

A STUDY OF THE SOURCE OF CAPITAL USED
BY FORTY COOPERATIVE ELEVATORS
IN SOUTHWESTERN KANSAS

by

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PURPOSE AND SCOPE OF THE STUDY

All cooperative organizations, which require capital to render the service expected by their membership, are faced with the problem of determining the way of providing for capital needs, which will enable them to serve their membership more efficiently. It is the purpose of this study to broaden the knowledge of this problem, particularly as it relates to cooperative elevator organizations, by determining: (1) How the cooperative elevator organizations are providing the capital they use. (2) The relationship existing between the source of capital and the net return on membership equity. (3) The principal reasons for the existing relationship between the source of capital funds and the net return on membership equity.

The principal sources of capital funds are: Capital stock, surplus, and borrowed money (or liabilities of the organization). Each organization used in this study varies from the others in the extent to which it depends upon capital stock, surplus, or borrowed money to meet its capital needs. This study is an attempt to determine the relationship between the net return on membership equity

and the extent to which the organization uses each of the three sources of capital funds.

The way capital is used is also an important problem in a cooperative organization. However, the use of capital is a different problem from the one considered in this study. The factors affecting the use of capital (especially working capital) are different than those related to the source of capital. In an effort to make this study as complete as the records will permit, it is desirable to limit the scope of this study to the problem as stated.

THE SOURCE AND LIMITATIONS OF THE DATA

The data used in this thesis were collected by the Extension Service of the Kansas State College of Agriculture and Applied Science, in connection with the project in grain marketing. In this extension project, a business analysis is conducted on those cooperative elevator organizations which care to cooperate. The records obtained for this business analysis were used in this study. Figure 1 shows the location of the 40 elevator associations. The records consist primarily of information given by the annual audit. These audits show a financial statement, a profit and loss statement, and the supporting records which were obtainable from the organization's files.

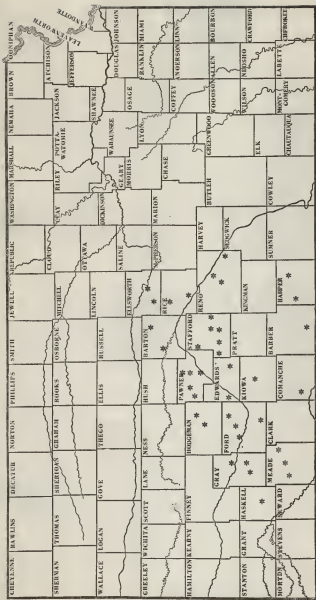


Figure 1. Location of elevator associations used in the study.

The data collected in this manner are necessarily limited to the information given by the organization's bookkeeping system, which in some instances was not complete in so far as the records supporting the financial statement and the profit and loss statement are concerned. The organizations in southwestern Kansas, on which the study is made, are those organizations which have been cooperating with the Extension Service in the business analysis project.

DEFINITION OF TERMS USED

Capital - Capital is the total money used by the organization. This is represented by the total of capital stock, surplus, and borrowed capital or the total value of the assets of the organizations.

Capital Stock - Capital stock is that portion of capital paid to the organization for shares of ownership of the business.

Borrowed Capital - Borrowed capital is that part of the capital used which has to be paid at a set time or it is the creditor's equity in the business.

Surplus - Surplus is that part of capital which has been retained in the business from the profits. The amount of surplus at any time is the difference

between capital stock and membership equity. Surplus as used in this study also includes the money retained in the business as reserve for depreciation.

Reserve for Depreciation - As used by the associations included in this study, the reserve for depreciation is not a fund set aside to replace worn-out facilities. It is an expense item deducted from gross profits. As it is not invested as a specific fund for reserve, it loses its identity and becomes a part of the surplus, and is used primarily as working capital.

Membership Equity - Membership equity is the net worth of the organization or the difference between the value of total assets and borrowed capital.

Annual Average Net Return - Annual average net return is the average net profit for the five-year period 1931 to 1935 inclusive. Net profit is the amount of income left from the year's operations after all expense including depreciation, bad debts, and taxes have been deducted.

Rate of Return on Membership Equity - The rate of return on membership equity is the annual average net profit per \$100 of members' investment in the business.

METHOD OF PROCEDURE

In an effort to get comparable comparisons among the 40 organizations used in the study, it was desirable to use an average figure and make all comparisons of capital stock, surplus, or borrowed money on the basis of the per cent that each was of the total capital used by the organization.

By using five-year averages for profit and for other items of the financial statement as a basis on which comparisons were made, it was possible to eliminate to a large degree fluctuations which might be present as a result of a particular year's operations. The use of five-year averages shows a clearer picture of the general business policies of each organization.

The 40 organizations included in this study used different amounts of capital; therefore, it was necessary to use percentages in comparing amounts of capital stock, surplus, or borrowed money used by each organization.

Another problem in the method of analyzing the data was the method of measuring the success of each organization in serving its membership. The average net profit or the average net return per member does not take into consideration the fact that one organization may have used

\$25,000 of its members' money, while another organization may have used \$50,000 of the members' money, and yet the average net profit for the two organizations for the year could be the same. Therefore, to eliminate as far as possible the above disadvantage as a measure of successful operation, the annual average net return per \$100 of members' equity in the business was used.

