-total-equity	7.17	6.60	5.76	1.96

on long-term loans. Other ways include increasing local equity by generating higher levels of local savings, slowing down equity retirement programs, selling additional capital stock, or retaining more allocated savings.

As cooperatives' size grew, so did their use of long-term debt. The ratio for small cooperatives was 0.45 and for super cooperatives was 1.00 (table 15). Marketing cooperatives had, at 1.14, the highest ratio by type, while farm supply cooperatives had the lowest at 0.57.

Times-interest-earned ratio is the number of times interest expense is covered by earnings. It is calculated by dividing earnings before interest and taxes by interest expense. A ratio of 1.0 or more indicates the ability of current earnings to pay current interest expenses. Lending institutions are more apt to loan to cooperatives whose times-interest-earned ratio is more than 1.0 because it shows their ability to pay interest payments. As a result, a lending institution may lend funds at lower rates more readily for capital improvements.

This ratio started on a downward slide in 1994 (figure 3). It enjoyed a short-lived rebound in 1997 before beginning another downward trend. This pattern seems to be starting again with another steep decline in 2000 and a very slight upward movement for 2001 and 2002 before another decline in 2003. Collecting old receivables, improving inventory turnover, disposing of assets and reducing debt with the proceeds, or reducing debt with working capital may improve this ratio. Financially, a high ratio affects the return on equity and tends to increase it. Operationally, a high ratio reduces interest cost.

Interest coverage was the greatest for medium and large cooperatives, with ratios of 3.16 and 4.62, respectively. By type, the ratio ranged from 1.55 for mixed marketing co-ops to 4.57 for farm supply cooperatives.

Activity Ratios—These ratios measure how well cooperatives use assets. A low ratio could mean that the cooperative is overcapitalized or that it is carrying too much inventory. However, a high ratio may be deceptive. A cooperative with fully depreciated older assets might have an artificially high ratio even though those assets were no longer operating efficiently.

Total-asset turnover ratio is found by dividing net sales by total cooperative assets. This ratio went up slightly from 1.91 in 2002 to 2.18 in 2003 (figure 4 and table 15). Total sales and total assets increased by 16.7 and 1.8 percent, respectively. A high ratio favorably influences finances through the reduction of financial leverage and/or increased return on equity. A high ratio operationally tends to reduce interest costs.

The ratio was higher for super-sized cooperatives (table 15). This ratio, at 2.39 percent, indicated the most efficient use of assets. By cooperative type, the total-asset turnover ratio was higher for marketing co-ops. The total-asset turnover ratio was lowest in 2002 at 1.91 and highest in 1996 at 2.47.

Fixed-asset turnover ratio represents net sales divided by net property, plant and equipment (PP&E).

Figure 2—**Debt-to-Total Equity and Debt Ratio**

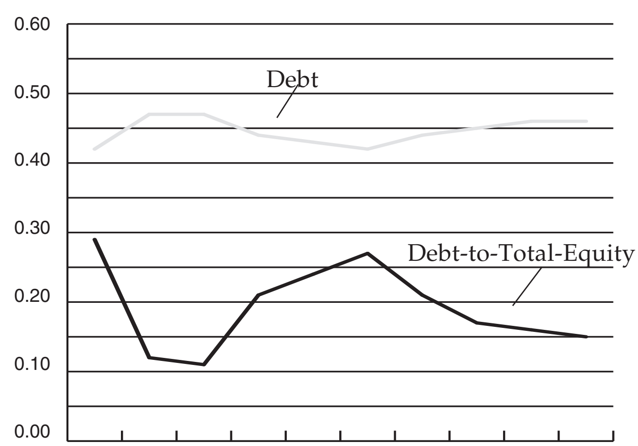
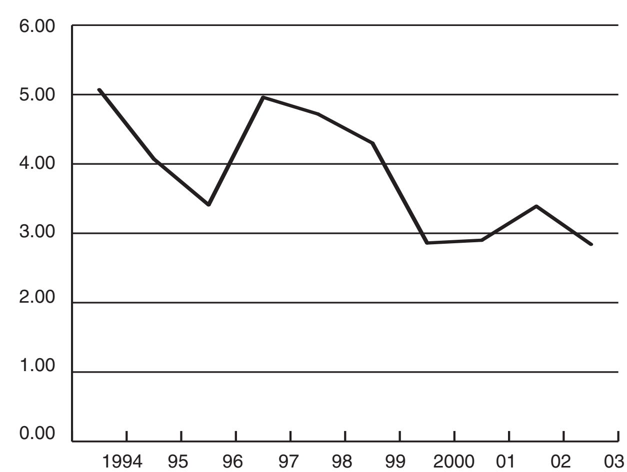


