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BUSINESS ANALYSIS
OF
MINNESOTA COOPERATIVE ELEVATOR ASSOCIATIONS

by
Rex W. Cox

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Department of Agricultural Economics
University Farm
St. Paul 1, Minnesota

Summary

The net capital invested in Minnesota cooperative elevator associations averaged \$190,712 at the end of the fiscal year, 1951-52, ranging from \$45,000 to almost \$475,000. Almost all assets have increased in recent years with fixed assets showing both the largest absolute and proportional gain.

Total assets increased 61 per cent from 1948 to 1952. Operating capital represented by current assets constituted 60 per cent of the total compared with 70 per cent in 1948. Accounts receivable from patrons, one of the important items of operating capital, averaged \$17,209 or double the amount in 1948. Almost one-fifth of the associations had accounts receivable exceeding \$28,000. The over-extension of credit to purchasers of merchandise with the accompanying difficulty of maintaining collections is one of the more serious problems of management. This is well evidenced by the fact that for more than two-fifths of the associations, the days sales outstanding in receivables were 50 or more.

Of the total capital required, an average of 34 per cent was used for fixed assets. The original investment in these items excluding land was \$91,909 per association, but almost one-third of this had been depreciated leaving a net value of \$65,183.

Capital supplied by creditors amounted to \$87,312 an increase of 75 per cent since 1948. The proportion of the capital supplied by creditors, however, changed only slightly, rising from 42 per cent to 46 per cent.

The items comprising net worth averaged \$103,400. For individual associations, net worth varied from a deficit to almost \$200,000. Capital stock, including both common and preferred, and capital stock credits accounted for almost two-fifths of net worth. Patrons' equity reserves also accounted for about the same proportion.

A comparison of the important financial ratios for 1948 with 1952, indicates in general that the financial status and operation was much less favorable in the latter year. The averages were substantially lower, and the proportion of associations with the lower level of ratios was sharply higher. The marked decline in the current ratio for a number of associations indicates more attention should be focused on the maintenance of working capital. The decline in the ratio of net worth to debt constitutes a warning to some associations that maintaining the solvency of the associations may be a problem. A larger proportion of member capital is needed in many of these associations.

The marked change in the ratio of sales to fixed assets in recent years was due to the drop in value of sales and the large increase in the valuation of fixed assets. Although the lower level of this ratio does not necessarily mean inefficiency in the uses of fixed assets, the trend may be significant.

Sales of grain averaged \$573,960 per association in 1951-52 or 19 per cent less than in 1947-48. Sales of merchandise averaged \$126,806 or almost 9 per cent more than in the former period. The total gross margin averaged \$48,491 or 6.8 per cent of total sales and income received from the various services. The corresponding figure in 1947-48 was 5 per cent. In 1947-48 the gross margin was equally divided between operating expenses and operating income. In 1951-52, expenses utilized about two-thirds of the gross margin.

Labor and management expense represented about 47 per cent of operating expenses. Probably the best way to attack high operating costs among those associations with adequate volume is to obtain a more efficient utilization of labor.

The net margins averaged \$16,176 and ranged from losses to almost \$113,000. The proportions of associations experiencing a loss in 1951-52 was about twice the number in 1947-48. One-tenth of the associations in both years had a net margin of \$40,000 or more.

BUSINESS ANALYSIS OF MINNESOTA COOPERATIVE ELEVATOR ASSOCIATIONS ^{1/}

Rex W. Cox

Farmers organized and invested their funds in cooperative elevator associations for better results in marketing grain. Skillful use and preservation of this investment are of major concern to the members of these associations. This report presents an analysis of the financial organization and operation of a representative group of Minnesota cooperative elevator associations. These associations are a random selection from a total of 256 cooperative elevator associations in this state. In the tables which follow, the original data obtained from the annual financial statements and audits of the sample group of elevators have been employed to estimate averages for the 256 associations.

The operation of elevators is influenced by the type of farming and kinds of grain grown in the community, the volume of business, and the relative importance of the grain business compared with the merchandising business. In consequence, the state has been divided in three areas and tables have been prepared which show the situation in each area as well as for the state as a whole.

A similar study of approximately the same group of elevator associations was made for the fiscal year, 1947-48. It is possible, therefore to present some interesting comparisons for the two fiscal years, 1947-48 and 1951-52 and to point out the important trends.

ASSETS

The net capital invested in cooperative elevator associations averaged \$190,712 at the end of the fiscal year 1951-52 (table 1). This represents a 61 per cent increase from the end of the fiscal year 1947-48. Almost all assets increased between the two periods. The largest proportional as well as absolute increase was in the valuation of net fixed assets which more than doubled. The total capital of individual associations in 1952 ranged from \$45,000 to almost \$475,000 with the most usual amounts between \$100,000 and \$150,000 (table 2).

^{1/} Credit is due to Dr. E. Fred Koller, Department of Agricultural Economics, for his assistance in the analysis of the data.

Table 1. Asset Values of Minnesota Cooperative Elevator Associations, 1948 and 1952.

