

PROBLEMS INVOLVING USE OF REVOLVING FUND
FINANCING IN SELECTED COOPERATIVES

by 45

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INTRODUCTION

In the United States as in many countries the cooperative form of business enterprise has thrived in the sector of the economy related to marketing agricultural products and supplying agricultural inputs to farmers. This form of business began in the eighteenth century in the United States along with the formation of other types of businesses. Most of these businesses had in common a simple structure and small scale. The cooperatives of this initial era multiplied in number and grew in size through various stages of development until in the twentieth century even the local agricultural cooperatives that are found in many communities are business organizations of significant size and complexity.

Over the period of time mentioned the privately owned firms underwent tremendous metamorphic change in structure. Such innovations as the corporate form of business brought changes in all facets of business organization. In the same period cooperatives also underwent change. The changes were not general structural changes because the very essence of the cooperative is its distinctive structure in relation to ownership and control. The changes have been within the structure to make it function more efficiently under the pressures of different conditions and larger size.

In the area of financing the cooperative has problems dis-

tinctly different from other forms of business. Like other businesses the cooperative needs capital for plant, equipment, and operating needs, but the cooperative has different characteristics. It is user-oriented with the net returns distributed according to patronage, it has a limited rate of return on capital, and voting rights are limited to certain patrons. There is, therefore, in many instances a lack of incentive to invest new capital in the firm. This problem has been approached in many different ways, but the method accepted most widely as a partial solution has been the revolving fund system. In essence this plan involves systematic deductions from the net returns or sales of a cooperative, entering these into a fund to be used for capital, and revolving them back to the patrons at a set time or when possible.

This method had its beginning early in cooperative history, and has appeared in many forms in cooperative financial structures. Some have heralded it as the all-inclusive answer to cooperative financing, but like most business practices it is not applicable to all situations and can not perform the complete function of cooperative financing by itself. In many instances the problem has not been slowness to accept the revolving fund method, but rather wrong-use and over-use of the revolving fund. In some cases where there is misuse of the revolving fund the problem is not apparent until after a period of time has elapsed, because of the nature of deferring the need to repay the capital indefinitely into the future.

In ascertaining the correct capital structure for a cooperative it is difficult to set down absolute rules to follow,

because the correct system is a function of many variables in the organization, and in each cooperative these variables take on different emphasis. Some of the variables are member loyalty, availability of creditor capital, type of plant and equipment needed, ability of members to provide capital, and net margins made by the cooperative. These are but a few of the many variables affecting the formation of an optimal capital structure.

There have been, of course, certain measurements of financial soundness developed which can be used to evaluate the financial structure in a given firm. In the cooperative firm, however, these can be met and still a problem may exist within the capital structure of the cooperative. This situation, where the problem within the capital structure is related to the revolving fund method of capital accumulation, is the case involved in this study.

The importance of revolving funds in financing agricultural cooperatives was shown in a study in 1954 by the Farmer Cooperative Service of the Department of Agriculture.¹ This study showed that approximately sixty per cent of the local agricultural cooperatives studied in the U. S. in 1954 had some type of revolving equity capital.² This study also showed that from 1949 to 1954 revolving fund capital grew by some 63 per cent, or that at

¹Helim H. Hulbert, Nelda Griffin, and Kelsey B. Gardner, Revolving Fund Method of Financing Farmer Cooperatives, Farmer Cooperative Service General Report 41 of U. S. Dept. of Agriculture (Washington, D. C.: U. S. Government Printing Office, 1958).

²Ibid., p. 8.

that time the use of the revolving fund was growing rapidly.¹

R. L. Epard at Kansas State University in 1965 in a study of Kansas grain cooperatives found that approximately 26 per cent of the total assets of the cooperatives he studied were financed by revolving fund capital.² He failed to mention, however, the number of firms in his study using revolving funds.

During the years 1950 to 1964 the total number of agricultural cooperatives surveyed by the Farmer Cooperative Service dropped from 10,064 to 8,847.³ Over the same period of time the gross volume of these agricultural cooperatives approximately doubled from ten billion to twenty billion dollars, while the total membership stayed relatively constant.⁴ This shows that the cooperatives are becoming larger and, because the farm population is declining while cooperative memberships are holding constant, are doing more business with non-farm rural and urban people. These conditions point to the increased demand for capital to finance the needed expansion of the facilities of cooperatives, also that there has been a shift to more non-voting members in the cooperatives. These are sometimes more reluctant to

¹Ibid., p. 29.

²Richard L. Epard, "An Economic Analysis of Factors Affecting Success of Kansas Grain Cooperatives" (unpublished Masters Thesis, Dept. Agricultural Economics, Kansas State University, 1965), p. 26.

³Bruce L. Swanson, Statistics of Farmer Cooperatives 1963-1964, U. S. Dept. of Agriculture, Farmer Cooperative Service General Report 134 (Washington: U. S. Government Printing Office, 1966), p. 16.

⁴Ibid., p. 23.

invest new capital in an organization that they have little control over. Under these circumstances, coupled with decreasing net margins, the revolving fund that has helped to finance expansion in cooperatives has become in some cases a "sinking" fund.

OBJECTIVES OF STUDY

The objectives of this study were to review the use of the revolving fund in financing agricultural cooperatives, to find what problems currently exist in its use, to analyze the nature of these problems, and to offer suggestions for remedying them.

The study consists of a review of the literature that has been written concerning the use of revolving funds. This includes the usefulness and limitations which have been found in the use of the revolving fund. The study also includes an analysis of some representative agricultural cooperatives in Kansas. These will be analyzed with respect to their use of the revolving fund in accumulating capital.

REVIEW OF LITERATURE

Much has been written about the use of the revolving fund by authors concerned with cooperative finance. Henry Erdman and Grace Larsen wrote that revolving finance plans consist of two parts: "(1) some method of obtaining a flow of capital from members in proportion to patronage and (2) some method of returning the flow of capital contributions in some orderly fashion to those who contribute them."¹ The basic differences between revolving plans consist of variations in one or both of these elements. Most of the differences between various plans, however, concern the method of obtaining the capital to put into the fund. This in most cases is decided by the type of business that the cooperative does for its patrons.

Review of Revolving Fund History

What is known as the revolving fund method of accumulating capital for financing was first formalized in Europe in the early nineteenth century.² The Scandinavian countries in particular developed this system in their dairy cooperatives. Immigrants from these countries brought the idea to the Minnesota area, but

¹Henry E. Erdman and Grace H. Larsen, Revolving Finance In Agricultural Cooperatives, (Madison, Wisconsin: MIMR Publishers Inc., 1965), p. 3.

²Ibid., p. 23.

it did not catch on well until late in the nineteenth century in California. Along the West Coast region fruit and vegetable grower cooperatives began to use the revolving fund plan to finance their associations. The earliest published general description of a revolving finance plan in American writings was an article in the Yearbook of the United States Department of Agriculture, 1914. From this beginning the idea spread throughout agricultural cooperatives all over the United States.¹

Role of the Revolving Fund in Cooperative Financing

E. P. Roy lists certain advantages in the use of revolving capital financing which have become apparent from its use over the years by cooperatives.² The principle advantages of a revolving capital plan are listed as:

1. Members contribute capital to the cooperative in the same proportion that they use the cooperative and share its benefits.
2. Ownership is maintained in the hands of current member patrons.
3. It permits members to acquire increased ownership in the cooperative. While this usually means gradual growth, it insures sound growth. The cooperative must make savings for its members, otherwise expansion financed by revolving capital cannot take place.
4. Once this plan is put into operation, a minimum of administrative cost is necessary for maintaining the capital required.
5. This plan reduces operating costs by avoiding the necessity of paying interest to attract invested capital.
6. The members can borrow from financial institutions on the basis of their revolving fund certificates, usually ninety per cent of the face value.³

¹Ibid., pp. 25-34.

²Ewell Paul Roy, Cooperatives: Today and Tomorrow (Danville, Illinois: The Interstate Printers and Publishers, Inc., 1964), p. 342.

³Ibid.

In cooperatives there are basically four kinds of capital for financing the organization. These are capital borrowed from lending institutions at a set interest rate, capital borrowed from members with an interest rate in the form of certificates of equity or preferred stock, capital accumulated from memberships or common stock and unallocated reserves, and capital from deferred patronage refunds or revolving funds. In different organizations these might take on slightly different names, but the basic sources are primarily the same.