Figure 3—**Times Interest Earned**



This ratio is similar to the total-asset turnover ratio and shows how well the cooperative used its fixed assets. This ratio by itself might not give a complete picture of the cooperative's financial health. A cooperative with fully depreciated assets will have an artificially high ratio. A cooperative that invested heavily in PP&E for future expansion will have a temporarily low ratio.

After a high in 1996 of 9.78, the fixed-asset turnover ratio seesawed before becoming relatively steady from 1999 to 2001. There seems to be some recovery starting in 2000 (figure 4). Sales increased about 7 percent while investment in fixed assets decreased only slightly, 0.47 percent. The measure for this ratio may or may not show favorable conditions. An abnormally high ratio usually indicates very old, nearly depreciated fixed assets or the leasing of property and equipment.

By size, a fixed-asset-turnover ratio of 8.68 was greatest for super cooperatives. By type, the highest ratio was 10.28 for marketing cooperatives.

Financially, a high ratio is influenced favorably by increasing asset use, reducing financial leverage, and/or increasing return on equity. Operationally, a high ratio tends to reduce depreciation and interest costs. It may also increase costs related to operating leases, personnel and travel, or delivery expenses. This ratio may be improved by restricting further investments in fixed assets; redesigning production or office facilities to increase the sales- generating potential of

Table 17—**Financial analysis ratios for all cooperatives, 2002 and 2003**

Ratio	2002	2003
Current	1.33	1.34
Quick	0.63	0.64
Debt	0.46	0.46
Debt-to-total equity	0.84	0.85
Times-interest-earned	3.39	2.83
Total-asset turnover	1.91	2.18
Fixed-asset turnover	6.94	8.11
Gross profit margin	12.45	11.05
Return-on-total assets before interest & taxes	4.55	3.71
Return-on-total equity	7.48	5.63

Figure 4—**Times Interest Earned**

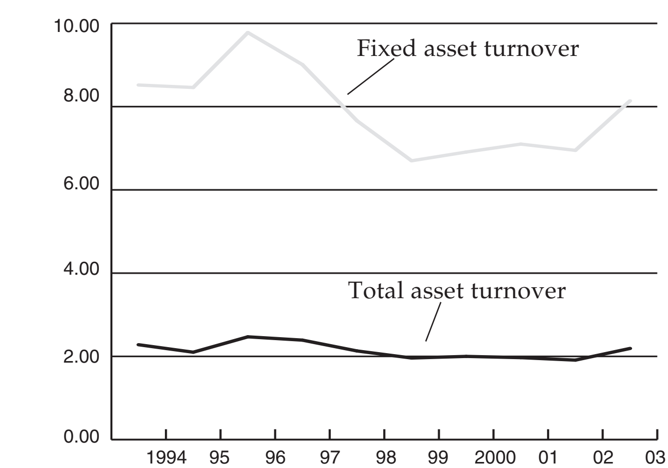
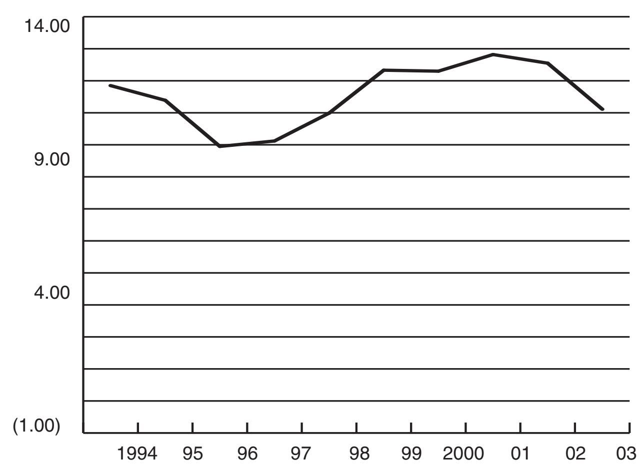


Figure 5—**Gross Margin Percent**



existing space and equipment; and/or selling idle machinery and parts, unused vehicles, and unnecessary equipment.