	Area 1		Area 2		Area 3		All Areas	
	1952		1952		1952		1948	
	Average Per cent Value of total assets		Average Per cent Value of total assets		Average Per cent Value of total assets		Average Per cent Value of total assets	
Current Assets								
Cash	\$ 7,818	4.0	\$ 12,767	6.4	\$ 5,380	3.7	\$ 7,926	6.7
Accounts receivable-patrons	13,808	7.0	17,564	8.8	24,905	17.3	9,269	7.8
Less reserve for bad debts	<u>144</u>	*	<u>291</u>	<u>.2</u>	<u>462</u>	<u>.3</u>	<u>277</u>	<u>.2</u>
Net accounts receivable	\$ 13,664	7.0	\$ 17,273	8.6	\$ 24,443	17.0	\$ 8,992	7.6
Accounts receivable-commission companies	\$ 11,348	5.8	\$ 5,333	2.7	\$ 4,654	3.2	\$ 14,143	11.9
Notes receivable	1,121	.6	580	.3	260	.2	1,202	1.0
Inventory-grain	72,886	37.3	60,518	30.2	20,858	14.5	36,188	30.5
Inventory-merchandise	8,117	4.1	22,918	11.4	19,305	13.4	12,645	10.7
Other current assets	<u>3,442</u>	<u>1.8</u>	<u>1,516</u>	<u>.7</u>	<u>917</u>	<u>.6</u>	<u>454</u>	<u>.4</u>
Total Current Assets	\$118,396	60.6	\$120,905	60.3	\$ 75,816	52.6	\$ 81,551	68.8
Investments								
Other cooperatives	\$ 11,832	6.1	\$ 10,938	5.5	\$ 709	.5	\$ 4,907	4.1
Other investments	<u>214</u>	<u>.1</u>	<u>365</u>	<u>.2</u>	<u>*</u>	<u>*</u>	<u>1,048</u>	<u>.8</u>
Total Investments	\$ 12,046	6.2	\$ 11,303	5.7	\$ 709	.5	\$ 5,955	4.9
Fixed Assets								
Buildings and equipment	\$ 84,351	43.2	\$ 96,289	48.1	\$ 91,332	63.4	\$ 45,512	38.4
Less reserve for depreciation	22,532	11.5	29,607	14.8	24,589	17.1	15,216	12.8
Net buildings and equipment	61,819	31.7	66,682	33.3	66,743	46.3	30,296	25.6
Land	<u>270</u>	<u>.1</u>	<u>530</u>	<u>.2</u>	<u>350</u>	<u>.3</u>	<u>370</u>	<u>.3</u>
Total Fixed Assets	\$ 62,089	31.8	\$ 67,212	33.5	\$ 67,093	46.6	\$ 30,666	25.9
Other Assets								
Prepaid expenses	\$ 614	.3	\$ 673	.3	\$ 214	.2	\$ 361	.3
Other	<u>2,042</u>	<u>1.1</u>	<u>392</u>	<u>.2</u>	<u>198</u>	<u>.1</u>	<u>109</u>	<u>.1</u>
Total Other Assets	\$ 2,656	1.4	\$ 1,065	.5	\$ 412	.3	\$ 470	.4
Total All Assets	\$195,187	100.0	\$200,485	100.0	\$144,029	100.0	\$118,642	100.0

* Less than .05

Table 2. Total Assets of Minnesota Cooperative Elevator Associations.

Assets	Area 1	Area 2	Area 3	All Areas
	Percent of all associations			
Less than \$50,000	-	-	10.8	1.6
50,000 - 99,999	32.5	11.4	36.1	21.3
100,000 - 149,999	22.2	34.0	14.4	27.6
150,000 - 199,999	6.7	24.8	27.9	19.7
200,000 - 249,999	13.5	7.8	-	8.4
250,000 - 299,999	5.1	6.4	-	5.1
300,000 - and over	20.0	15.6	10.8	16.3
Total	100.0	100.0	100.0	100.0

Invested capital requirements are influenced greatly by the annual volume of business. As the dollar volume of business increased from less than \$400,000 to more than \$1,600,000, the total invested capital increased from \$102,200 to \$406,700 (table 3).

Table 3. Relation Between Value of Sales and Total Amount of Capital Required

Volume of sales	Total assets
Less than \$400,000	\$102,200
400,000 - 799,999	171,500
800,000 - 1,199,999	268,600
1,200,000 - 1,599,999	311,400
1,600,000 and above	406,700

Operating Capital

The operating capital of Minnesota cooperative elevator associations, including cash, receivables, inventories and other current items represented 60 per cent of the total capital.

Cash

Of the current assets, cash averaged slightly more than \$10,000 constituting 5 per cent of total assets and almost 9 per cent of current assets. This item, however, varies widely among associations. In some cases it represents only the cash on hand inasmuch as practically all funds are on deposit with the terminal agency. In others, overdrafts and outstanding checks exceed the cash on deposit in banks.