Three general methods were used in studying the use of various amounts of capital stock, surplus, and borrowed money to provide for total capital. These were: (1) The relationship between the per cent of borrowed money used to provide for total capital and the net operating return the association earned per \$100 of membership equity in the business. To study the effects of various amounts of surplus and capital stock with associations using similar percentages of borrowed money, the 40 elevators were arrayed according to the per cent of borrowed money used to provide total capital, and the array was then divided into quartiles. This provided a method of studying the effects of surplus and capital stock in each group of 10 associations having similar percentages of borrowed capital. Also, by making the same comparison in each of the four quartiles, it is possible to study the effect of different percentages of borrowed money on whatever comparison of surplus or

capital stock is being made.

The second method was to divide the 40 associations into two groups, one of 25 associations whose total capital was provided by less than 12 per cent borrowed funds, and a second group of 15 associations in which 12 per cent or more of the total capital was provided by borrowed funds. The comparisons of surplus and capital stock made in the first method of study were again made in the above two groups of associations.

The third method was to divide the 40 organizations into four groups with each group showing the annual average net return per \$100 of membership equity. The associations were classified in each of the four groups according to the per cent of surplus or borrowed money, or ratio of surplus to stock. This method of studying the association simply takes one comparison and shows the rate of return on membership equity in different groups of associations, each group of associations having different amounts or percentages of the items being studied.

REVIEW OF LITERATURE

Literature on cooperative elevator associations until about 10 years ago dealt largely with the principles upon which cooperative associations were founded and the pro-

gress and achievement of these associations. Some studies also give general information on desirable business organization for a cooperative association, especially as it relates to an organization just starting. More recent studies have dealt more especially with the results of research in the actual business practices of cooperative elevator associations. Some of the recent literature has dealt largely with the use of capital, and especially the use of working capital, and the problems of management as they relate to the use of capital.

Literature dealing with the capitalization of cooperative elevators has not dealt with specific problems of capitalization. Much of the literature deals with methods of capitalizing new associations, and it is only recently that publications have been devoted to the results of research dealing with records of cooperative elevator associations.

The publications to which reference will be made in this study are: Jenness (5), Christensen(1), and Federal Farm Board Bulletin (2). These three publications deal in a general way with the capitalisation problem,

especially as it relates to newly organized cooperative associations. All three agree that it is desirable to have enough capital stock to own fixed properties in a new association. The working capital used in business operations is usually borrowed and this indebtedness retired as profits will allow.

Green and Rucker (4) discuss capitalization from the standpoint of making a business analysis. They used as standards for analyzing the capitalization structure, the ratio of net worth to debt (standard 1.5 to 1), the ratio of fixed assets to fixed liabilities (standard 2 to 1), and the ratio of surplus to stock (standard 1 to 1).

Green and Ballinger (3) discuss financial condition as measured by membership equity in the business. They found that generally larger membership equity was associated closely with better membership patronage and larger net gains as a result of operations. They also found large membership equity was associated with better financial and operating conditions.

The publications by Green and Rucker (4) and Green and Ballinger (3), previously mentioned, apply more directly to the capitalization problem as it is considered in this study.

COMPOSITION OF CAPITAL

It is generally considered that a new cooperative elevator should have at least enough capital stock to allow the membership to own the elevator and equipment. Funds needed for operation may be borrowed until profits from sales are sufficient to retire these borrowed funds. All of the organizations in this study had the above plan in mind when they were started. However, there was a big difference between the amount of capital stock actually subscribed and the amount they planned to have sold in the majority of cases. The amount of stock the organization obtained when it started was approximately the amount it has now. In other words, of the two sources of capital which make up membership equity (capital stock and surplus) the surplus will vary more over a period of years than the capital stock. Every organization used in this study has had the opportunity to retire from profits the liabilities incurred in its original capitalization. Therefore, the relationship existing between membership equity and

borrowed funds, as shown in this study, was the result of the business policies of each individual organization.

A study of the composition of the capital in the elevator associations used in this study showed a wide variation in the amounts of capital stock, surplus, and borrowed capital used to supply capital needs. Capital stock varied in amount from 14 to 85 per cent of the total capital. The amount of surplus in the capitalization of these organizations varied from none to 84 per cent of the total capital. Borrowed capital varied in amount from none to 52 per cent of the total capital. Figure 2 shows the amounts of capital stock, surplus, and borrowed capital, expressed as per cent of the total assets or total capital of each of the 40 elevators.