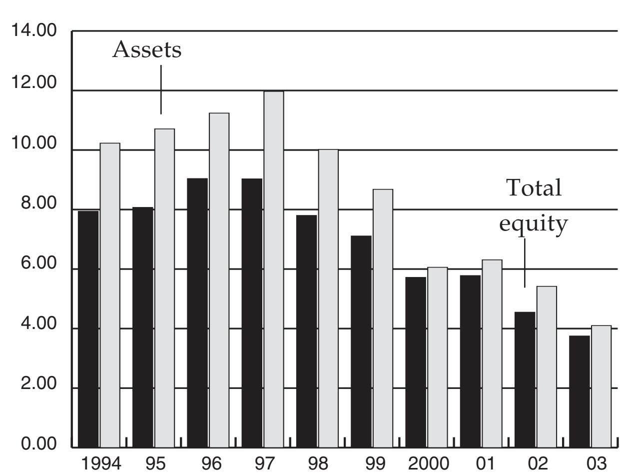
Profitability Ratios—These ratios, such as gross profit margin, indicate the efficiency of the cooperative's operations. Because a cooperative is owned by its user-members, many common industry profitability ratios have little meaning for it. For instance, profitability ratios measuring the return on common or preferred stock, as in similar investor-oriented firms, are not appropriate for co-ops because there is seldom an open market for cooperative stock.

Gross profit margin-an important operating ratio--is found by subtracting the cost of goods sold from net sales and then dividing that amount by net sales. A small change in the gross margin has a tremendous impact on local savings. It indicates the cooperative's pricing policy and cost of goods offered for sale.

For all cooperatives, the gross profit margin averaged 12.82 percent in 2001, the highest for the 10-year period (figure 5). By size, this margin was 16.25 for small co-ops and 14.89 for large cooperatives. Gross profit margin for medium cooperatives was 13.46 and for super cooperatives it was 9.66. Farm supply and mixed farm supply had the highest gross margin ratio, 17.11 and 13.56, respectively (table 16).

Return-on-total assets measures the rate of return on total investment. It is determined by dividing net income by total assets and is usually calculated before interest and taxes. This ratio is a measure of performance. It is not sensitive to the leverage position of the cooperative. Although some assets were financed through debt, the ratio measures return to both members and lenders. This ratio fell from 4.55 to 3.71 in the 2-year period (table 17).

Figure 6—**Return on Total Assets and Total Equity**



Net savings (before income taxes) decreased nearly 23 percent and interest expense decreased 0.06 percent from 2000 to 2003. For the decade--1994 to 2003--this ratio was highest in 1996 and 1997 before declining (figure 6). Operationally, a high ratio tends to reduce interest cost; financially, it indicates a comparatively high rate of return on assets employed.

Large-, super-, and medium-sized cooperatives had a higher return-on-total assets (table 15). Large-sized cooperatives had slightly higher returns at 4.55 percent. By cooperative type, return-on-total assets was 4.59 percent for farm supply co-ops, 4.12 percent for mixed farm supply co-ops, 3.73 percent for marketing co-ops; and 2.29 percent for mixed marketing cooperatives.

Return-on-total equity is net income divided by total equity. It represents members' investment in their cooperative and is an important measure of profitability.

This ratio went down between 2002 and 2003 (table 17). It is sensitive to the amount of debt capital in the cooperative and is best used in conjunction with other measures such as the return-on-total assets. Net savings decreased about 23 percent while total equity increased by little over 1 percent from 2002 to 2003.

Financially, a high return-on-total equity ratio is favorable and it tends to decrease financial leverage. However, a high ratio may also be a symptom of insufficient investment. Operationally, a high ratio tends to reduce interest cost over time, but it may occur when both total debt and interest costs are high. This ratio was highest in 1997 before declining.

This ratio increased as the size of the cooperative grew from small to large. Large cooperatives had the highest return-on-total equity: 7.88. Farm supply and mixed farm supply cooperatives' ratios were 7.17 and 6.60, while marketing and mixed marketing cooperatives' ratios were 5.76 and 1.96 (table 16).

Conclusions

Throughout the survey period (10 years), agricultural cooperatives continued to play a vital role in supplying goods and services to farmers and marketing their products. They were also important to rural communities, often being one of the largest employers, and provided considerable tax revenues. There has been extensive consolidation of local cooperatives during the past two decades, reflecting an attempt to maintain an adequate size so as to provide their members with expanded products and markets. In many consolidations, cooperatives maintained branch locations to better serve members.