Glenn S. Fox advanced a plan drawn from his experiences in cooperative financing and based upon the four kinds of capital listed above. His plan involved arriving at a proper balance among these types of capital in financing a cooperative. His rule-of-thumb for financing entailed each of the four types of capital being equally represented, or that each make up twenty-five per cent of the total financing needed. This plan would allow for member's equity to make up one-half of the total capital for financing the organization. The method advanced for maintaining this balance was through the allocations of patronage refunds each year and a well-planned creditor capital program.¹

This point of view is typical of a middle-of-the-road approach. On the one hand some have suggested revolving all of the capital while others have suggested that it is best to have very little revolving capital.

¹Glenn S. Fox, "Financing For Growth and Strength," American Cooperation 1961 (Washington: American Institute of Cooperation), pp. 51-58.

The Banks for Cooperatives studied various types of financial structures from the point of view of ability to maintain a healthy organization and to repay creditor capital. Their conclusion was as follows: "Study of the available experience and information does not justify any overall conclusion that one particular combination of revolving and permanent capital is preferable to any other."¹ The more general criteria concerning financing and member's equity in an organization used by the Banks for Cooperatives to judge the security for making loans was the ratio of total members equity to borrowed capital, and other supporting ratio analyses.

Another aspect of the role of the revolving fund in providing capital for financing is outlined in an article by Thomas Snider and E. Fred Koller.² Their approach is to find out if cooperatives are using the least-cost capital structure. Since equity capital is the risk capital in a cooperative it is important that it receive proper earnings according to these authors. They expressed this concept as follows:

Retained earnings are not a free source of capital. Earnings returned to the member may be invested on the farm to bring some rate of return. Therefore, the cost of retained earnings is the rate of return the member could earn on the capital if it was returned to him.³

¹Russell C. Engberg, Financing Farmer Cooperatives (Washington: Banks for Cooperatives, 1965), p. 89.

²Thomas E. Snider and E. Fred Koller, "Equity Capital Financing of Cooperatives," Minnesota Farm Business Notes, July 1967, pp. 1-2.

³Ibid.

Snider and Koller calculated an average interest rate paid by Minnesota farmers for short-term credit and called this the opportunity cost of the capital retained by cooperatives. The rate of return for the retained capital then must be higher than the average interest rate calculated, before it is feasible to retain more earnings. This analysis, however, seems to have weaknesses in calculating the actual return on retained earnings, both within the cooperative firm and from the point of view that the function of providing competition in a community can not be quantified in monetary terms.

In reference to the advantages of revolving fund financing by Roy, noted previously, a need for the cooperative to save money and reinvest it in the cooperative for the members was expressed. Some have felt that the revolving fund method of retaining money for investment in the organization is basically the only way a cooperative can accumulate capital from its patrons. Harold Hedges discussed this aspect of financing in relation to attracting capital into cooperatives as opposed to proprietary business firms. He felt that if the cooperative either retained earnings or attracted investment by paying a high rate of return on capital the member equity would not keep pace with changes in patron usage of the cooperative and the organization would gradually "degenerate" into a profit corporation.¹ The fact does remain, however, that a cooperative must follow what would be good business practices in retaining money from members and reinvesting

¹Harold Hedges, "Financing Farmer Cooperatives," Journal of Farm Economics, XXXIII, No. 4, November 1951, pp. 918-926.

it, or the realization that the patron receives "paper" patronage refunds will no longer be enough reason for him to patronize the cooperative. In some cases good business practices have been over-looked because managers have found that retaining earnings is an easy way of getting capital as long as members don't actively take exception to it.

The idea should not be gotten, however, that the manager or even the board of directors can at will appropriate earnings for retention in the cooperative. The use of a revolving fund must be authorized in the by-laws of the organization before it can be put into effect. In most cases the necessary authorization is written into the original by-laws as the organization comes into being. In some older organizations the by-laws are amended to allow for the use of a revolving fund.

Erdman and Larsen discussed, in a previously noted work, that the legal framework for a revolving finance system varies somewhat between stock and nonstock organizations, and that in forming an organization this should be taken into consideration.¹ If the entire member equity is to revolve there are special problems related to the legal transfer of ownership shares in a corporation which also must be considered. This is also discussed in Financing Farmer Cooperatives, a bulletin published by the Farmer Cooperative Service.²

¹Erdman and Larsen, loc. cit., pp. 93-99.

²Financing Farmer Cooperatives, U. S. Dept. of Agriculture, Farmer Cooperative Service Educational Circular No. 5 (Washington: U. S. Government Printing Office, 1957).

Methods of making patronage refunds and retaining them are discussed in a bulletin by Donald R. Davidson published by the Farmer Cooperative Service. This publication discusses the many ways that patronage refunds can be calculated, and the methods that are feasible in retaining these patronage refunds within the organization.¹ A bulletin by L. S. Hulbert also published by the Farmer Cooperative Service, discusses in more detail many of the aspects of the legal considerations involved in setting up revolving fund financing.²

In discussing the role of revolving finance in cooperatives it must be noted that a dynamic approach must be used. The size and type of revolving fund needed for each cooperative is constantly changing. As the cooperative enters new areas of business and closes outdated operations the financial structure must make corresponding changes. In many farmer cooperatives the one major limiting factor in not keeping pace with possible growth and new service is an outdated financial structure. Gerald Korzan and Edward Gray in a study at Oregon State University found that inadequate financial planning was limiting the effectiveness of many agricultural cooperatives in Oregon. Their study then proceeded to outline general plans that these cooperatives could use

¹Donald R. Davidson, Methods and Policies in Making Patronage Refunds by Selected Farmer Cooperatives, U. S. Dept. of Agriculture, Farmer Cooperative Service, General Report No. 137 (Washington: U. S. Government Printing Office, 1966).

²L. S. Hulbert, Legal Phases of Farmer Cooperatives, U. S. Dept. of Agriculture, Farmer Cooperative Service Bulletin 10 (Washington: U. S. Government Printing Office, 1958).

as guidelines in planning.¹ The steps that they followed were to predict prospective business growth, outline possible sources of capital, find what the requirements for capital would be to meet the forecasted growth, decide what part of the needed capital would need to be provided from each source, and formulate a plan to arrive at the desired financial structure. This type of planning would decide what position revolving fund finance would play in the organization and tend to keep it from being misused.

The Banks for Cooperatives have also been interested in the role of planning in the individual cooperative.² After studying the financial plans of some cooperatives, especially with respect to net worth items, they came to the conclusion that just as important as developing a general plan was the need for each individual cooperative to consider its own special circumstances and formulate a plan that would fit its unique characteristics.

There have been several basic studies of how cooperatives are financed that have aided in this study of the role that the revolving fund plays. One of the most complete was done by Hulbert, Griffin, and Gardner for the Farmer Cooperative Service in 1957.³ This study was then expanded in 1958 to cover more com-

¹Gerald E. Korzan and Edward L. Gray, Capital for Growth of Agricultural Cooperatives, Oregon State University Agricultural Experiment Station Bulletin 596.

²Engberg, loc. cit., pp. 73-77.

³Helim H. Hulbert, Nelda Griffin, and Kelsey B. Gardner, Methods of Financing Farmer Cooperatives, U. S. Dept. of Agriculture, Farmer Cooperative Service General Report 32 (Washington: U. S. Govt. Printing Office, 1957).

pletely revolving fund financing.¹ These studies used a general sample of U. S. cooperatives to find the actual methods in use.

Milton Manuel made a study of cooperative financing in Kansas in 1956 that studied actual use of revolving funds at that time.² This study analyzed the cooperatives according to financial structure and soundness.

In general the role of the revolving fund in cooperative financing is one of providing member equity or net worth according to patronage in the organization. This role is affected by many unique characteristics of each cooperative, and cannot be defined by any set rule.