THE EFFECT OF THE AMOUNT OF BORROWED CAPITAL ON THE RATE OF RETURN ON MEMBERSHIP EQUITY

Having shown a comparison of the amount of capital stock, surplus, and borrowed money used to provide for capital, the next phase of the problem was that of determining the effect of the amount of funds obtained from each of the three sources on the success of the organization measured in terms of a good rate of return on membership equity. A study of the organizations using different

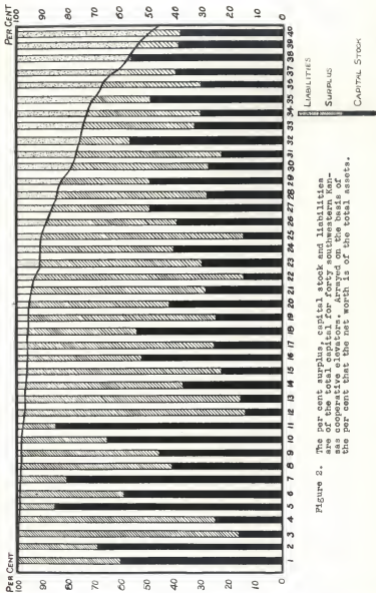


Figure 2. The per cent surplus, capital stock and liabilities are of the total capital for forty southwestern Kansas cooperative elevators. Arranged on the basis of the per cent that the net worth is of the total assets.

amounts of borrowed funds and the average net return on membership equity shows that 25 associations used borrowed funds equal to less than 12 per cent of the total capital and that 15 associations used from 12 per cent to 52 per cent borrowed capital. The 25 associations who are using less than 12 per cent of borrowed capital are generally making a better rate of return on membership equity than the associations using a higher per cent of borrowed capital. Green and Ballinger (3) stated, "The extent to which members own their cooperative elevator business is frequently taken as a measure of the elevator's success." This study of capitalization confirms the above statement.

In Table 1, the annual average rate of return on membership equity is shown for four groups of associations. The two groups of associations borrowing more than 5 per cent of their total capital are generally making a lower rate of return on membership equity than associations using less borrowed capital. The group of associations borrowing less than 1 per cent of the total capital show a smaller rate of return on membership equity than the group using from 1 to 5 per cent borrowed capital. This exception to the general trend is because one association which is using less than 1 per cent borrowed capital is located

in an area where crops have been extremely poor and, because of lack of volume of business, has shown a slight loss. In the group of associations using from 1 to 5 per cent borrowed funds, one organization using 2 per cent borrowed capital (mostly accounts payable) has a rate of return on membership equity twice as large as any other association in the study. The two associations mentioned above account largely for the difference in the annual average rate of return on membership equity for the first and second group of associations shown in Table 1. Another factor which may explain some of the difference in these two groups of associations is that those associations using 1 or 2 per cent borrowed capital (and that mostly as accounts payable) may be using their working capital more efficiently than the association which has used practically no borrowed capital.

Figure 3 shows the relationship between borrowed capital and the annual average rate of return on membership equity for each association used in this study. As shown above, those associations using the lowest per cent of borrowed capital are usually the associations having the highest rate of return on membership equity.

Table 1. A Comparison of the Average Rate of Return Per \$100 of Membership Equity and the Amount of Borrowed Capital for Four Groups of Associations.

Classification of Associations	Number of associations	Per cent of total	Average rate of return per \$100 of membership equity
Borrowed less than 1 per cent of the total capital	9	23	\$8.32
Borrowed 1 to 5 per cent of the total capital	11	27	11.06
Borrowed 5.1 to 20 per cent of the total capital	9	23	5.24
Borrowed 20.1 to 52 per cent of the total capital	11	27	1.01

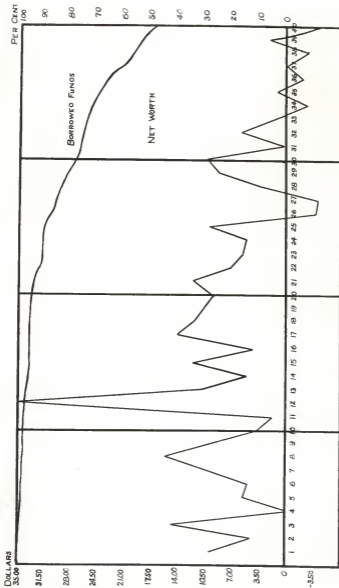


Figure 3. Average rate of return on each \$100 of net worth for 40 southwestern Kansas cooperative elevators. Arrayed on the per cent that the net worth is of the total assets.

THE EFFECT OF THE AMOUNT OF SURPLUS ON THE RATE
OF RETURN ON MEMBERSHIP EQUITY

In studying the relationship between the amount of surplus and the rate of return on membership equity, comparisons were made for those associations in which the surplus was 50 per cent or more of total capital and for those in which the surplus was less than 50 per cent of the total capital. In order to make the above comparisons for associations using similar amounts of borrowed capital, the 40 associations were arrayed according to the per cent that borrowed capital was of the total capital used. This array was then divided into quartiles, and the relationship between the amount of surplus and the rate of return on membership equity was studied in each quartile. Figure 4 shows the above relationship, and indicates that generally those organizations having the largest part of their total capital provided for by the surplus, regardless of the amount of borrowed capital, were making a higher annual average rate of return on membership equity.