Locals maintained strong ties to regional cooperatives and CoBank, through which they obtained products, gained marketing opportunities, or borrowed needed capital. Although patronage refunds from regionals to local cooperatives decreased in the 2-year period, they helped 16 cooperatives remain profitable. Locals, however, can't depend consistently on large patronage refunds, as shown by additional losses occurred by profitable cooperatives who had to write off equity due to large regionals going under.

Both current and total assets increased, by 5.7 and 1.8 percent, respectively, from 2002 to 2003. Investment in property, plant and equipment, grain and oilseed inventories, farm supply inventories, and accounts receivable for farm supply sales grew.

Current liabilities increased 5.1 percent in the 2-year period, with patrons' credit balances and accounts payable having the largest increase. Current term and seasonal short-term debt declined. Accrued expenses and “other” liabilities grew, as did all other liabilities.

Overall, owners' equity grew a little over 1 percent. As a percent of assets, owners' equity in all cooperative types and sizes changed little over the 2-year period. Also, through all size and type categories, members represented at least 47 percent ownership as a percent of total assets for both years. Members of small cooperatives had the highest percentage of ownership while those in super-size cooperatives had the lowest. Both types of farm supply co-ops had higher percentage of ownership than both kinds of marketing cooperative.

Net sales and cost of goods sold increased. Projected grain production and actual sales were up slightly, affecting feed sales, which were also up slightly in 2001. Gross margins vary not only by cooperative, but also by farm supplies sold or products marketed. Margins increased about 4 percent.

The impact on ratio analysis follows:

1) Liquidity ratios—current ratio (current assets/current liabilities) was fairly steady, ranging from 1.33 to 1.48. The quick ratio (current assets-inventory/current liabilities) mimicked the current ratio's trend;

2) Leverage ratios—debt ratio was highest in 1995 and 1996 at 0.47. This ratio was fairly steady over the 10-year period;

3) Activity ratios—total-asset turnover ratio was lowest in 2002 with a slight upturn in 2003. Total sales and total assets increased by 17 percent and about 2 percent, respectively. Cash was the current asset with the largest increase for the 2-year period;

4) Profitability ratios--return-on-total-assets ratio fell from 7.48 in 2002 to 3.71 in 2003-the lowest it's been in the 10-year period.

Cooperatives are owned by their farmer/member/patrons who want to own a business that will provide production supplies and market their products. In the interest of those member-owners, cooperatives will continue to adapt to changing economic conditions.

Appendix table 1—**Common-size balance sheets for *farm supply* cooperatives, 2003**

Item	Small	Medium	Large	Super
	Cooperative size			
	Percent of total assets			
Assets				
Current assets				
Cash and cash equivalents	8.37	5.30	5.57	3.86
Accounts receivable	10.24	11.56	9.81	9.47
Inventories—grains and oilseeds	0.00	0.11	0.00	0.04
—farm supplies	25.01	19.75	22.16	21.97
Prepaid expenses	1.39	2.81	2.74	1.48
Other current assets	3.22	2.08	5.91	2.93
Total current assets	48.23	41.61	46.19	39.75
Investments and other assets				
Investments	28.09	29.88	23.79	31.24
Other assets	2.64	2.72	3.02	2.40
Net property, plant, and equipment	21.04	25.79	27.00	26.61
Total assets	100.00	100.00	100.00	100.00
Liabilities and owner equities				
Current liabilities				
Current portion of long term debt	1.15	1.85	1.62	4.35
Notes payable seasonal	5.88	7.42	7.52	5.54
Accounts payable	8.48	8.30	9.34	9.42
Other liabilities	5.52	6.66	11.99	7.04
Accrued taxes	0.15	0.21	0.49	0.17
Accrued expenses	1.61	1.79	1.90	1.78
Patronage refunds (cash)	0.55	0.48	0.95	0.75
Total current liabilities	23.35	26.71	33.81	29.05
Long-term debt	6.40	8.06	7.42	10.76
Total liabilities	29.75	34.77	41.23	39.81
Owner equities				
Allocated equity	51.01	49.63	42.34	44.57
Unallocated equity	19.24	15.60	16.43	15.62
Total owner equities	70.25	65.24	58.77	60.19
Total liabilities and owner equities	100.00	100.00	100.00	100.00
Based on total assets of:	$1,970,762	$4,094,798	$8,119,071	$15,572,188
–Number	68	36	31	9