Criticisms of Revolving Fund Financing

In introducing the subject it was noted that some cooperative leaders at first considered the revolving fund method of finance as the perfect way to finance cooperatives. This method, however, did not gain general approval among cooperatives until several years after its conception. Some, no doubt, were apprehensive about using this new concept that members, perhaps, would not understand in the cooperatives. Others, perhaps, had bad experiences relating to the use of the revolving fund and were equally suspicious of it. Even though today the revolving fund method of financing has won general approval, there are still problems that crop up in relation to its use in cooperatives.

¹Hulbert, Griffin and Gardner, Revolving Fund Method of Financing Farmer Cooperatives, loc. cit.

²Milton L. Manuel, Kansas Farmer Cooperatives - III Financing, Kansas State College, Agricultural Experiment Station Circular 337, 1956.

Along with the advantages listed previously E. P. Roy lists several short-comings of this method of finance. The disadvantages of a revolving capital plan listed are:

1. It does not take into account the differences in the ability of individual members to provide capital.

2. The period required for the fund to revolve can not be maintained where continuous expansion takes place, unless some other method is used to obtain capital for expansion.

3. Members sometimes regard their equity in the revolving fund as a debt which their cooperative owes them rather than as their proportionate share of the capital requirements of the cooperative.

4. The plan may permit too rapid an expansion of the cooperative without the explicit approval of a majority of the members.

5. This plan may become unworkable and unacceptable to the members if the capital requirements of the cooperative make a long revolving period necessary.

6. Members have to pay income tax on patronage refunds when they are deferred. Since they have to make a cash payment for the income tax, they often feel that a corresponding amount should be paid out to them in cash. The Revenue Act of 1962 contains provisions to accomplish this. However, any current dividend paid in cash has a tendency to prolong the length of the revolving fund.¹

Many cooperative managers feel that most of the objections by members to the revolving fund are attributable to lack of knowledge concerning the revolving fund on the part of the members. This is quite important to the success of a revolving fund plan, however, some members who do understand the plan sometimes tend to see it from a different point of view. In most cases this difference is in whose money is being used. The patron who because of past observation now considers his revolved patronage refunds as donations to the cooperative which will never be seen again certainly has trouble accepting the idea that it is his duty to add more and more to this fund.

¹Roy, loc. cit., pp. 342-344.

To develop a good member attitude toward revolving funds Robert Antonides suggested that it is best to start a revolving fund with a short period of revolution.¹ Later if it is feasible the period could be extended to around five years. Revolving slowly or not revolving seems to be one of the most important criticisms of the revolving fund. G. F. Henning said in his 1962 speech to the American Institute of Cooperation in relation to young farmer's attitudes toward the revolving fund: "Many say patronage dividends mean nothing - all you receive is paper the cooperative retains the patronage refunds."²

In introducing the subject some current problems related to revolving fund financing were mentioned. Some of these have arisen due to the fluctuation of earnings in cooperatives. In discussing the use of revolving funds in raising equity capital, Korzan and Gray say that, although the revolving fund method is equitable and business like, its proportion of total financing is limited because of fluctuation of earnings in most cooperatives.³ This would point to the idea that the success of revolving fund financing is dependent to a large degree upon the dependability of earnings in a cooperative.

Another aspect of revolving fund criticism is the proposition that revolving funds do not take into account equalizing

¹Robert J. Antonides, Financing Cooperatives With Revolving Funds, South Dakota State College, Agricultural Experiment Station Circular 150, 1961.

²G. F. Henning, The Future of Cooperative Livestock Marketing, American Cooperation 1962 (Washington: American Institute of Cooperation), pp. 381-388.

³Korzan and Gray, loc. cit., p. 30.

the marginal returns to all the farmer's capital. Roy in his disadvantages lists non-consideration of the ability to contribute.¹ This fits into the idea that some concept of marginal returns on revolving fund capital needs to be considered when ascertaining the amount farmers should contribute in this manner. Snider and Koller in a previously cited article found that this concept was not used, and in some cases the farmer's income from his capital could have been increased by investing more of it in his farming enterprises and less in his cooperative's revolving fund.² Perhaps, one reason that this concept is not used more is the idea which prevails among many cooperative leaders that earnings from the cooperative are a type of windfall return to the farmer through the cooperative. They feel the cooperative has a special right to retain some of the earnings, since if it wasn't for the cooperative the farmer would never have had them in the first place.

Much conflict concerning the revolving fund has arisen over payment of interest on revolved capital. It has been generally accepted among most cooperative leaders that a payment of interest merely reduces the amount of capital, therefore a longer revolving period is needed than without interest payments. Among some there is a feeling that over the years in many cooperatives the revolving fund has not remained in the hands of the current patrons, therefore, interest rates are needed if the money is

¹Roy, loc. cit., p. 343.

²Snider and Koller, loc. cit., p. 2.

continued to be held in revolving funds. This would pay a return to the holders of capital in the revolving fund who have long since ceased to do business with the cooperative. This situation has existed for some time in dairy cooperatives, and in a study that was done for the National Milk Producers Federation it was recommended that some type of system be worked out to pay interest on the revolved capital when it is not generally held by the current patrons of the cooperatives.

In this study the reasons for this development were discussed. They were: "(1) the tradition of 'Why should we pay interest to ourselves?' and (2) concern over losing ownership control."¹

In borrowing money and using revolving funds as a basis for loans, cooperatives have found that the terminology they use is sometimes difficult for creditors and members to understand. This has been recognized in the past several years and a drive to use fewer more generally accepted terms has arisen. In the study done for the National Milk Producers Federation in the early 1960's it was found that the dairy cooperatives that were studied used approximately fifty different terms to denote types of member's equity.² Many of these were related to different types of revolving funds. Since most local cooperatives employ an accounting firm to prepare a yearly audit, these firms now tend to help the cooperatives standardize their terminology and make revolving

¹Improved Methods of Financing Dairy Cooperatives, Report for the National Milk Producers Federation, Washington, D. C.

²Ibid., pp. 12-13.

finance less confusing.

As mentioned by Roy, income taxes have also become a consideration in revolving fund financing.¹ Since 1962 both cash and retained patronage refunds are subject to personal income tax. This tends to create a problem when a large portion of the patronage refund is retained in the organization, but the farmer must still pay tax on all of it. A slow revolving or no revolving of the old refunds tends to add to this problem.

New Concepts in Revolving Finance

After reviewing the criticisms raised concerning revolving fund financing we will now consider new developments which have arisen in recent years from these criticisms. Although changes in revolving fund finance have been quite slow, problems have arisen recently that tend to force change upon certain cooperatives.

Most of the criticisms of revolving capital that have been found have at least indirectly been related to keeping the capital in the revolving fund in the hands of the current patrons of the association. Several of the new suggestions, therefore, have come in this area. The most immediate need in this area was discussed by D. E. Ewing at the 1964 meeting of the American Institute of Cooperation.² He discussed the need for each cooperative to analyze the age of its membership and plan accordingly

¹Roy, loc. cit., p. 344.

²D. E. Ewing, "Considerations In Financing Cooperatives For Tomorrow's Needs," American Cooperation 1964 (Washington: American Institute of Cooperation), p. 532.

for a projected amount of revolved capital that would be paid out each year as members left their farms or passed away. If this plan could be kept up-to-date it would eliminate much of the problems related to revolving equity and current patronage.

In the study conducted for the National Milk Producers Federation the suggested solution was an interest rate to be paid on revolving capital.¹ If more permanent capital is desired an arrangement to issue preferred stock or a non-voting class of common stock was suggested.

A fresh new look at the revolving fund was taken by Nelda Griffin in a bulletin published by the Farmer Cooperative Service, How Adjustable Revolving Fund Capital Plan Works.² In this publication Griffin discusses a plan to keep the revolving fund directly in the hands of the current patrons from year to year. The requirements for putting this plan into effect are: knowing the desired amount of equity capital in the organization, a little extra bookkeeping, and a member education program.

To use this plan a cooperative must find what size of revolving fund is needed for the coming year to fit into their over-all financial plan. After finding how much money is needed in the fund the percentage of total business is computed for each patron. This percentage is then used to find what portion of the revolving fund should be furnished by each patron. The coopera-

¹Improved Methods of Financing Dairy Cooperatives, loc. cit., p. 11.

²Nelda Griffin, How Adjustable Revolving Fund Capital Plan Works, U. S. Dept. of Agriculture, Farmer Cooperative Service General Report 111, (Washington: U. S. Government Printing Office, 1963).

tive then debits or credits the patrons account to adjust it to his calculated portion.