In the group of elevators in which 70 per cent or more of capital was provided by surplus, the average rate of return on each \$100 of membership equity was \$13.04. Those associations providing 50 to 70 per cent of total

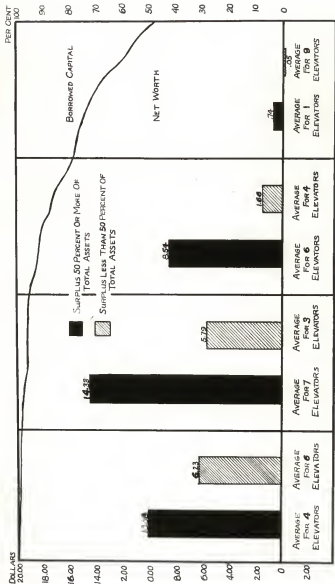


Figure 4. A comparison by quartiles of the average rate of return per \$100 of membership equity for organizations whose surplus account was 50 per cent or more of the total assets, and those with small amounts of surplus. Arrayed according to net worth.

capital from surplus had an average rate of return of \$8.36. Those in which 30 to 50 per cent of the capital was provided by surplus funds had an average rate of return of \$3.13 per \$100 of membership equity. The group having the lowest rate of return on membership equity included those organisations in which the surplus was less than 30 per cent of the total capital. This is shown in Table 2.

Table 2. A Comparison of the Average Rate of Return Per \$100 of Membership Equity and the Amount of Total Capital Provided from Surplus for Four Groups of Associations.

Classification of Associations	Number of associations	Per cent of total membership	Average rate of return per \$100 of membership equity
Surplus provided 70 per cent or more of the total capital	9	23	\$13.04
Surplus provided 50 to 70 per cent of the total capital	9	23	8.36
Surplus provided 30 to 49.9 per cent of the total capital	12	30	3.13
Surplus provided less than 30 per cent of the total capital	10	25	2.35

Table 3. A Comparison of the Average Rate of Return Per \$100 of Membership Equity and the Amount of Surplus Included in the Total Capital for Associations Using Less Than 12 Per Cent Borrowed Capital and Those Using 12 Per Cent or More Borrowed Capital.

	Associations in which less than 12 per cent of total capital was borrowed	Average Rate of Return per \$100 of membership equity	Associations in which more than 12 per cent of total capital was borrowed	Average Rate of Return per \$100 of membership equity
Surplus constituted 50 per cent or more of the total capital	15	\$11.79	3	\$6.26
Surplus constituted less than 50 per cent of the total capital	10	6.02	12	.06

The relationship between the rate of return on membership equity and the amount of surplus, as shown in Figure 4 and Table 2, is the same for the 25 associations borrowing less than 12 per cent of their total capital and those associations borrowing a larger per cent of total capital. Table 3 shows this relationship.

THE EFFECT OF THE RELATIONSHIP BETWEEN THE RATIO OF
SURPLUS TO ALLOWANCE FOR DEPRECIATION AND THE
RATE OF RETURN ON MEMBERSHIP EQUITY

In showing the effect of the relationship between the ratio of surplus to allowance for depreciation and the rate of return on membership equity, an explanation should be given of the allowance for depreciation as it is handled by cooperative associations used in this study. The allowance for depreciation as used by associations included in this study represents a bookkeeping entry only, and does not in any case represent an equal sum of money carried as a reserve for the purpose of replacing, repairing, or adding to the facilities. The reserve for depreciation, as considered in this study and as generally considered by the cooperative association, is simply the total of the allowance for depreciation that the association has made on its investment in fixed facilities. As an expense item taken out of gross profits and not invested as a specific fund

to be used to replace worn-out facilities, the actual money taken from gross profit loses its identity and becomes a part of surplus used primarily as working capital.

The reserve for depreciation account, as shown by the association's audit, represents the amount which the original investment in fixed facilities has been depreciated. The audits of the associations used in this study show the total expense the organization has actually deducted from gross profits as the allowance for depreciation. The relationship of the ratio of surplus and the allowance for depreciation of fixed facilities describes more accurately the comparison being made in this study.

It is a general practice for cooperative associations to charge approximately the same rate of depreciation on similar facilities, the rate on each type of facility depending on the expected period of time the facility can be used. The amount of the expense of depreciation for each year is, therefore, a certain per cent of the original investment in the facilities.

The allowance for depreciation considered as the amount which the investment in facilities has depreciated is an important factor in the capitalisation structure of an association because it represents a decrease in the fixed capital investment and an increase in undivided profits

or surplus used to provide primarily working capital. The only way in which an organization can maintain its original fixed investment is to create an amount of surplus equal to the total of its working capital needs and the amount that its facilities have been depreciated.

If the surplus consists only of the allowance for depreciation, the surplus would have been created only as there was an allowance for depreciation. Under these conditions, the ratio of surplus to the allowance for depreciation would be one to one. If, in addition to the allowance for depreciation, a portion of the net profits have been retained and added to the surplus, then the amount of the surplus would exceed the allowance for depreciation. A two to one ratio of surplus to allowance for depreciation would mean that the association has retained an amount of net profit equal to the amount which has been allowed for depreciation. A ratio between the surplus and allowance for depreciation of two to one, or more than two to one, indicates that the association has retained part of its net profits to be used as capital in addition to making an allowance for depreciation of fixed facilities. Therefore, the rate at which surplus has been increased as compared to the allowance for depreciation is an important factor in enabling an association to retire its borrowed capital

and actually provide reserve funds to be used to replace worn-out facilities. The ratio of surplus to the allowance for depreciation is also an indication of how the association has provided for its surplus. For example, a one to one ratio would mean that surplus was provided by money kept in the business as the allowance for depreciation. A two to one ratio would mean surplus was one half depreciation and one half undistributed net profits.