Appendix table 2—**Common-size balance sheets for *mixed farm supply* cooperatives, 2003**

Item	Small	Medium	Large	Super
	Cooperative size			
	Percent of total assets			
Assets				
Current assets				
Cash and cash equivalents	12.60	3.97	4.51	4.04
Accounts receivable	13.72	13.03	13.34	12.02
Inventories—grains and oilseeds	-0.46	4.48	5.74	7.55
—farm supplies	23.01	19.85	16.19	16.25
Prepaid expenses	0.67	0.96	0.41	1.22
Other current assets	1.54	5.72	2.96	7.54
Total current assets	51.08	48.01	43.15	48.62
Investments and other assets				
Investments	20.36	26.51	26.65	21.63
Other assets	2.83	1.16	3.38	2.43
Net property, plant, and equipment	25.73	24.32	26.82	27.32
Total assets	100.00	100.00	100.00	100.00
Liabilities and owner equities				
Current liabilities				
Current portion of long term debt	4.02	4.86	3.68	5.04
Notes payable seasonal	9.31	7.62	11.39	13.00
Accounts payable	7.89	8.33	7.31	8.47
Patrons credit balances & other liabilities	3.74	9.85	6.68	7.82
Accrued taxes	0.12	0.12	0.45	0.41
Accrued expenses	1.37	1.27	1.43	1.80
Patronage refunds (cash)	0.91	0.27	1.05	0.52
Total current liabilities	27.36	32.32	29.99	37.06
Long term debt	11.82	7.35	8.98	12.10
Total liabilities	39.18	39.67	38.97	49.16
Owner equities				
Allocated equity	44.96	42.86	43.05	37.64
Unallocated equity	15.86	17.47	17.98	13.20
Total owner equities	60.82	60.33	61.03	50.84
Total liabilities and owner equities	100.00	100.00	100.00	100.00
Based on total assets of:	$1,533,423	$3,304,244	$8,075,892	$22,449,536
Total owner equities	60.82	60.33	61.03	50.84
–Number	10	11	21	28

Appendix table 3—**Common-size balance sheets for *mixed marketing* cooperatives, 2003**

Item	Cooperative size			
	Small	Medium	Large	Super
	Percent of total assets			
Assets				
Current assets				
Cash and cash equivalents	11.99	6.51	3.79	2.28
Accounts receivable	3.34	13.45	21.13	6.35
Inventories—grains and oilseeds	15.83	13.09	8.88	17.97
—farm supplies	15.30	8.81	9.88	9.14
Prepaid expenses	0.43	0.49	5.64	0.95
Other current assets	5.43	6.23	7.70	7.94
Total current assets	52.41	48.58	57.02	44.63
Investments and other assets				
Investments	20.27	14.22	24.42	21.80
Other assets	0.00	0.11	0.13	0.81
Net property, plant, and equipment	27.32	37.09	18.43	32.76
Total assets	100.00	100.00	100.00	100.00
Liabilities and owner equities				
Current liabilities				
Current portion of long term debt	1.94	1.96	0.92	2.82
Notes payable seasonal	2.10	2.24	8.30	8.22
Accounts payable	10.67	2.75	15.12	4.74
Patrons credit balances & other liabilities	11.64	13.24	15.03	17.09
Accrued taxes	0.49	0.25	0.11	0.81
Accrued expenses	0.55	1.32	1.34	1.51
Patronage refunds (cash)	0.50	0.68	2.04	0.80
Total current liabilities	27.89	22.44	42.86	35.99
Long term debt	9.60	9.87	0.00	12.16
Total liabilities	37.49	32.31	42.86	48.15
Owner equities				
Allocated equity	48.70	33.77	44.90	33.86
Unallocated equity	13.81	33.92	12.24	17.99
Total owner equities	62.51	67.69	57.14	51.85
Total liabilities and owner equities	100.00	100.00	100.00	100.00
Based on total assets of:	$1,607,447	$2,891,123	$3,602,874	$16,586,459
–Number	4	6	2	17

Appendix table 4—**Common-size balance sheets for *marketing* cooperatives, 2003**