Several details concerning accounting procedures would have to be worked out by the local association. Also considerations must be made for expansion so that the fund will remain in the desired relationship to total financing. Long-range planning as in all revolving fund plans is imperative to proper application of this method.

Griffin lists four apparent advantages of this method:

- (1) The plan preserves the revolving fund principle but only net capital adjustments are revolved.
- (2) It lessens the immediate impact of financing the cooperative for some members.
- (3) It provides a clearer basis for letting members know the exact amount of their capital responsibilities to the association and
- (4) It has an important psychological effect on members in financing cooperatives.

On the other hand three apparent disadvantages were listed:

- (1) This plan would require some additional bookkeeping.
- (2) Some growers find the plan difficult to understand, and
- (3) The plan necessitates changes in bylaws before it can be adopted.¹

Helim Hulbert discussed a concept of financing that perhaps forms a basis for all of the other suggestions studied. He wrote concerning the handling of cooperative capital: "But developing ways of getting more money into farmer cooperatives is only half the job. Ways must also be devised so investors can get their money out of cooperatives when they need it."² In this he referred to being able to use capital held in the cooperative

¹Ibid., p. 7.

²Helim H. Hulbert, "Facing Financing In New Ways," News For Farmer Cooperatives, April 1969, p. 17.

as collateral for loans or being able to get it back from the cooperative if leaving the farm.

This calls for more responsibility on the part of cooperative leaders in structuring the finances of cooperatives so that they are a credible place to invest capital. Involved in this is the careful handling of revolving capital and treating it as capital invested by the farmer whether he receives a direct rate of return or interest rate on it or not.

CURRENT REVOLVING FUND PROBLEM

In Kansas there developed two particular situations in connection with revolving fund financing which caused concern on the part of cooperative leaders. These principally involved two types of agricultural cooperatives. The literature previously reviewed pointed to the fact that these problems were probably not just confined to Kansas.

The first problem related to the grain cooperatives of the Great Plains, who built large storage facilities when storage rates were high, and there was a great deal of government owned grain to be stored. Some of these cooperatives financed their facilities using revolved patronage refunds on the assumption that the high returns from storing government owned grain would continue indefinitely. In the early 1960's this large amount of government owned grain dwindled to almost none, and the cooperatives still had large storage facilities but no storage income and smaller net savings. Immediately the cooperatives found themselves in a position of not being able to revolve the deferred patronage refunds at the rate used in the past. This created a credibility gap between managers and members of these cooperatives. The ease of obtaining capital by these associations from their members through certificates of indebtedness, etc. became strained and difficult. If a short period of revolving had been maintained in the past the members then

wanted to know what was happening to their association, because they had come to expect these retained refunds to be kept up to date. Although no time period was set for revolution of the fund in most associations, regularity of payment of retained refunds developed the expectation of receiving them. When they were suddenly withheld doubts as to the soundness of the cooperative arose among the membership.

Many dairy cooperatives face problems also concerning their revolving funds. For several years these cooperatives retained a certain amount per unit handled for their members and in some cases deferred patronage refunds were also used. These were put into revolving funds and were used to accumulate capital for improvements and new facilities. In some cases these were held indefinitely with very little actually revolved. As the milk market changed significantly and new facilities were needed many cooperatives turned to mergers with other cooperatives, but faced the difficult task of trying to unravel the maze of old revolved retains. This delayed in some areas the much needed restructuring of milk markets.

Primarily the problems observed by the author and in other recent studies concerning cooperatives in the Kansas area and their use of revolving funds fell into one of the two mentioned situations. Different associations have experienced and are now experiencing many variations of these problems. Three such associations were looked into in depth in case study form later in this study.

Causes of the Problem

In outlining the causes of the revolving fund problems the situations surrounding the local cooperatives were examined. The local cooperative underwent a change much the same as the farmer has undergone. Technology reduced the number of farmers needed to produce the amount of agricultural products which could be consumed. The local cooperatives also became fewer in number, because of the technological advances initiated which required larger more complex organizations to adopt them efficiently. Without these new developments the cooperatives would, of course, not have been able to compete against other organizations.

Originally the cooperatives were initiated to fulfill one or both of two roles. (1) They were developed to perform a needed service for the farmer, or (2) They were established to combat an unfair monopolistic situation. In either of these cases the opportunities were wide open, and with farmer support the organizations which were operated in a business-like manner generally were a success. This situation changed. Most monopolistic enterprises were faced with competition, there were usually several firms offering services to farmers whenever a new opportunity arose.

For a period of time large net margins were easy to come by, and new enterprises were plentiful and profitable. In a competitive situation such as in the United States, however, this situation does not exist for long. The time came that net margins were difficult to maintain, and the cooperative had to be

very selective in attempting new enterprises. This directly affected revolving fund financing, because net margins were used in part to keep the funds revolving and up-to-date.

To analyze the trends in operations and financing in Kansas farmer cooperative associations data was studied from 174 such firms. The data was obtained from The Kansas Farmers Service Association, an auditing firm located in Hutchinson, Kansas. For the benefit of the participating cooperatives' managers and directors a composite balance sheet and statement of operations for the years 1963 through 1967 was published by this association. This data lists the items from each of the 174 participating associations' balance sheets and statement of operations. These 174 associations comprise approximately one-half of the total number of farmer cooperative associations in Kansas. The associations listed in the data did not comprise a random sample, but were merely the associations which employ the services of this particular auditing firm.

The trends which were discussed existed for some time, but the time period of 1963 through 1967 was considered somewhat representative of this more long run trend. These figures were not intended to be used for long-run predictions or as representative of all cooperatives, rather they were construed to illustrate the general trends which have occurred in cooperatives of this area.

In table 1 it is seen that the average total assets of the associations increased significantly over the five-year period shown. From 1963 to 1967 total assets increased 14 per cent.

Table 1 - Significant trends affecting financing in 174 Kansas cooperatives

Year	Average Total Assets	Average Income ¹ From CCC Storage and Handling	Average Total Sales	Average Gross Operating Income	Average Operating Expense	Average Net Operating Savings
1963	\$713,438	\$52,405	\$1,092,584	\$177,982	\$134,405	\$43,577
1964	757,941	65,717	1,133,655	179,720	139,557	40,163
1965	748,756	51,698	1,076,542	164,628	141,975	22,653
1966	790,066	36,761	1,228,771	165,857	145,854	20,003
1967	809,284	12,965	1,278,917	160,582	163,401	(2,819) ²

¹Only 139 associations received CCC income.

²In 1967 the associations operated at an average net loss.

This points to the fact that the cooperatives were requiring more and more capital to finance the assets necessary for business operation. As total sales increase more temporary capital was needed to finance the increased inventory and in some cases increased accounts receivable.

In the past a considerable portion of the capital requirements of cooperatives was provided by revolving funds. The example used previously of certain Great Plains grain cooperatives was such a situation. In these associations deferred patronage refunds were used in large amounts to form a financial basis for the building of extensive storage facilities. For a few years the high returns from Commodity Credit Corporation payments for storage and handling made it possible to revolve these funds on a steady basis. As shown by the figures in table 1 changes in government policy cut this income to the cooperatives drastically. From 1963 to 1967 income from CCC storage and handling fell 75 per cent. From 1966 to 1967 alone it fell 65 per cent. This immediately affected the net savings of these associations and their ability to keep their revolving funds up-to-date.

All cooperatives were not faced by such drastic changes in their business environment. They all, however, were involved in a gradual change of conditions. In table 1 this is shown in the changes in average gross operating income and average operating expenses.¹ The final result was then noted in average net

¹Gross operating income is the gross margin from sales plus all other operating income. Operating expenses are all the expenses of the association except for the cost of goods sold.

operating savings. Average gross operating income was generally decreasing as shown by a decrease of 10 per cent from 1963 to 1967. At the same time average operating expense increased 22 per cent. This type of business climate was typical throughout the agricultural related fields.

The change in business climate coupled with the previous use of revolving fund finance brought about the problem which faces the cooperatives in many areas. A more dynamic planning approach to revolving fund financing, perhaps, would have averted this situation. Pointing out the lack of planning in the past does not help the cooperatives involved in revolving fund problems. It can, though, play an important role in forming new plans for the future.