In comparing the surplus and the allowance for depreciation, those associations whose surplus is more than twice as large as allowance for depreciation are generally the most successful associations in making a good rate of return on membership equity, regardless of the amount of borrowed capital being used. Figure 5 shows the above relationship between the ratio of surplus to allowance for depreciation and the annual average rate of return on membership equity.

Organizations building their surplus more than three times as fast as they depreciated their facilities show an annual average rate of return of \$11.39 per \$100 of membership equity. Table 4 shows the relationship between the ratio of surplus to allowance for depreciation and rate of return on membership equity. These groups of associations having the lower ratio of surplus to allowance for depre-

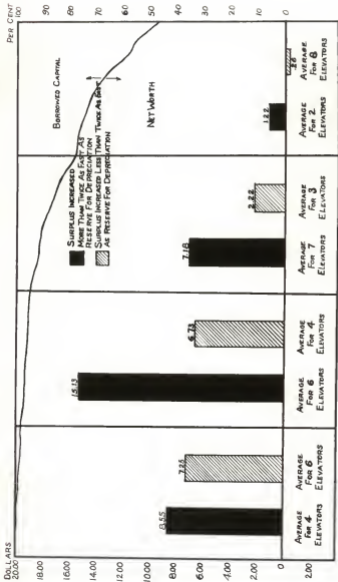


Figure 5. A comparison by quartiles of the average rate of return per \$100 of membership equity for organizations whose surplus account is increased more than twice as fast as reserve for depreciation, and those whose surplus is increased less than twice as fast as reserve for depreciation. Arrayed according to per cent net worth is of the total assets.

ciation have a lower average rate of return on membership equity.

Table 4. A Comparison of the Average Rate of Return Per \$100 of Membership Equity and the Amount of Surplus in Relation to the Reserve for Depreciation for Four Groups of Associations.

Classification of Associations	Number of associations	Per cent of total	Average rate of return per \$100 of membership equity
Surplus more than three times as large as reserve for depreciation	10	25	\$11.85
Surplus from two to three times as large as reserve for depreciation	9	23	6.58
Surplus from one to two times as large as reserve for depreciation	12	30	5.05
Surplus smaller than reserve for depreciation	9	23	1.68

Table 5 shows a comparison of the average rate of return per \$100 of membership equity for groups of organizations which increased surplus more than twice as fast as they depreciated facilities and those which increased surplus more slowly. These were further divided into two groups, one which borrowed less than 12 per cent of their total capital and the second group which is using 12 per

Table 5. A Comparison of the Average Rate of Return Per \$100 of Membership Equity and the Ratio of Surplus to the Reserve for Depreciation for Associations Using Less Than 12 Per Cent Borrowed Capital and Those Using 12 Per Cent or More Borrowed Capital.

	Associations in which less than 12 per cent of total capital was borrowed	Average rate of return per \$100 of membership	Associations in which more than 12 per cent of total capital was borrowed	Average rate of return per \$100 of membership
	Number of associations	Number of associations	Number of associations	Number of associations
Surplus more than twice as large as the reserve for depreciation	12	\$12.02	6	\$3.75
Surplus less than twice as large as the reserve for depreciation	13	7.14	9	.66
				Loss

cent or more borrowed capital. This table shows a close relationship between the average rate at which surplus was increased and the rate of return on membership equity.

THE EFFECT OF SURPLUS USED TO OWN A PART OF NET
FIXED ASSETS ON THE RATE OF RETURN
ON MEMBERSHIP EQUITY

Publications by Christensen (1), the Federal Farm Board (2), and Jenness (5) all recommend that enough capital stock be provided in new associations to equal the value of their fixed properties. However, the associations considered in this study are all organizations which have been operating from 15 to 25 years. Therefore, their capitalization structure is the result of their operations, and should show some improvement in the source of funds used to provide for total capital over what would be reasonable to expect of an association just starting.

The net value of the fixed capital investment is, in many associations, less than one half the original value, and yet 23 of the 40 elevators do not have enough capital stock to equal the net value of their fixed capital. This situation might be due to one or all of three reasons:

(1) The association may have built or purchased new facilities thus increasing the total value of facilities; (2) They may have failed to have provided enough capital stock

to equal the value of their fixed capital investment when they started; or (3) They may have reduced the total amount of outstanding capital stock by buying in and retiring extra shares from individuals having several shares.

A comparison of the rate of return for those associations using surplus to own a part of their net fixed capital investment and those associations which are providing for at least all of their net fixed capital investment with capital stock shows an advantage in favor of the associations using surplus to provide for a part of the investment in fixed capital. Figure 6 shows the above relationship.