Item	Small	Medium	Large	Super
	Percent of total assets			
Assets				
Current assets				
Cash and cash equivalents	40.25	9.80	7.03	4.13
Accounts receivable	7.61	9.09	10.53	8.42
Inventories—grains and oilseeds	23.33	9.15	17.27	17.10
—farm supplies	0.00	13.56	7.14	12.55
Prepaid expenses	0.67	2.50	0.46	2.32
Other current assets	7.28	6.45	11.49	9.19
Total current assets	79.14	50.54	53.92	53.71
Investments and other assets				
Investments				
other cooperatives	3.88	25.63	21.60	19.68
Other assets	0.00	0.64	1.43	1.20
Net property, plant, and equipment	16.98	23.19	23.05	25.59
Total assets	100.00	100.00	100.00	100.00
Liabilities and owner equities				
Current liabilities				
Current Portion of long term debt	0.00	3.09	1.64	8.62
Notes payable seasonal	0.00	0.00	18.14	13.90
Accounts payable	1.31	6.17	3.78	6.14
Patrons credit balances & other liabilities	42.61	14.42	17.40	12.25
Accrued taxes	0.42	0.26	0.72	0.84
Accrued expenses	0.25	0.90	1.02	1.72
Patronage refunds (cash)	0.68	0.59	0.49	0.53
Total current liabilities	45.27	32.21	43.19	44.00
Long term debt	1.57	5.76	4.95	10.44
Total liabilities	46.84	37.97	48.14	54.44
Owner equities				
Allocated equity	32.31	39.20	32.93	33.39
Unallocated equity	20.85	22.83	18.93	12.17
Total owner equities	53.16	62.03	51.86	45.56
Total liabilities and owner equities	100.00	100.00	100.00	100.00
Based on total assets of:	$1,649,127	$3,345,762	$5,723,289	$20,591,484
–Number	1	9	6	29

Cooperative size: Small, Medium, Large, Super.

Appendix table 5—**Abbreviated income statement as a percent of net sales for *farm supply* cooperatives, 2003**

	Cooperative size			
	Small	Medium	Large	Super
	Percent of net sales			
Net sales	100.00	100.00	100.00	100.00
Cost of goods sold	82.34	83.69	82.61	83.00
Gross margin	17.66	16.31	17.39	17.00
Service and other income	3.53	3.47	3.55	4.62
Gross revenue	21.19	19.78	20.94	21.62
Operating expenses				
Employee[1]	11.23	9.80	10.27	10.35
Administrative[2]	1.23	1.06	0.89	0.85
General[3]	5.04	4.98	4.99	5.08
Depreciation	2.15	2.11	2.28	2.26
Interest	0.53	0.57	0.53	0.80
Bad debts	0.27	0.13	0.25	0.22
Total expenses	20.45	18.65	19.21	19.56
Local savings	0.75	1.14	1.74	2.06
Patronage refunds received	0.05	0.46	0.64	1.22
Savings before income taxes	0.80	1.60	2.38	3.28
Less income taxes	-0.01	0.08	0.14	0.43
Net income	0.81	1.52	2.24	2.85
Based on sales of:	$2,823,357	$6,973,042	$13,905,800	$28,229,240

[1] Employee expenses include salaries and wages, payroll taxes, employee insurance, unemployment compensation, and pension expense.
[2] Administrative costs include professional services, office supplies, telephone, meetings and travel, donations, dues and subscriptions, directors' fees and expense, and annual meetings.
[3] General expenses include advertising and promotion, delivery (auto and truck), insurance, property, business and other taxes and licenses, rent and lease expenses, plant supplies and repairs, repairs and maintenance, utilities, miscellaneous, and other.

Appendix table 6—**Abbreviated income statement as a percent of net sales for *mixed farm supply* cooperatives, 2003**

	Cooperative size			
	Small	Medium	Large	Super
	Percent of net sales			
Net sales	100.00	100.00	100.00	100.00
Cost of goods sold	87.31	87.12	85.51	86.60
Gross margin	12.69	12.88	14.49	13.40
Service and other income	5.60	4.32	6.31	4.36
Gross revenue	18.29	17.20	20.80	17.76
Operating expenses				
Employee[1]	9.78	8.41	9.98	8.70
Administrative[2]	1.27	0.92	0.88	0.73
General[3]	4.90	5.79	5.29	4.45
Depreciation	1.64	1.81	2.46	2.06
Interest	0.42	0.59	0.65	0.73
Bad debts	0.11	0.01	0.12	0.14
Total expenses	18.12	17.53	19.38	16.81
Local savings	0.17	-0.33	1.42	0.95
Patronage refunds received	0.86	1.38	0.25	0.44
Savings before income taxes	1.03	1.05	1.67	1.39
Less income taxes	0.06	-0.07	0.15	0.08
Net income	0.97	1.12	1.52	1.31
Based on sales of:	$2,905,643	$6,696,847	$13,627,930	$45,064,325