Resulting Conditions

The facts presented in the previous section were put together to form an outline of the situation that the involved cooperatives faced. First there is the fact that capital financing needs were increasing. Along with this gross operating income was decreasing, while operating expenses were increasing. The result was that net operating margins were decreasing. In table 1 it can be seen that the cooperatives in the study had a decrease of 106 per cent from 1963 to 1967 in net operating savings. For the individual association, however, non operating savings from regional cooperatives kept some from operating at a complete loss.

An example of what happened would be if a firm deferred from patronage refunds in 1963 and put into a revolving fund \$30,000. This was part of a plan to provide capital that had for

several years revolved every five years. In 1967, however, when the 1963 deferred refunds were to be paid the net savings of the organization only totaled to \$10,000. Since 1962 the law states that 20 per cent of patronage refunds after reserves and taxes are taken out must be paid in cash to the patrons. This, therefore, would leave considerably less than the required \$30,000 available to pay out the 1963 deferred patronage refunds.

When this situation existed many forces came to bear on the financial structure of the cooperative. The need for capital was not reduced and perhaps was increased, therefore, the natural reaction was to maintain the total amount in the revolving fund by extending the length of revolution of the members' capital. As shown in table 1, however, it was not an unexpected bad year that caused the problem but rather a trend in the business climate of agricultural related businesses. The problem then was not one which if ignored for one year would take care of itself. It was rather a problem which would persist and grow if corrective action was not taken.

It was mentioned previously that one requirement for a usable revolving capital plan was a relatively dependable level or rising level of net savings.¹ Some associations were quite healthy financially but were faced with fluctuating net savings. This was not the case among the majority of these associations, however. In 1963 14 per cent of the associations were operating at a loss, while in 1967 52 per cent of the associations operated at a loss. The associations which had revolving funds had but

¹Korzan and Gray, loc. cit., p. 30.

one choice if they incurred such a loss. They simply had to defer paying most of the already deferred revolving fund equities. If this alternative did not appeal to the cooperatives, in the future they will, no doubt, seek ways to change their financial structures. The only way that a revolving plan can be revolved at a constant rate over a period of fluctuating net savings is to defer no more in any year than can be redeemed under the worst possible conditions in the appropriate year in the future. If this had been done in the past there would have, of course, been no equities retained during certain years in the past in these associations.

The situation, therefore, existed that many cooperatives had revolving funds which were planned to be revolved over a relatively short period of years. Under the current conditions of declining net savings and rising demand for capital in the associations, however, it became impossible under the existing financial structures to keep the revolving fund from becoming a sinking fund. This then created the problems connected with not keeping the revolving fund in the hands of the current patrons of the association which were discussed in the review of literature.

Case Studies

As empirical illustrations of the current problem concerning use of the revolving fund in financing cooperatives three Kansas cooperative associations were studied. These cooperatives were assumed to be typical organizations but were not considered a representative sample of all Kansas cooperative associations.

Instead they were used to examine the use of revolving funds in such firms.

The cooperative which will be labeled as cooperative A was a small combination farm supply and petroleum association with total assets of approximately 1/4 million dollars. Cooperative B was a medium sized combination grain marketing, farm supply, and petroleum association with total assets of approximately 3/4 million dollars. The cooperative which was labeled as cooperative C was a large combination grain marketing, farm supply, and petroleum association with total assets of approximately 1 1/2 million dollars. These were examined with respect to their use of the revolving fund and related financial and operating methods.

The method used to analyze these firms was two fold. First the cooperative managers were contacted and the points of interest concerning their associations were discussed with them. Secondly the prepared audits from each association for at least five years previously were obtained and examined in detail. In this examination several guides were found useful concerning ratio and financial statement analysis.¹

¹Helpful publications were:
Marshall R. Burkes and George F. Henning, Ratio Analysis Used to Measure Financial Strength of Agricultural Business Corporations, Ohio Agricultural Experiment Station Bulletin A.E. 340, 1963.

Merlin G. Miller and Glen S. Fox, Reading Between The Lines, (New York: The Cooperative League of the U.S.A.), Pamphlet 43-2.

Richard W. Schermerhorn, Financial Statement Analysis For Agricultural Marketing Firms, University of Maryland, Cooperative Extension Service, Agricultural Economics Information Series No. 24, 1964.

Cooperative A

In discussions with the manager of cooperative A it was stated that the revolving fund posed no particular problem for the cooperative. The revolving fund, however, was quite large in relation to the total assets of the association. The cooperative being small and generally oriented around one rural community seemed to reduce member relation problems according to the manager. A brief ratio analysis showed the association in most respects to be in sound financial and operating condition.

In table 2 a financial breakdown of relevant items is presented for cooperative A. It can be seen that the revolving fund was relatively quite large in the association. Because of certain policies the revolving fund was not revolved for several years. The oldest retained equities were retained in 1957 making the period of revolution, if it were revolved, over ten years in 1967.

An unusual situation existed over the last several years which brought about this condition. First, no concept of least-cost capitalization was used as discussed by Snider and Koller¹, along with no concept of optimal mix of member equity and borrowed capital as discussed by Fox² and others. Instead a policy of no borrowed capital as optimal was used. It can be seen that net savings for the association fluctuated considerably but did not decline as savings did in most associations. The reason for

¹Snider and Koller, loc. cit.

²Fox, loc. cit.

not redeeming the oldest retained equities, while continuing to add new retained equities, was not insufficient net savings.

The reason presented for not paying the old retained equities for the past several years, except for some settlements to people who were no longer members, was that the association was undergoing a period of expansion into several new areas of business. Although it had not been difficult to borrow long-term capital from banking institutions, it was felt by the leaders of the association that this borrowed capital should be paid back as fast as possible. The easiest way to accomplish this was to just keep adding to the revolving fund without redeeming any of the old equities contained in it.

Since cooperative A was a small association closely oriented to the member farmers, and many of the more conservative or older farmers have a distinct fear of borrowed funds, the policy as outlined above evolved. Such a situation, although acceptable to most of the members, presented a problem to the association. The breakdown of different sources of capital used in the plan by Fox¹ is presented by years in table 3. The breakdown shows the sources of that capital. It also shows that the revolving fund was used to finance most of the assets of the association. In 1965 considerable capital was borrowed to expand facilities. This borrowed capital was being paid back as rapidly as possible. The amount of assets financed by member equity was quite high. If the creditor capital held primarily by members were included

¹Fox, loc. cit.

Table 2 - Financial breakdown of Cooperative A

	Total Assets	Net Operating Savings	Total Net Savings	Total Revolving Fund	Cash Available to Reduce Fund ¹
1963	178,755	6,760	15,895	143,935	19,750
1964	188,340	13,010	24,690	151,950	12,850
1965	251,815	15,710	22,550	163,870	(31,450)
1966	255,750	6,555	15,275	168,100	13,050
1967	270,145	15,550	26,810	182,230	11,750

¹Using cash flow analysis this amount of cash would have been available to reduce the revolving fund if so desired.

Table 3 - Analysis of Cooperative A in relation to the Fox¹ plan

	Revolving Fund to Total Assets	Creditor Capital to Tot. Assets	Mem. Cred. Capital to Tot. Assets	Foundation Capital to Total Assets	Net Worth to Total Assets
1963	.805	.061	.011	.123	.928
1964	.807	.076	.011	.106	.913
1965	.651	.223	.024	.102	.753
1966	.657	.198	.023	.122	.779
1967	.675	.163	.022	.140	.815

¹Fox, loc. cit.

in this, as many associations do, the rate would be even higher. The member equity-to-total assets ratio should be approximately .67 in a healthy cooperative.

An interesting aspect of this association's use of the revolving fund was noted by examining the net additions to the revolving fund over the five year period shown. No old equities were redeemed, except for some payments to people who were no longer members. Therefore, these figures represent the approximate amount available to use in revolving the fund in the future, given the same net savings pattern. It was found that if the association decided to hold the amount of the fund constant at the 1967 level and revolve it using an average of the net additions in the past to redeem old funds each year, the length of time could be estimated that it would take to completely revolve the fund. Using this approach and the data given in table 2 it was found that it would take approximately fifteen years to revolve the fund that the association possessed in 1967.