Accounts receivable-patrons

Accounts receivable from patrons which represent mainly credit sales of merchandise averaged \$17,209 or 15.1 per cent of current assets. More than 36 per cent of the associations had outstanding accounts of \$16,000 or more (table 4). In

the southeast area where merchandise sales constitute a higher proportion of total sales than in other areas, about three-fifths of the associations had accounts receivable of \$16,000 or more.

Table 4. Patrons' Accounts Receivable

Patrons' accounts receivable	Area 1	Area 2	Area 3	All areas	
	1952	1952	1952	1948	1952
Per cent of all associations					
Less than \$ 2,000	5.4	2.8	14.4	14.5	5.3
2,000 - 5,999	48.5	19.9	10.8	34.4	26.9
6,000 - 9,999	8.1	17.0	-	29.3	11.9
10,000 - 15,999	13.3	24.1	14.4	11.7	19.5
16,000 - 27,999	6.3	21.3	24.4	5.8	17.3
28,000 - 39,999	9.7	5.7	25.2	2.3	9.8
40,000 - and over	8.7	9.2	10.8	2.0	9.3
Total	100.0	100.0	100.0	100.0	100.0

Wide variations also exist among the associations regarding the proportion accounts receivable are of the total current assets. For all areas, accounts receivable of about one-third of the associations represented 20 per cent or more of the current assets. The outstanding accounts of more than three-fourths of the associations in Area 3 were 20 per cent or more of the current assets (table 5). For many associations accounts receivable were a larger proportion of current assets in 1952 than in 1948.

Table 5. Proportion Patrons' Accounts Receivable
are of Total Current Assets

Proportion of current assets	Area 1	Area 2	Area 3	All areas	
	1952	1952	1952	1948	1952
Per cent of all associations					
Less than 2.5	12.5	2.3	-	13.2	5.2
2.5 - 4.9	12.5	9.1	11.1	11.4	10.4
5.0 - 9.9	16.7	18.2	11.1	23.1	16.9
10.0 - 19.9	25.0	40.9	-	30.9	31.2
20.0 - 29.9	29.2	20.4	22.2	15.2	23.3
30.0 and over	4.1	9.1	55.6	6.2	13.0
Total	100.0	100.0	100.0	100.0	100.0

The extension of credit by cooperative associations to the purchasers of merchandise, and particularly the over-extension of credit with accompanying difficulty of maintaining collections, constitutes one of the most serious problems of financial management of many associations. The status of Minnesota cooperative elevator associations in this respect and the change which has occurred since 1948 is fairly well revealed in table 6 which shows the days sales outstanding in receivables.

Almost all associations aim to limit credit to a 30-day maximum. In the case of almost three-fourths of the associations in 1952, however, the days sales outstanding exceeded 30 days and in 15 per cent of the associations the figure was 90 days and over. In 1948, less than one-half of the associations had days sales out-

standing exceeding 30 days and for 11 per cent of the associations the figure was 90 days or more.

Table 6. Days Sales Outstanding in Patrons' Accounts Receivable

Days sales outstanding in receivables	1948	1952
	Per cent of all associations	
Less than 10.0	13.1	6.8
10 - 29	44.4	20.0
30 - 49	21.0	30.9
50 - 69	2.8	26.2
70 - 89	7.9	.8
90 and over	10.8	15.3
Total	100.0	100.0

Too much emphasis cannot be given to the recommendation that the board of directors establish and maintain a strict credit policy if serious difficulty is to be avoided. Whatever the policy, it should be defined by the board and the manager given the responsibility of administering it. A helpful procedure in providing information on the status of accounts receivable is the aging of these accounts at periodic intervals. This is being done annually by about one half of the associations included in the study. Many of the associations which have quarterly or semi-annual audits age the accounts as frequently.

It should be noted that only 20 per cent of the associations among those included in the sample set up a reserve for bad debts. This means that most associations have made no advance preparation to take care of possible losses from bad debts. Such provisions are good business at a time when producers are faced with a cost-price squeeze.

Inventories

Inventories of grain averaged three times those of merchandise. Both inventories combined accounted for about two-thirds of the current assets. As indicated by the amount of storage liability, about one-half of the average grain inventory was owned by others.

Investments

Investments of cooperative associations were confined principally to those in other cooperative associations, the major portion of which represented preferred stock in the Farmers Union Grain Terminal Association.

Fixed Assets

Of the total capital required by elevator associations, an average of 34 per cent was used for fixed assets in the form of land, buildings and equipment. The corresponding figure in 1948 was 26 per cent. The original capital investment in these items excluding land was \$91,909 per association but almost one-third of this has been depreciated, leaving a net value of \$65,183.

All associations set up a reserve for depreciation. It amounts to less than 20 per cent of the original value of fixed assets in the case of one-sixth but exceeded 50 per cent in about one-tenth of the associations (table 7). The average for all associations was 29 per cent.