Table 6 shows a similar relationship between the rate of return on membership equity and the use of surplus to provide for complete ownership of the net fixed capital investment. In Table 6, those associations using surplus to provide for complete ownership of net fixed capital investment were further divided into groups borrowing less than 12 per cent of their total capital and those borrowing 12 per cent or more of their total capital. The same comparison is shown for the group of associations which do not use surplus to completely own net fixed capital investment.

All of the above comparisons further strengthen the conclusion that surplus funds are the best source of funds to use to provide for as much as 70 to 85 per cent of the

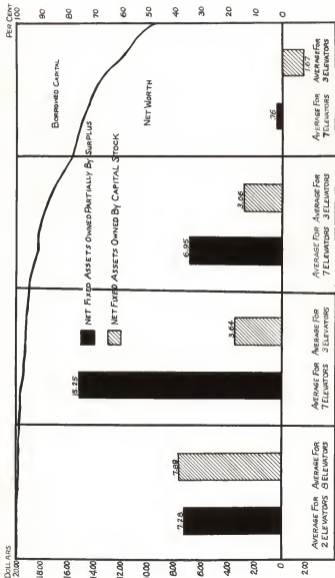


Figure 6. A comparison by quartiles of the average rate of return per \$100 of membership equity for organizations using their surplus to own a part of net fixed facilities, and those which do not. Arranged according to the per cent of net worth to total assets.

Table 6. A Comparison of the Average Rate of Return Per \$100 of Membership Equity and the Use of Surplus to Own Net Fixed Facilities for Associations Borrowing Less Than 12 Per Cent of the Total Capital and Those Borrowing 12 Per Cent or More of the Total Capital.

	Associations in which less than 12 per cent of total capital was borrowed	Average rate of return per \$100 of membership associations	Associations in which more than 12 per cent of total capital was borrowed	Average rate of return per \$100 of membership associations
	Number of associations	Per cent of return per \$100 of membership associations	Number of associations	Per cent of return per \$100 of membership associations
Surplus used to own net fixed facilities	14	56	9	60
Surplus not used to own net fixed facilities	11	44	6	40
				1.27 Loss

total capital.

THE EFFECT OF THE RATIO OF SURPLUS TO CAPITAL STOCK
ON THE RATE OF RETURN ON MEMBERSHIP EQUITY

Green and Rucker (4) state that an organization should have at least one dollar of surplus for each dollar of capital stock. This study of southwestern Kansas elevators indicates that such a comparison is a good measure of the success of a cooperative elevator in making a good rate of return on the equity of their membership. The comparisons shown in Figure 7, with the exception of the comparison for those organizations borrowing the most capital, indicate the standard given by Green and Rucker (4) to be desirable. The explanation which seems most logical for the exception shown in Figure 7 is that to have a dollar or more of surplus for each dollar of stock, when an organization is borrowing a high per cent of its capital, it is necessary that the per cent that capital stock is of total capital be low. Under such circumstances, there generally is a smaller number of members. Therefore, the disadvantage of a smaller membership offsets the advantage of the higher ratio of surplus to stock.

Table 7 would indicate that two dollars or more of surplus back of each dollar of stock is even more desirable

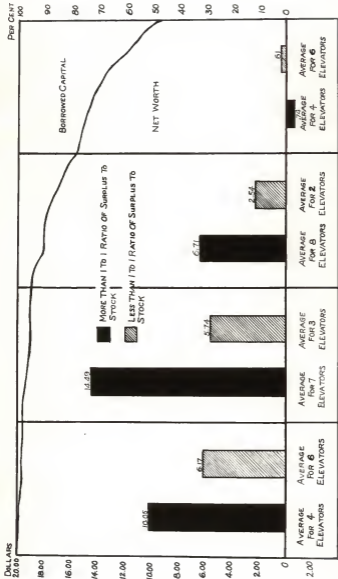


Figure 7. A comparison by quartiles of the average rate of return per \$100 of membership equity for organizations having more than one dollar of surplus for each one dollar of stock, and those with less. Arranged according to the per cent of net worth to total assets.

than one dollar. Table 8 shows a greater advantage of a high ratio of surplus to stock in the organizations borrowing less than 12 per cent of their total capital than in those organizations borrowing 12 per cent or more of their total capital. The explanation of the exception shown in Figure 7 applies in the comparison shown in Table 8.

Table 7. A Comparison of the Average Rate of Return Per \$100 of Membership Equity and the Ratio of Surplus to Stock for Four Groups of Associations.

Classification of Associations	Number of associations	Per cent of total	Average rate of return per \$100 of membership equity
\$2.00 or more of surplus for each \$1.00 of capital stock	12	30	\$11.59
From \$1.00 to \$2.00 of surplus for each \$1.00 of capital stock	11	27	4.89
From \$0.45 to \$1.00 of surplus for each \$1.00 of capital stock	8	20	4.95
Less than \$0.45 of surplus for each \$1.00 of capital stock	9	23	2.52

Table 8. A Comparison of the Average Rate of Return Per \$100 of Membership Equity and the Ratio of Surplus to Capital Stock for Associations Borrowing Less Than 12 Per Cent of Their Total Capital and for Those Borrowing 12 Per Cent or More.