Another approach which was used to analyze this association was the cash flow analysis. This analysis used the cash gains of the association during the year and subtracted from them the cash outflow from the association. The resulting amount of cash was that which could have been put into corporate reserves, used to increase working capital, or be used to pay off old equities in the revolving fund. This method removed all patronage refunds which were made in cash and estate settlements as outflows of cash before the final amount was reached. The significance of this analysis was that it showed the amount each year

which was available to revolve the revolving fund. If the conditions of the past several years can be assumed to continue, then this gives an estimate of how large a revolving fund can be held in an association and still be revolved in an acceptable period of years.

For this analysis to be valid certain things had to be assumed about the association. First, it was assumed that the association had sufficient working capital and did not need this cash for that purpose. Next it had to be assumed that this cash was not intended to be used for a future expansion. The net worth to total assets ratio had to be considered adequate, and finally the net savings of the association had to be somewhat stable.

In table 2 it can be seen that in the past five years cooperative A has had an amount of cash available four of the years. In 1965 cash had to be obtained through increases in creditor capital. Over the five year period, however, the association had an average of over \$5,000 per year which could have been used to revolve their revolving fund. If this were used to project the amount of revolving fund which they might be able to revolve in five years, it can be seen that it would be approximately \$25,000 and not \$180,000 that was currently held.

In this association the revolving fund certainly will pose a problem in the future. Since the average age of farmers in general was quite high and was still rising, it would seem safe to assume that such an association as the one shown here will be soon forced to settle estates and redeem equities for retiring

farmers. Under these conditions the financial structure of the organization could undergo serious strain if adequate arrangements are not made. Cooperative A association certainly illustrates one facet of the current problem that is being discussed.

There are several ways that this association might approach a solution to its revolving fund problem. The most obvious approach would be to convert some of the revolving fund equities to another form of capital. To belong to this association only a \$10 membership is needed. It would seem feasible, perhaps, to require at least \$50 of foundation capital per member. This would raise foundation capital by approximately \$16,000. Raising foundation capital could be done by raising the amount needed for membership or through required additions to some type of permanent equity fund. The amount raised could then be used to retire the oldest revolved equities. Raising the foundation capital would seem to be a first step in the right direction.

To continue the attempted solution some type of interest bearing capital could be used. This could take the form of low interest long-term loans from lending institutions in part, since the ratio of net worth to total assets was quite high. If, however, the members would want to shoulder the burden in a more permanent method than the revolving fund, some type of long-term interest bearing certificate of indebtedness could be issued to those willing to do so. Another method of more permanent capitalization by the members was mentioned in the report to the

National Milk Producers Federation.¹ In this report the method which was preferred was the use of preferred or common stock of a non-voting type in stock organizations. Cooperative A, of course, was a non-stock cooperative, but it could still use types of equity similar to these such as equity funds mentioned above.

The money raised by increasing these forms of permanent and creditor capital could then be used to redeem more of the older revolving fund equities. Raising permanent and creditor capital would have the effect of adjusting the ratios in the Fox plan analysis more nearly to the recommended levels.²

There are, of course, unique problems in changing the financial structure of each cooperative and these must be taken into consideration in this cooperative. These possible actions should, however, be workable in some form.

Cooperative B

The discussion held with the manager of cooperative B disclosed that the revolving fund was not considered a problem in this organization either. The member relations concerning the revolving fund were somewhat more strained, however. The period of revolution for this association's fund in 1966 was five years which was a relatively normal period. However, the problem came to light when the net savings of this association were noted.

¹Improved Methods of Financing Dairy Cooperatives, loc. cit., p. 11.

²Fox, loc. cit.

This association's problem was in part directly related to the withdrawal of government stored grains discussed previously. The total storage and handling income to this association fell from approximately \$110,000 in 1962 to less than \$40,000 in 1966. This drop also was coupled with lean years in other departments of the association. The early part of the period shown in table 4 was characterized by expansion of operations in the association. However, at the same time the association was undergoing unexpected cuts in storage and handling the agriculture of the area was moving into a series of less prosperous years. In this case the expanded operations began to face difficulties and because of the compounded problems had to be cut back in some areas.

In table 4 the pertinent financial aspects of the association are broken down. It can be noted that net savings for the organization was maintained at a relatively high level until 1966. During this period of good net savings the revolving fund was increased to provide capital for the business expansion that took place. Of course, the management had no way of knowing that the storage and handling income would drop or that conditions among their patrons would cause business losses. These things must be taken into account as possibilities, however, if a workable revolving fund plan is to be developed.

In cooperative B the management felt that keeping the revolving fund revolving was important enough to their member relations that enough money was borrowed at the end of the year in 1966 to redeem enough old retained refunds so that the period of

Table 4 - Financial breakdown of Cooperative B

	Total Assets	Net Operating Savings	Total Net Savings	Total Revolving Fund	Cash Available to Reduce Fund ¹
1962	696,395	67,160	104,890	180,780	(29,400)
1963	806,465	50,850	85,250	262,330	(49,400)
1964	793,730	64,300	105,440	214,695	10,950
1965	808,965	75,255	103,480	258,380	28,600
1966	756,035	(22,455)	13,085	315,425	(94,900)

¹Using cash flow analysis this amount of cash would have been available to reduce the revolving fund if so desired.

Table 5 - Analysis of Cooperative B in relation to the Fox¹ plan

	Revolving Fund to Total Assets	Creditor Capital to Tot. Assets	Mem. Cred. Capital to Tot. Assets	Foundation Capital to Total Assets	Net Worth to Total Assets
1962	.260	.312	.195	.233	.493
1963	.325	.302	.176	.197	.522
1964	.378	.231	.175	.216	.594
1965	.319	.239	.175	.267	.586
1966	.403	.203	.102	.292	.695

¹Fox, loc. cit.

revolution would not get longer than five years. This, of course, could solve only temporarily the problem which existed. Although complete records for this association were not available for 1967, through the first six months the savings were not running much higher than in 1966. The problem therefore is likely to persist unless a solution is found, and it will, perhaps, become more acute as low savings continue and the years that large amounts were put into the revolving fund will become eligible to be paid back.

It can be seen in table 4 that no projection could accurately be made concerning the size of revolving fund which could be held, using the cash flow analysis. This arose from the fact that savings were highly erratic and considerable expansion in facilities took place. No cash was available for revolving old equities in 1966, and nearly \$95,000 had to be obtained from other sources to meet the cash requirements of the association. In this situation most of the funds needed were obtained through lending institutions and certificates of indebtedness.

When conditions such as this exist it is somewhat questionable if a revolving fund of any size is practical. It can be seen that it was nearly impossible to keep the fund revolving over the past five years, and, as stated above, for the next few years it will become even more difficult.

The analysis according to the Fox plan in table 5 shows that in this situation the types of capital which the burden of financing could be shifted to would be member creditor capital

and creditor capital.¹ In observing the net worth to total assets ratio, however, it can be seen that the amount that creditor capital can be increased was somewhat limited. However, the association has had a good credit rating in the past. The type of capital, therefore, that could be increased to any degree in this case was member held creditor capital. In this situation, although the Fox plan showed that foundation capital was more than sufficient, it might be in order to raise the allocated foundation capital also.²

To raise member creditor capital some type of certificate of indebtedness could be used. This use would have to be limited in that the due dates for these certificates must not form an excessive burden for the association in any one year or period of years.

Cooperative B differs from cooperative A in its type of membership. A's members tended to be smaller farmers and towns people, who were unable to raise large initial amounts of foundation capital to join the association. Cooperative B's members tended to be larger farmers who were more able to provide more foundation capital. Since both were membership associations some type of new stock issue, which works well in stock organizations, would not be possible. In this case the amount of the membership itself, which was \$100, could be raised. Some type of foundation capital fund, which is allocated to the members and could bear an

¹Fox, loc. cit.

²Ibid.

interest rate, could be initiated also. This would be a permanent type of capital resembling preferred stock in a stock association.

These methods of replacing the revolving fund as the principle source of capital seemed to be warranted because of the severe fluctuations in net savings that the association has undergone. If the net savings in the next few years level out at a certain amount for the association a certain level of revolving fund could be suggested for this cooperative, but in the present situation a phasing out of most of the revolving fund would seem most feasible.