Table 7. Proportion Reserve for Depreciation
is of Original Cost of Fixed Assets

Per cent reserve is of original cost	1948	1952
	Per cent of all associations	
Less than 10	3.2	1.3
10.0 - 19.9	13.2	15.6
20.0 - 29.9	24.0	32.4
30.0 - 39.9	17.3	24.7
40.0 - 49.9	24.9	14.3
50.0 - 59.9	11.3	7.8
60.0 and over	6.1	3.9
Total	100.0	100.0

SOURCES OF CAPITAL

Capital Supplied by Creditors

Capital supplied by creditors as indicated by the total liabilities increased 75 per cent from 1948 to 1952 (table 8). The proportion of the capital requirements supplied by creditors changed only slightly, rising from 42 to 46 per cent. The proportion, however, rose sharply in Areas 1 and 3 but remained about the same in Area 2.

Most of the financing by creditors is on a short term basis. The most important source of financing is the grain commission companies. If storage liabilities were omitted from current liabilities and considered as a subtraction from the grain inventory, accounts payable to commission companies would average 42 per cent of the resulting current liabilities. Many associations depend almost entirely on commission firms for financing their current operations.

While bank overdrafts do not represent formal borrowing they do indicate a temporary indebtedness to banks and as such constitute an important source of financing by creditors.

Although the funds obtained from patrons and on open accounts with the suppliers of merchandise show an upward trend, they still represent only minor sources of financing.

Capital Supplied by Members

Members and patrons have furnished the largest proportion of the capital of these associations through the purchase of capital stock and the creation of net worth reserves and surplus. The items which comprise net worth averaged \$103,400 in 1952, about double the amount in 1948. For individual associations, net worth varied from a deficit to almost \$200,000. In 1948, net worth of 70 per cent of the associations was less than \$75,000, and that of 9 per cent was \$150,000 or more.

Table 8. Liabilities and Net Worth Values of Minnesota Cooperative Elevator Associations, 1948 and 1952.

	Area 1			Area 2			Area 3			All Areas						
	1952			1952			1952			1948			1952			
	Average Per cent Value of total assets	Average Per cent Value of total assets	Average Per cent Value of total assets	Average Per cent Value of total assets	Average Per cent Value of total assets	Average Per cent Value of total assets	Average Per cent Value of total assets	Average Per cent Value of total assets	Average Per cent Value of total assets	Average Per cent Value of total assets	Average Per cent Value of total assets	Average Per cent Value of total assets	Average Per cent Value of total assets	Average Per cent Value of total assets		
Current Liabilities																
Bank overdrafts	\$ 16,018	8.2		\$ 12,158	6.1		\$ 5,590	3.9		\$ 12,775	10.8	\$ 12,385	6.5			
Accounts payable—patrons	1,962	1.0		1,248	.6		1,525	1.1		215	.2	1,506	.8			
Accounts payable—commission companies	14,650	7.5		24,484	12.2		16,505	11.5		9,919	8.3	20,334	10.7			
Accounts payable—general	405	.2		1,935	1.0		9,738	6.8		518	.4	2,597	1.4			
Notes payable	31	*		6,723	3.4		4,077	2.8		566	.5	4,302	2.2			
Interest payable	235	.1		935	.4		1,678	1.2		688	.6	829	.4			
Storage liability	52,276	26.8		22,969	11.4		4,532	3.1		13,910	11.7	29,233	15.3			
Patronage dividends payable	7,944	4.1		5,450	2.7		1,075	.7		6,121	5.2	5,577	2.9			
Other current liabilities	885	.5		1,721	.9		1,789	1.2		1,276	1.1	1,475	.8			
Total Current Liabilities	\$ 94,406	48.4		\$ 77,621	38.7		\$ 46,509	32.3		\$ 45,984	38.8	\$ 78,238	41.0			
Long Term Liabilities																
Notes and mortgages	\$ 4,938	2.5		\$ 7,876	3.9		\$ 439	.3		\$ 2,852	2.4	\$ 5,906	3.1			
Others	3,599	1.8		3,760	1.9		-	-		1,051	.9	3,168	1.7			
Total Long Term Liabilities	\$ 8,537	4.3		\$ 11,636	5.8		\$ 439	.3		\$ 3,903	3.3	\$ 9,074	4.8			
Total Liabilities	\$102,943	52.7		\$ 89,257	44.5		\$ 46,948	32.6		\$ 49,887	42.1	\$ 87,312	45.8			
Net Worth																
Preferred stock	\$* 5,267	2.7		\$ 6,212	3.1		\$ 2,277	1.6		\$ 2,223	1.9	\$ 5,356	2.8			
Common stock	14,310	7.3		21,775	10.9		37,516	26.0		16,688	14.1	21,776	11.4			
Stock credit	14,134	7.3		10,439	5.2		9,206	6.4		4,655	3.9	11,387	6.0			
Patron equity reserve	30,840	15.8		46,203	23.0		27,829	19.3		27,943	23.5	38,867	20.4			
Statutory reserve	2,616	1.3		575	.3		95	.1		431	.4	1,128	.6			
Other net worth reserve	750	.4		3,151	1.6		62	-		1,317	1.1	1,973	1.0			
Certificates of equity	672	.4		4,324	2.2		149	.1		130	.1	2,607	1.4			
Surplus	18,718	9.6		16,485	8.2		14,675	10.2		12,762	10.7	16,902	8.8			
Undistributed net margins	4,937	2.5		2,067	1.0		5,273	3.7		2,603	2.2	3,404	1.8			
Total Net Worth	\$ 92,244	47.3		\$111,229	55.5		\$ 97,082	67.4		\$ 68,754	57.9	\$103,400	54.2			
Total Liabilities and Net Worth	\$195,187	100.0		\$200,486	100.0		\$144,030	100.0		\$118,641	100.0	\$190,712	100.0			

* Less than .05 per cent

The corresponding figures for 1952 were 43 per cent and about 18 per cent, respectively (table 9).