	Associations in which less than 12 per cent of total capital was borrowed	Average rate of return per \$100 of membership	Associations in which more than 12 per cent of total capital was borrowed	Average rate of return per \$100 of membership
	Number of associations	Number of associations	Number of associations	Number of associations
One dollar or more of surplus for each one dollar of capital stock	16	64	7	47
Less than one dollar of surplus for each one dollar of capital stock	9	36	8	53
				\$1.18
				1.03

REASONS FOR THE RELATIONSHIPS EXISTING BETWEEN SOURCE
OF CAPITAL AND THE RATE OF RETURN
ON MEMBERSHIP EQUITY

In the analysis of the data presented here, the question arises: Is a relatively low per cent of capital stock and borrowed capital and a high per cent of surplus, used as sources of funds to provide for total capital, a cause or a result of a high rate of return on membership equity? The answer to the above question is that the capitalisation in the organizations studied is almost entirely the result of the management and business policies of each organization. A relatively low amount of capital stock and borrowed capital and a relatively high amount of surplus is one of the causes of a high rate of return on membership equity. The management of every organization used in this study has had the opportunity, between the time of its organization and the time of this study, to have built their surplus account to a point where it would not have been necessary to borrow more than 1 or 2 per cent of the total capital used. Those organizations which have practiced the best business policies now have this desirable capitalization as an aid to a good rate of return on membership equity.

Cost of the Capital Funds to the Membership

One of the principal reasons why the source of capital funds is an aid to a good rate of return on membership equity is the difference in the costs of borrowed money, capital stock and surplus funds, and the method and to whom those costs are paid. The cost of borrowed capital varies from 3 to 8 per cent with an average of approximately 6 per cent. This cost is an expense item, while the costs of capital stock and surplus are paid to the member in the form of net profits. A relatively high per cent of surplus to capital stock is desirable because the payment for the use of surplus is made to the member as a part of patronage dividends in a cooperative organization. This practice leaves a large amount available for distribution on a patronage basis, which encourages loyalty of membership and a larger volume of business. This in turn decreases the expenses per dollar of sales, leaving a higher rate of return on the membership equity. Another reason why a large percentage of surplus is preferable to a high percentage of capital stock is because cooperative organizations generally pay a higher interest rate on capital stock than is usually paid for similar investments.

Table 9 shows the relationship between the rate of stock interest and return on membership equity for four groups of organizations using different amounts of surplus. The difference shown in higher income elevators in Table 9 is not so apparent in the low income elevators because it is their general practice not to pay any stock interest when profits are low or when losses have occurred.

Relationship of Surplus and Borrowed Capital
to the Amount of Working Capital

The second primary reason why a high per cent of surplus is an aid to a good rate of return on membership equity is because it is the best way to increase the working capital used in the business and thus extend the service of the organization to the membership. Funds for working capital are usually borrowed when an organization is starting. As the organization grows older, these borrowed funds are retired as the surplus is increased, and further increases in surplus allow the organization to increase its working capital.

Table 10 shows the relationship of working capital to original value of fixed capital. This relationship shows the more successful organizations have at least one dollar of working capital for every dollar originally invested in

Table 9. A Comparison of the Average Rate of Return Per \$100 of Membership Equity and the Per Cent Surplus Is of Total Assets for Associations Paying 5 Per Cent or Less Stock Interest and Those Paying More Than 5 Per Cent Stock Interest.

	Associations paying more than 5 per cent interest on stock	Associations paying 5 per cent or less interest on stock
	Number of associations	Average rate of return per \$100 of membership equity
	Number of associations	Average rate of return per \$100 of membership equity
Surplus constitutes 70 per cent or more of total capital	7	\$9.47
Surplus constitutes 50 to 70 per cent of total capital	3	5.81
Surplus constitutes 30 to 50 per cent of total capital	6	3.32
Surplus constitutes less than 30 per cent of total capital	5	2.51

fixed capital.

Table 10. A Comparison of the Average Rate of Return Per \$100 of Membership Equity and the Amounts of Working Capital to the Original Fixed Capital for Four Groups of Associations.

Classification of Associations	Number of associations	Per cent of total membership	Average rate of return per \$100 of membership equity
\$1.30 or more of working capital for each \$1.00 of original fixed capital	11	27	\$11.38
\$1.00 to \$1.30 of working capital for each \$1.00 of original fixed capital	10	25	5.59
\$0.70 to \$1.00 of working capital for each \$1.00 of original fixed capital	11	27	3.47
Less than \$0.70 of working capital for each \$1.00 of original fixed capital	8	20	4.30

Table 11 shows the relationship of the amount of working capital and return on membership equity for elevators borrowing less than 12 per cent of their total capital and those borrowing 12 per cent or more. This table shows the successful organizations are providing their working capital from surplus and capital stock. Therefore, surplus funds are important in increasing the amount of working

Table 11. A Comparison of the Average Rate of Return Per \$100 of Membership Equity and the Amount of Working Capital Used in Relation to Original Value of Fixed Facilities for Associations Borrowing Less Than 12 Per Cent of the Total Capital and Those Borrowing 12 Per Cent or More.