Cooperative C

The first two cooperatives which were analyzed both had a problem concerning the use of the revolving fund which demanded solutions. Cooperative C, however, had a certain problem concerning the revolving fund which was solved by restructuring the association's financing. As shown in table 6, in the years 1963 and 1964 the association was going through a period of low net savings. At this time also, the association was both expanding business operations and merging some smaller cooperatives into the association.

In 1963 it can be seen that the revolving fund provided the capital to finance approximately one-third of the total assets of the association. In 1964 this dropped to less than one-fourth. At that time it was recognized that to keep an active revolving fund steps had to be taken to enact certain changes.

Before that time the allocated member's equity of this association was comprised of a \$50 membership and a \$50 certificate of equity that received a small interest rate. These were generated by the patrons' first \$100 of patronage dividends. In 1964 the association recognized that the revolving fund must be kept down to a manageable size. To decrease the amount of the revolving fund at that time the association initiated a \$250 per member addition to permanent capital which would be called a foundation capital fund. The \$250 per member was to be taken from the member's patronage refunds after the first \$100 was accumulated. However, no more than 50 per cent of the member's patronage refunds in any one year could be applied towards this fund. This plan was applied to the deferred patronage dividends held in the revolving fund in 1964. This decreased the revolving fund appreciably, as can be seen in table 6.

Cooperative C's plan allows for each member to have \$350 of permanent capital in the association when all necessary deductions from patronage refunds for permanent capital have taken place. Of this, \$50 would receive a rate of interest each year. The accumulation of this permanent capital could take many or few years depending on the amount of patronage dividends that a member receives. This plan removes the pressure from the association to keep a large revolving fund active, and supplies a more permanent source of foundation capital for the firm.

In table 6 it is seen that net savings for this firm were somewhat irregular, but with a definite increasing trend. Also the association grew through operational means and mergers over

Table 6 - Financial breakdown of Cooperative C

	Total Assets	Net Operating Savings	Total Net Savings	Total Revolving Fund
1963	906,345	(2,145)	47,503	306,345
1964	960,635	(3,840)	58,070	211,340
1965	1,016,950	19,725	70,530	231,865
1966	1,199,340	44,115	83,146	246,000
1967	1,494,805	49,710	109,095	267,570

Table 7 - Analysis of Cooperative C in relation to the Fox¹ plan

	Revolving Fund to Total Assets	Creditor Capital to Tot. Assets	Mem. Cred. Capital to Tot. Assets	Foundation Capital to Total Assets	Net Worth to Total Assets
1963	.338	.381	.222	.059	.397
1964	.220	.370	.212	.198	.418
1965	.228	.427	.200	.145	.373
1966	.205	.479	.173	.143	.348
1967	.179	.404	.204	.213	.392

¹Fox, loc. cit.

this time requiring more capital. It was noted previously by Roy¹ that the revolving fund should not be used to finance growth. Cooperative C recognized this fact and took steps to find a solution. The manager of this association reported that a program of diversification of operations was being used to attempt to maintain a more constant level of net savings which would make keeping the revolving fund active less of a problem.

Cooperative C's method of financing could perhaps be applied to other cooperatives which are facing revolving fund problems. The members of an association would have to be agreeable to such a plan. The manager of cooperative C expressed, however, that the members of this association felt that keeping the revolving fund active was worth increasing their permanent capital contributions to the association. A possible method of making this plan more attractive to members would be to create an interest bearing permanent capital fund to allow them to receive a return on capital that is not held in proportion to their patronage to the association.

In the previous two associations that were examined the revolving fund problem which existed was similar to the one faced by this association a few years ago. Cooperative C, however, did not have as excessively large a revolving fund as the other two. This association realized when faced by the need for increased capital to expand that if it raised the capital by increasing the revolving fund a more severe problem would arise. The major rea-

¹Roy, loc. cit.

son for raising the capital through increases in permanent capital was because of the needs of expansion. It can be seen in table 7 that the association in 1963 already had a high ratio of creditor capital to total assets. Therefore, to provide the basis for additional borrowings necessary to expand more permanent capital was needed. Lending institutions look carefully at the amount of permanent net worth capital in an association.

Cooperative C seemed to illustrate that a plan to convert the revolving fund equities, if they are excessive, in an association to other types of capital can be used. Although this particular method seems to be working in this association, there is no guarantee that it would work for others. The principle, however, would seem to be usable in many other associations. The use of the permanent equity capital fund particularly seems to be usable in membership associations where methods which are used in stock associations are not possible.

Solutions to the Problem

It is not enough to point out the problem currently facing cooperatives without providing some possible solutions to the problem. Many cooperatives are now discovering the problem that has been discussed. For these cooperatives usable answers are needed. In reviewing the literature concerning the revolving fund and examples of the problem itself, certain possibilities have become evident. Some specific ones have been discussed for the three cooperatives analyzed.

To outline possible solutions to the revolving fund prob-

lem certain criteria were assumed to be considered optimal for the cooperatives. These criteria can be listed as (1) The cooperative must have a sound financial structure. (2) The capital used to finance the cooperative should be obtained at the least possible cost, whether real or opportunity cost, and (3) If a system of compulsory financing is used the equity should be held in relation to the proportion of business done by the current patrons. These criteria certainly aren't followed in all cooperatives, but they should be used in restructuring finances if the true goal of the cooperative is to best serve its member farmers.

If these criteria are to be used the first consideration would be for a cooperative to assure a sufficient net worth-to-total-assets ratio. This is, of course, not a guarantee that the cooperative has a sound financial structure. When the condition is met, however, that from one to two dollars of net worth should be present for each dollar of outside borrowed capital, it does show that the cooperative can cover its borrowings in the event of termination of the association. This generally allows the cooperative to have a good credit rating among lending institutions. Operating situations are, of course quite important also.

If the first criteria is met, as was the case in most of the organizations studied, then the cooperative can work to meet the second criteria. This is more of a problem for the cooperative. The method in this case is to use different types of member equity in a correct mix so that the return on the farmers' capital used to finance the organization is equal to or greater than the cost of replacing this with borrowed capital. The types

of member equity would differ in whether interest was paid or not. Of course, an exact marginal return on the member equity in the cooperative, which is needed for this analysis, is difficult to compute.

The third criteria deals specifically with the revolving fund. The major advantage of setting up the revolving fund method of financing was to have the current patrons of the organization provide capital in proportion to the use that they made of the association. This stated advantage is not being realized in all cooperatives.

The problem currently faced by the cooperatives studied was a failure to be able to meet the second and third criteria. In some cases the attempt to form a sound financial structure ignored the rate of return on the farmers capital by overuse of the revolving fund. Ignoring this led to an equity capital with a low rate of return which was held in part by people who no longer patronized the association. Also some of the patrons' proportion of the total business had changed significantly from the proportion of the revolving fund held by them.

A solution to this problem would be a system which would allow the cooperative involved to meet all three of these criteria for financing. Since most of the cooperatives studied met the first criteria more emphasis was placed upon meeting the second and third criteria.

Basically the four sources of capital were used as outlined by Fox.¹ The basic problem presented was condensed to the

¹Fox, loc. cit.

situation where a revolving fund has become a relatively large portion of the capital structure of the cooperative, and the cooperative has become unable to revolve it in an acceptable time period. As has been shown, this problem can arise for any one of several reasons. This situation would probably mean that the second and third criteria discussed above were not being met.

A solution to this problem would involve a change in the mix of the four sources of capital available to the cooperative. Temporary delays in the necessity for a solution could be enacted without this, but a true solution would involve a change in the financial structure of the cooperative. There are several ways that the mix of sources of capital used to finance a cooperative can be varied in an attempt to solve this problem.

The variations needed to meet the second criteria were studied first. Usually if the situation outlined exists it is accompanied by a decrease in net savings. This necessarily shows a decline in the return on the members' equity in the organization. In this case if shifts are to be made to raise the member's return on invested capital more capital must be shifted into an interest bearing category. This would seem to increase the difficulty of the cooperative at an already difficult time. Under these circumstances if an organization could not make a high enough return on capital to pay a modest rate of interest on it there would be reason to question the value of its existence.