Table 9. Net Worth of Minnesota Cooperative Elevator Associations.

Amount of net worth	1948	1952
	Per cent of all associations	
Less than \$25,000	7.8	1.6
25,000 - 49,999	34.4	18.2
50,000 - 74,999	28.1	23.1
75,000 - 99,999	7.8	19.5
100,000 - 124,999	12.1	12.2
125,000 - 149,999	.8	6.9
150,000 - and over	9.0	18.5
Total	100.0	100.0

Capital stock, including both common and preferred, and capital stock credits provided on the average \$38,519, or 20 per cent of the capital. Although this amount was 63 per cent larger than in 1948, there was only slight change in the proportion that it was of total net worth.

Patronage refunds retained in the business which are shown as patrons' equity reserve on the balance sheet increased substantially from 1948-1952, amounting to 20 per cent of the total assets and almost two fifths of the total net worth.

The unallocated surplus of \$16,902 was about 9 per cent of the total assets. Although the average was one-third larger than in 1948, this item in many associations has changed only slightly during recent years because all savings are distributed as interest on capital stock, stock credits, cash patronage refunds, or allocated to the patron in some reserve account. Net margins which remain in an unallocated surplus account are subject to income taxes.

FINANCIAL RELATIONSHIPS

A strong financial condition of elevator associations requires that certain minimum standard relationships be maintained between various balance sheet items. These relations are usually expressed as financial ratios of which the most commonly used is the current ratio or the ratio of current assets to current liabilities. This ratio indicates the current solvency of the business. To be solvent from this point of view, an association should have current assets at least equal to current liabilities. Since current assets are required for purposes other than the payment of current debts, a current ratio of two to one usually is recommended. It will be observed from table 10 that 21 per cent of the associations did not have sufficient liquid assets to meet current creditor claims in full on demand. In contrast, 10 per cent of the associations had ratios of four to one or better. The weighted average was 1.5 to 1 which is substantially below the standard.

The ratio of net worth to total liabilities indicates to what extent the association is financed by owner capital and to what extent by borrowed capital. A high ratio reveals a favorable financial condition in that the association is financed mainly by the owners and the debt burden is low in consequence. For all

Table 10. Ratio of Current Assets to Current Liabilities

Size of ratio	1948	1952
Per cent of all associations		
Less than 1.0	7.8	21.4
1.00 - 1.99	41.0	52.2
2.00 - 2.99	18.3	10.8
3.00 - 3.99	7.0	5.2
4.00 - 5.99	10.3	2.0
6.00 - and over	<u>15.6</u>	<u>8.4</u>
Total	100.0	100.0

elevators, the ratio averaged 1.2 to 1 compared with a desirable minimum standard of 1.5 to 1. About 32 per cent of the associations had a ratio of less than 1.00 (table 11). In these associations, the members and patrons actually own less than 50 per cent of the capital. In such cases the association membership should give serious consideration to increasing the amount of owner capital either by sale of additional stock or retention in the business of a larger proportion of the annual savings.

A common rule of sound finance is that fixed assets should be financed by owner capital which means that the ratio of net worth to fixed assets should be at least one to one. For all associations this ratio averaged 1.6. Only 11 per cent of the elevators failed to meet the standard of one to one. One-fifth of the associations had a ratio of three to one or larger (table 11).

Table 11. Ratio of Net Worth to Total Debt and to Fixed Assets

Size of ratio	Ratio of Net Worth to:			
	Total debt	Fixed assets		
	1948	1952	1948	1952
Per cent of all associations				
Less than 1.00	28.9	31.7	7.8	11.5
1.00 - 1.99	20.3	34.3	18.8	50.0
2.00 - 2.99	16.0	8.7	30.9	16.8
3.00 - 4.99	10.2	13.1	23.7	16.9
5.00 - and over	<u>24.6</u>	<u>12.2</u>	<u>18.8</u>	<u>4.8</u>
Total	100.0	100.0	100.0	100.0

Another ratio of importance is that of sales to fixed assets. This ratio is indicative of the use made of fixed assets. An association with a low ratio is presumably obliged to spread the fixed expenses resulting from the use of the fixed investment, such as depreciation, interest, insurance, and taxes, over a relatively smaller volume of business. Consequently, it may be at a disadvantage for a competitive standpoint. This ratio averaged 10.8. The ratio was less than 10 for 70 per cent of the associations and 20 or more for about 2 per cent (table 12).