[1] Employee expenses include salaries and wages, payroll taxes, employee insurance, unemployment compensation, and pension expense.
[2] Administrative costs include professional services, office supplies, telephone, meetings and travel, donations, dues and subscriptions, directors' fees and expense, and annual meetings.
[3] General expenses include advertising and promotion, delivery (auto and truck), insurance, property, business and other taxes and licenses, rent and lease expenses, plant supplies and repairs, repairs and maintenance, utilities, miscellaneous, and other.

Appendix table 7—**Abbreviated income statement as a percent of net sales for *mixed marketing* cooperatives, 2003**

	Cooperative size			
	Small	Medium	Large	Super
	Percent of net sales			
Net sales	100.00	100.00	100.00	100.00
Cost of goods sold	92.68	93.00	96.00	93.88
Gross margin	7.32	7.00	4.00	6.12
Service and other income	4.16	3.53	1.43	3.39
Gross revenue	11.48	10.53	5.43	9.51
Operating expenses				
Employee[1]	5.36	4.20	2.39	3.71
Administrative[2]	0.67	0.45	0.20	0.26
General[3]	4.43	3.12	1.24	2.94
Depreciation	2.13	1.81	0.79	1.38
Interest	0.62	0.53	0.05	0.44
Bad debts	0.01	0.05	0.00	0.02
Total expenses	13.24	10.61	5.12	8.75
Local savings	-1.76	0.37	0.75	0.75
Patronage refunds received	0.26	0.01	0.58	-0.05
Savings before income taxes	-1.50	0.38	1.33	0.70
Less income taxes	0.01	0.10	0.03	0.08
Net income	-1.51	0.28	1.30	0.62
Based on assets of:	$3,662,980	$8,270,911	$16,241,069	$55,961,768

[1] Employee expenses include salaries and wages, payroll taxes, employee insurance, unemployment compensation, and pension expense.

[2] Administrative costs include professional services, office supplies, telephone, meetings and travel, donations, dues and subscriptions, directors' fees and expense, and annual meetings.

[3] General expenses include advertising and promotion, delivery (auto and truck), insurance, property, business and other taxes and licenses, rent and lease expenses, plant supplies and repairs, repairs and maintenance, utilities, miscellaneous, and other.

Appendix table 8—**Abbreviated income statement as a percent of net sales for *marketing* cooperatives, 2003**

	Cooperative size			
	Small	Medium	Large	Super
	Percent of net sales			
Net sales	100.00	100.00	100.00	100.00
Cost of goods sold	93.94	92.04	93.23	92.51
Gross margin	6.06	7.96	6.77	7.49
Service and other income	3.04	5.00	4.57	4.62
Gross revenue	9.10	12.96	11.34	12.11
Operating expenses				
Employee[1]	3.25	5.88	4.33	5.09
Administrativ[2]	0.39	0.78	0.45	0.41
General[3]	3.07	3.25	3.20	3.71
Depreciation	0.65	1.85	1.74	1.63
Interest	0.00	0.40	0.53	0.62
Bad debts	0.00	0.36	0.12	0.07
Total expenses	7.36	12.52	10.37	11.53
Local savings	1.74	0.45	0.96	0.57
Patronage refunds received	0.10	-0.19	0.43	-0.29
Savings before income taxes	1.84	0.26	1.39	0.28
Less income taxes	0.13	0.01	0.19	0.06
Net income	1.71	0.25	1.20	0.22
Based on sales of:	$3,641,787	$7,112,863	$12,430,013	$50,838,899

[1] Employee expenses include salaries and wages, payroll taxes, employee insurance, unemployment compensation, and pension expense.
[2] Administrative costs include professional services, office supplies, telephone, meetings and travel, donations, dues and subscriptions, directors' fees and expense, and annual meetings.
[3] General expenses include advertising and promotion, delivery (auto and truck), insurance, property, business and other taxes and licenses, rent and lease expenses, plant supplies and repairs, repairs and maintenance, utilities, miscellaneous, and other.

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.