At this point the concept of paying interest on revolving fund capital which is not in the hands of the current patrons of the cooperative was considered. As the revolving fund problem

was outlined the cooperative had reached a point where the revolving fund could no longer be revolved. If nothing was done the burden of financing the present association more and more would be upon former patrons. Eventually these people would lose hope of ever getting their capital out of the association in cash. To meet the third criteria an interest bearing capital should be substituted for these out-of-date revolving fund equities.

To meet both the second and third criteria that have been set forth the substitution of an interest bearing form of equity seemed to be a necessary step. In the discussion thus far the member equity of the association was assumed to be held constant. It was shown in the earlier study of cooperative B, that the member equity-to-total-assets ratio was higher than necessary. In this instance it was feasible to use borrowed capital to relieve part of the problem.

The basic solution to the problem seemed to be either converting revolving equities to an interest bearing capital or redeeming some of the revolving equities with borrowed capital. These would fall into the capital categories of either increased foundation capital, increased creditor capital, or member held creditor capital according to the Fox plan.¹ In actually putting this type of solution into effect in the cooperative there are many different methods that can be used. These are dependent upon the availability to the cooperative of capital from different

¹Fox, loc. cit.

sources.

If the solution is attempted by converting revolving fund equities into interest bearing forms of capital one approach would be to pay a rate of interest on all revolving fund equities. This would, of course, leave no revolving fund as was then used, nor would it help pay the older equities in the fund. Also, only the older equities in the fund could be paid an interest rate, but this would not move the capital to the current users. A system could be initiated to convert the older revolving equities to certificates of equity with interest and a due date. Such a system could continue to put pressure on the association when these came due.

From these possibilities it was seen that perhaps, a combination of these suggestions would be advisable. Such a combination would entail issuing certificates of indebtedness to those patrons desiring them on a staggered retirement schedule. Coupled with this a program such as used by cooperative C in the case studies could be used, whereby the amount of foundation capital provided by each current member would be raised. The foundation capital fund should probably receive an interest rate since it would maintain the member's equity in the association while not raising the returns on it. Although, in general the idea of paying interest on foundation capital in cooperatives has been rejected, in the future it seemed logical to anticipate an interest payment on all member equity. The reason rested basically upon the fact that it was increasingly difficult to keep each member's equity in proportion to his current patronage. Also, it was dif-

ficult to maintain the amount of member equity in a cooperative at a point where the patronage dividends create sufficient returns to offset the opportunity cost of the member's capital. This was discussed by Snider and Koller.¹

Some associations have converted the equity which did not receive an interest rate into preferred stock. Preferred stock, of course, can only be used in stock associations. In this way equity can be accumulated, although no increase in voting rights takes place, and it is placed in an interest bearing permanent type of capital. Preferred stock seemed to be a very good solution to the revolving fund problem in the associations able to use it.

Where the member equity is at an optimal level the above procedures could be used effectively in solving the revolving fund problem. If net worth is higher than is needed in the association a solution to the revolving fund problem could be approached through increasing borrowed capital. In general, if the opportunity cost of acquiring more capital from the members is higher than the interest rate on borrowed money, it would be feasible to relieve some of the member equity with borrowed funds. Actually increasing the amount of borrowed funds in the association can increase the rate of return on the net worth of the members. Assume that return on total assets was 10 per cent for the association, and then that some of the excess member equity in the association was replaced by borrowed capital at 5 per cent

¹Snider and Koller, loc. cit.

interest. This would increase the rate of return on the remaining member's equity while allowing some of it to be reinvested by the farmer. There are many ways creditor capital can be raised. Of the funds borrowed from lending institutions in 1954, it was found that approximately 58 per cent was borrowed from the Banks for Cooperatives, approximately 10 per cent from commercial banks, and 4 per cent from individuals.¹ Certificates of equity are sometimes listed as borrowed capital, however, in this study they were designated separately as member creditor capital. In the past the Banks for Cooperatives were an excellent source for borrowed funds, primarily because the cooperatives themselves were unable to market any bond type of financing of their own, while the Banks for Cooperatives were able to operate in this fashion on the money markets of the United States. In the future it is possible that for some of the larger cooperatives it will become feasible to sell some type of low return negotiable instrument either locally or on the money markets to help raise the necessary capital.

The plan outlined previously by Griffin also had merits in finding a solution to the revolving fund problem.² A method of adjusting the revolving fund would keep it in the hands of the current patrons. Griffin's plan, perhaps, would allow a portion of equity capital to remain without an interest rate since it keeps the money held in the revolving fund furnished according

¹Hulbert, Griffin, and Gardner, Methods of Financing Farmer Cooperatives, loc. cit.

²Griffin, loc. cit.

to current patronage. Such a plan would seem to be the only real logical form of retaining a revolving fund in these times of fluctuating and decreasing net savings in some associations.

Another aspect of financing that was considered necessary for all cooperatives was formulation of long run financial plans. Any of the solutions that were proposed here would be ineffective at best if they were not part of a well constructed plan for the financing of the cooperative in the future. The very reason that the revolving fund became a problem in some cooperatives was the fact that no financial plans were made for the future. In deriving such a plan the cash flow analysis used previously in this study was a helpful tool in keeping the revolving fund in correct relationship. These plans, of course, must undergo constant revision, but without them the cooperatives are merely increasing the chances of having problems similar to the current ones in the future.

These were but a few of the more general ways in which a solution to the revolving fund problem, as it was outlined in this study, could be solved. Since the actual problem varied greatly among affected cooperatives the solutions also varied to meet the needs. Any one of the changes proposed could not provide a solution in itself, however, a combination of several of the changes would probably be applicable to most of the situations.

SUMMARY AND CONCLUSIONS

In this paper one aspect of cooperative financing has been discussed. The study was initiated to review the use of revolving fund financing in cooperatives, to find what problems are currently faced in this area, and to develop possible ways of improving revolving fund financing.

Several authors have contributed to the literature concerning revolving fund financing in cooperatives, and the relevant works were reviewed as a background for this study. Useful guidelines for the use of revolving finance were obtained. These recommendations were based upon the many years of experience in managing these funds. In the more current works certain deviations from these guidelines were discussed and some resulting problems pointed out.

The revolving fund has played an important role in providing the capital needed by cooperatives. In recent years changing operating conditions have created new problems for many cooperatives that rely heavily upon the revolving fund plan. One of the primary results has been poor member relations with the cooperative. Several new concepts in revolving funds were found. These were reviewed from the point of view that they might be helpful in solving current problems.

The research done for this study isolated certain problems found among cooperatives concerning the use of revolving

funds. The causes and backgrounds of the problems were then illustrated using a representative sample of Kansas cooperatives. An analysis revealed that in general: (1) more capital is needed for cooperatives; (2) net savings for these cooperatives tend to be irregular with a decreasing trend; and (3) that the revolving fund has become very difficult to keep up to date.

The problem facing cooperatives concerning the use of the revolving fund varied from no problem in some cooperatives to a severe problem in others. To analyze specific problems three Kansas cooperatives were selected for special study. The cooperatives were viewed from both an operational and financial standpoint. The financial aspects were concentrated upon. Two of the cooperatives exhibited problems in their use of the revolving fund. The third presented a situation in which a problem had appeared and seemingly successful steps had been taken to solve it.

Possible solutions to the problems in the case studies were offered for each association. Solutions were drawn from the writings which had been reviewed, from examples in certain cooperatives, and from studies of the possible changes in the individual cooperative's financial structure. Solutions for these particular cooperatives were broadened to form general suggestions which could be of help to cooperatives facing problems with their revolving funds.

In each of the case studies managers were reluctant to admit that a problem existed with their revolving funds. Some managers have ignored member discontent resulting from such problems. Therefore, part of the approach to a solution must be a

realization that the revolving fund is not an infallible method of raising capital to finance cooperatives.

Cooperative methodology must undergo constant review to guarantee its proper use. In the case of the revolving fund many cooperatives are now finding that a review of its use is needed. This study has attempted such a review, and it has offered suggestions for improving the use of revolving fund financing in farmer cooperative associations.

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PROBLEMS INVOLVING USE OF REVOLVING
FUND FINANCING IN SELECTED COOPERATIVES

by

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