A comparison of the corresponding financial ratios for 1948 and 1952 indicates in general that the financial status and operation were less favorable in the latter year. The averages were substantially lower and the proportion of associations with the lower levels of ratios were sharply higher (table 13).

Table 12. Ratio of Total Sales to Fixed Assets

Size of Ratio	1948	1952
Per cent of all associations		
Less than 10.0	10.9	69.5
10.0 - 14.9	19.9	22.5
15.0 - 19.9	20.7	5.8
20.0 - 24.9	26.6	2.2
25.0 - 29.9	12.9	
30.0 and over	9.0	
Total	100.0	100.0

Table 13. Averages and Minimum Standards for the Most Important Financial and Operating Ratios.

	Average		Minimum standard
	1948	1952	
Current assets to current liabilities	1.8	1.5	2.0
Net worth to total liabilities	1.4	1.2	1.5
Net worth to fixed assets	2.2	1.6	1.0
Sales to fixed assets	18.1	10.8	15.0

The declining current ratio indicates more attention should be focused on the maintenance of working capital. The declining ratio of net worth to liabilities constitutes a warning to a number of associations that maintaining the solvency of the associations may be a real problem.

The marked change in the ratio of sales to fixed assets was due to the moderate drop in sales and the large increase in the valuation of fixed assets. Although the lower levels of this ratio do not necessarily mean inefficiency in the use of the physical plant and equipment, the trend may be quite significant.

FINANCIAL OPERATIONS

Sources of Gross Operating Income

Sales of grain averaged \$573,960 in 1951-52 or 19 per cent less than in 1947-48. Sales of merchandise averaged \$126,806 or almost 9 per cent more than in the former period. In both years, grain sales averaged more than 80 per cent of the total sales, however, the importance of grain sales relative to merchandise sales varied widely from area to area. For example, grain sales averaged 91 per cent of total sales in Area 1 compared with 53 per cent in Area 3 (table 14)

Realized Gross Margins

Gross margins actually realized in merchandising grain and merchandise vary widely among associations. For example, about 14 per cent of the associations

realized less than 2 cents per dollar of grain sales and 37 per cent realized 5 cents or more. A larger proportion of the associations realized 5 cents or more in 1951-52 than in 1947-48 (table 15). The attempted buying margin per bushel of grain probably increased between the two periods because of increased costs. Selling prices, however, dropped. In consequence, a large proportion of the associations realized more per dollar of sales of grain in 1951-52.

The variation in the gross margins realized per dollar of sales of merchandise sales was also wide. About 40 per cent of the associations obtained less than 10 cents per dollar of sales in 1951-52. The proportion realizing 14 cents or more was much larger in 1951-52 compared with 1947-48 (table 15).

Table 15. Gross Margin Per Dollar of Sales

Grain			Merchandise		
Gross margin: cents per dollar of sales	1948	1952	Gross margin: cents per dollar of sales	1948	1952
	Per cent of all associations			Per cent of all associations	
Less than 2.0	14.1	13.6	Less than 6.0	4.8	10.4
2.0 - 2.9	22.6	8.9	6.0 - 7.9	17.1	14.5
3.0 - 3.9	25.8	21.2	8.0 - 9.9	25.4	15.0
4.0 - 4.9	26.6	19.4	10.0 - 11.9	34.4	22.8
5.0 - 5.9	3.9	12.1	12.0 - 13.9	15.1	11.2
6.0 and over	7.0	24.8	14.0 and over	3.2	26.1

The combined gross margins realized on grain and merchandise sales and service enterprises as storage, grinding, and others averaged \$48,491. The proportion contributed by the three departments are shown in table 16. It will be observed that grain sales accounted for a smaller proportion of the total in 1951-52 than in 1947-48. The proportion provided by income from services doubled between the two periods.

Table 16. Proportions that Departments' Gross Margins Were of Total Gross Margins

Department	Area 1	Area 2	Area 3	All areas	
	1952	1952	1952	1948	1952
	Proportion contributed by various departments				
Grain	63	50	30	59	52
Merchandise	20	34	50	33	32
Services	17	16	20	8	16
Total	100	100	100	100	100

The proportion contributed by grain and merchandise sales varied markedly from area to area. The income from services as storage, cleaning seed, grinding, and others contributed a significant proportion to the total gross margin in each area. In the case of some associations this income meant the difference between profit and loss.

Operating Expenses

Differences in the operating efficiency of elevator associations depend largely on the variations in the volume of business and in the administration of labor. The importance of successful labor adjustments in elevator operation is evidenced by the fact that labor and management costs made up about 47 per cent of all operating expenses. The proportion averaged highest in Area 3 where merchandise sales relative to grain sales were highest (table 17).

Other items of expense which constituted 5 per cent or more of the total operating expenses are heat, light and power, local taxes, insurance, and depreciation. These items, together constituted about one-third of the total, depreciation alone accounting for 13 per cent.

The total operating expense averaged \$30,976, or 4.4 per cent of total sales compared with 2.5 per cent in 1947-48. The increase reflected the drop in sales and the increase in expense. The average proportion varied from a low of 3.3 per cent in Area 1 to 7.0 per cent in Area 3.