	Associations in which less than 12 per cent of total capital was borrowed	Average rate of return per \$100 of association-total membership	Number of associations	Associations in which more than 12 per cent of total capital was borrowed	Average rate of return per \$100 of association-total membership	Number of associations
Organizations using more working capital than the original value of fixed facilities	14	\$12.00	56	8	\$1.75	53
Organizations using less working capital than the original value of fixed facilities	11	6.28	44	7		47
						.75 Loss

capital used in the business. Good management in the use of more working capital and additional sideline business result in more efficient use of labor and reduces the expenses per dollar which the organization has to pay on its facilities, all of which allows a larger return on membership equity than would otherwise be possible.

Psychological Effect on Membership and Patronage

Membership and patronage are two important factors in determining the success or failure of a cooperative elevator. The general financial condition is usually well-known by patrons of a cooperative association. Members lose interest and are not as loyal to an organization which has suffered a large loss sometime in the past and has to use a large per cent of borrowed funds for capital. Surplus represents, to the average member, increased value of his share in the ownership of the business, and this again is a measure of success. The average member and patron prefers to patronize a successful association. Therefore, the psychological effect which the capitalization of an organization which has been operating several years has on the patrons is an important factor in determining what the membership and patronage will be.

Organizations in this study which are borrowing capital to own 12 per cent or more of their total assets have fewer member patrons than organizations whose membership own a larger portion of the business (Table 12). The organizations owning 50 per cent or more of their total assets with surplus funds have nearly doubled the number of member patrons as compared to organizations which have smaller amounts of their total capital provided for by surplus funds (Table 13 and 12).

Table 13. A Comparison of the Surplus in Per Cent of Total Assets and the Average Number of Member Patrons Per Association.

	Number of associations	Per cent of total number	Average number of member patrons
Surplus in 70 per cent or more of total assets	9	23	162
Surplus in 50 to 70 per cent of total assets	9	23	138
Surplus in 30 to 50 per cent of total assets	12	27	79
Surplus in less than 30 per cent of total assets	10	25	85

Table 12. A Comparison of the Average Number of Member Patrons for Associations Using Surplus to Own One-half or More of Total Assets and Those Using Surplus to Own Less Than One-half of Total Assets for the 25 Associations Using Less Than 12 Per Cent Borrowed Capital and Those Using 12 Per Cent or More Borrowed Capital.

	Associations in which less than 12 per cent of total capital was borrowed		Associations in which more than 12 per cent of total capital was borrowed		Average member associations
	Number of associations	Average member patrons	Number of associations	Average member patrons	of total patrons
Surplus used to own one-half or more of total assets	15	60	3	20	90
Surplus used to own less than one-half of total assets	10	40	12	80	75

The logical explanation for the relationship which exists between the number of member patrons and surplus and borrowed money is: (1) Those organizations which have a high per cent of the total capital they are using owned from surplus are able to prorate a larger portion of their net earnings to members as a saving in the cost of marketing or purchasing the products handled by the local elevator. In other words, the psychological effect of a patronage dividend based on the volume of business furnished by the member is an important factor in helping to maintain a large membership. (2) It is probable that management which provides for their capital from the most desirable sources also makes an efficient and business-like use of the capital. The business policies which govern the use of capital are important factors affecting the rate of return on membership equity, but this study indicates that the source of the capital funds used is also a factor in determining the rate of return on the equity the membership has in the business.

CONCLUSIONS

The following conclusions concerning the problem can be drawn:

1. The amount of capital stock, surplus, and borrowed capital used to provide the total investment of individual associations is extremely variable.

2. Associations using 12 per cent or more of borrowed capital to own their total assets generally have a lower rate of return on membership equity than do those associations borrowing less than 12 per cent of their total investment.

3. The most successful elevators tend to provide their capital as follows: Less than 5 per cent of their total capital is provided by borrowed capital, less than 30 per cent of total capital is provided by capital stock, and 65 per cent or more of total capital is provided for by surplus.

4. Organizations having two dollars or more of surplus for each dollar of capital stock are generally more successful than those having a lower ratio of surplus to capital stock.

5. The most successful organizations generally use surplus to own a part of their net fixed capital investment.

6. The ratio of surplus to allowance for depreciation (or the amount of depreciation) can be used as an indication of the average rate at which an organization has built up its surplus and as an indication of the way which surplus is provided.

7. The most successful organizations are generally those organizations which have increased their surplus more than three times as fast as their facilities have depreciated.

8. Most of the successful organizations are paying less than 6 per cent interest on capital stock.

9. The most successful organizations are usually those having at least \$1.30 of working capital for every \$1.00 of original investment in fixed capital.

10. A large number of member patrons is associated with a high per cent of the total capital provided by surplus and low per cent of capital stock and liabilities used to provide for total capital.

11. The source of the funds used to provide for total capital is an important factor influencing the rate of return on membership equity.

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