Operating Margins

Operating margins depend on realized gross margins and operating costs. The operating margin averaged \$17,515 or almost 15 per cent less than in 1947-48. The gross margin averaged 6.8 per cent, operating costs, 4.4 per cent, and operating margins, \$17,515 or 2.4 per cent of total sales plus service income. The proportion varied only slightly among areas (table 18).

Table 18. Sales, Gross Margin, Expenses, Operating and Net Margins of Minnesota Cooperative Elevator Associations.

	Area 1 1951-52	Area 2 1951-52	Area 3 1951-52	All areas 1947-48	All areas 1951-52
	Average value				
Total sales	\$706,027	\$751,783	\$495,256	\$828,004	\$700,766
Service income	6,917	8,638	9,806	3,642	8,283
Total sales and service income	\$712,944	\$760,421	\$505,062	\$831,646	\$709,049
Gross margin	40,795	52,904	47,890	41,140	48,491
Operating expenses	23,481	33,948	35,447	20,696	30,976
Operating margins	\$ 17,314	\$ 18,956	\$ 12,443	\$ 20,444	\$ 17,515
Other expenses	2,082	2,754	2,927	1,692	2,574
	\$ 15,232	\$ 16,202	\$ 9,516	\$ 18,752	\$ 14,941
Other income	824	1,580	790	1,031	1,235
Net margins	\$ 16,056	\$ 17,782	\$ 10,306	\$ 19,783	\$ 16,176

In 1947-48, the gross margin which averaged 5.0 per cent of total sales and service income was divided equally between operating expense and operating margin, each averaging 2.5 per cent of total sales and service income. The gross margin averaged 6.8 per cent in 1951-52, operating expenses, 4.4 per cent and operating margin, 2.4 per cent, which means the operating margins were only about one-third of the gross margin (table 19).

Table 17. Operating Expenses of Minnesota Cooperative Elevator Associations, 1947-48, 1951-52.

	Area 1			Area 2			Area 3			All Areas		
	1952			1952			1952			1948		
	Average Per cent Value of total	Per cent	Average Per cent Value of total	Average Per cent Value of total	Per cent	Average Per cent Value of total	Average Per cent Value of total	Per cent	Average Per cent Value of total	Average Per cent Value of total	Per cent	Average Per cent Value of total
Merchandising Expense												
Labor and management	\$ 10,770	45.9	\$ 15,451	45.5	\$ 18,816	53.1	\$ 10,815	52.2	\$ 14,511	46.8		
Elevator supplies	600	2.5	680	2.0	249	.7	434	2.1	595	1.9		
Repairs	813	3.4	1,273	3.7	1,346	3.8	800	3.9	1,143	3.7		
Truck expense	175	.7	366	1.1	627	1.8	436	2.1	345	1.1		
Freight and drayage	40	.2	74	.2	126	.3	107	.5	71	.2		
Heat, light, and power	1,285	5.5	2,378	7.0	2,256	6.4	1,032	5.0	2,027	6.5		
Rent	62	.3	89	.3	112	.3	80	.4	84	.3		
Advertising	490	2.1	716	2.1	674	1.9	454	2.2	641	2.1		
Dryer	*	*	873	2.6	61	.2	*	*	490	1.6		
Miscellaneous	135	.6	82	.2	2	*	56	.3	87	.3		
Total Merchandising Expense	\$ 14,370	61.2	\$ 21,982	64.7	\$ 24,269	68.5	\$ 14,214	68.7	\$ 19,994	64.5		
Administrative and General												
Office salaries	\$ 177	.8	\$ 145	.4	\$ 1,184	3.3	\$ 165	.8	\$ 306	1.0		
Directors' fees and expenses	242	1.0	270	.8	265	.7	235	1.1	261	.8		
Office supplies	434	1.9	533	1.6	539	1.5	383	1.9	503	1.6		
License inspection, and bonds	142	.6	212	.6	70	.2	172	.8	170	.5		
Audit	431	1.8	428	1.3	380	1.1	304	1.5	422	1.4		
Telephone and telegraph	189	.8	339	1.0	530	1.5	236	1.1	321	1.0		
Local taxes	1,553	6.6	1,962	5.8	1,594	4.5	994	4.8	1,784	5.8		
Payroll taxes	187	.8	342	1.0	210	.6	189	.9	276	.9		
Insurance	2,119	9.0	2,277	6.7	2,040	5.8	1,405	6.8	2,194	7.1		
Depreciation	3,018	12.9	4,672	13.8	3,613	10.2	780	8.6	4,015	13.0		
Bad debts	126	.5	132	.4	212	.6	105	.5	141	.5		
Miscellaneous	493	2.1	654	1.9	541	1.5	514	2.5	589	1.9		
Total Administrative and General Expense	\$ 9,111	38.8	\$ 11,966	35.3	\$ 11,178	31.5	\$ 6,482	31.3	\$ 10,982	35.5		
Total Merchandising, Administrative and General Expense	\$ 23,481	100.0	\$ 33,948	100.0	\$ 35,447	100.0	\$ 20,696	100.0	\$ 30,976	100.0		

* Less than .05 per cent

Table 19. Gross Margin, Operating Expenses and Operating Margin
as Proportions of Total Sales and Service Income,
Minnesota Cooperative Elevator Associations.

	Area 1 1951-52	Area 2 1951-52	Area 3 1951-52	All areas 1947-48	1951-52
Per cent of total sales and service income.					
Gross margin	5.7	7.0	9.5	5.0	6.8
Operating expenses	3.3	4.5	7.0	2.5	4.4
Operating margin	2.4	2.5	2.5	2.5	2.4

Associations whose operating margins were less than the average of 2.4 per cent of sales and service income had either a gross margin below the average of 6.8 per cent or operating expenses above the average of 4.4 per cent of sales and service income or both. Similarly, associations whose operating margins were 2.4 per cent or more had either a gross margin above the average or operating expenses less than the average, or both.

These relationships are shown in table 20 for 74 associations. For example, 38 associations had gross margins of less than the average of 6.8 per cent. The operating expenses of 8 of these associations were far above the average of 4.4 per cent of sales and service income. In fact, all but two of the associations operated at a loss, the loss for this group averaging 1.6 per cent of sales and service income.

Twelve of the associations whose gross margins were 6.8 per cent or more and operating expense less than 4.4 had an average operating margin of 3.8 per cent compared with 2.4 for all associations. These are the associations which usually are in a position to distribute a larger proportion of the total income as patronage refunds at the end of the year.

Table 20. Gross Margin, Operating Expense, and Operating Margin,
74 Minnesota Cooperative Elevator Associations.

Gross margin and operating expense	Number of associations	Operating margin
Per cent of total sales and service income		Per cent of total sales and service income
Gross margin		
Less than 6.8	38	1.2
Operating expenses		
Less than 4.4	30	1.9
4.4 and more	8	-1.6*
Gross margin		
6.8 and more	36	3.3
Operating expense		
Less than 4.4	12	3.8
4.4 and more	24	3.0

* The loss of this group averaged 1.6 per cent of sales and service income.

The proportion that the gross margin is of total sales and service income averages about the same for associations with a small volume of business as for those with a large volume. The share of the gross margin, however, that was used to pay expenses was much less for the associations with a large volume. In consequence, the operating expenses constituted a smaller proportion and the operating margin, a larger proportion of total sales and service income in the case of the associations with a relatively large volume of business (table 21).

Table 21. Relation Between Volume of Business and Gross Margin, Operating Expenses, and Operating Margin.

Volume of sales and service income	Gross margin	Operating expense	Operating margin
Per cent of total sales and service income			
Less than \$400,000	6.8	5.5	1.3
400,000 - 799,999	6.6	4.4	2.2
800,000 - 1,199,999	6.7	4.2	2.5
1,200,000 - 1,599,999	7.3	4.1	3.2
1,600,000 and above	6.8	3.7	3.1

Net Margins

The net margins after adjustment for other income and expenses averaged \$16,175 and ranged from losses incurred by several associations to about \$113,000 (table 22). The proportion of associations experiencing a loss in 1951-52 was about twice the proportion in 1947-48. One-tenth of the associations in both years had a net margin of \$40,000 or more (table 22).

Table 22. Net Margins of Minnesota Cooperative Elevators

Net Savings	Area 1 1952	Area 2 1952	Area 3 1952	All areas	
				1948	1952
Per cent of all associations					
Loss	18.6	11.8	14.4	6.2	14.3
Less than \$5,000	17.1	15.4	25.2	14.5	17.3
5,000 - 9,999	16.2	9.4	36.1	18.7	15.3
10,000 - 19,999	17.8	17.3	13.5	19.5	16.9
20,000 - 29,999	-	21.8	-	13.3	12.0
30,000 - 39,999	12.8	20.1	-	17.6	15.0
40,000 - 49,999	11.8	-	-	3.1	3.6
50,000 - 59,999	2.6	.7	10.8	2.0	2.7
60,000 and over	3.1	3.5	-	3.5	2.9
Total	100.0	100.0	100.0	100.0	100.0

Associations with the largest volume of business had the largest net margins. Net margins averaged about \$3,000 for the group with total sales of less than \$400,000 and close to \$65,000 for the group with sales of \$1,600,000 and more (table 23). The proportion that the net margin was of total sales plus service

Table 23. Relation Between Volume of Sales and Average Net Margins of Minnesota Cooperative Elevator Associations.

Total sales and service income	Average net margins		1951-52 Per cent of sales and service income
	1947-48	Average Value	
Less than \$400,000	\$ 4,561	\$ 2,996	1.0
400,000 - 799,999	11,433	11,909	2.0
800,000 - 1,199,999	27,684	22,232	2.3
1,200,000 - 1,599,999	37,090	38,718	2.9
1,600,000 and more	50,735	64,625	3.1

income also averaged highest for the associations whose volume was relatively large.