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Changes in the Financial Structure of Agricultural Business Organizations

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CHANGES IN THE FINANCIAL STRUCTURE OF AGRICULTURAL BUSINESS ORGANIZATIONS

G. F. HENNING AND MARSHALL BURKES

INTRODUCTION

Some farmers believe that they should own and operate a part of the facilities that furnish their supplies such as petroleum products, chemicals, and other supplies. Likewise they should own and operate part of the business firms that market the commodities produced on their farms. Those farmers that hold to these basic beliefs soon become involved in the problems connected with the financing and operation of the firms associated with the marketing of agricultural commodities and the furnishings of supplies, finance and services to farmers. This point of view has received more emphasis in recent years due to evidences of integration appearing in the agricultural industry. The methods and systems of financing then assume greater importance to the directors and management of agricultural firms.

A financial structure study was started in 1956 by the Ohio Agricultural Experiment Station in cooperation with a group of Ohio farmer-owned cooperative agricultural business organizations that were members of the Ohio Council of Farmer Cooperatives. The Ohio Council aided in selecting the sample of cooperatives that were studied, gave some financial aid to travel, advised with respect to organizations that had satisfactory and unsatisfactory management, and other requirements that would give a representative sample of cooperative agricultural business firms. [1] A total of 41 associations was selected of which 37 conducted business directly with farmers besides the four state wholesale associations.

This bulletin is a continuation of that study with the addition of three local elevators and farm supply associations which makes a total of 40 firms transacting business directly with farmers and four state wholesale associations.

The audits for the fiscal years of 1940-41, 1945-46, 1950-51, 1955-56, and 1960-61 were examined and summarized. This span of the past 20 years allows a presentation of trends for that time period and permits the projection of what the growth may be for the next 10 to 15 years. The writers are convinced from the results of this study [2] that important infor-

1—Henning, G. F. and Laubis, R. E., **Financial Structure of Agricultural Business Organizations,** Ohio Agricultural Experiment Station, Wooster, Ohio, Research Bulletin 880; April 1961, pages 3, 4, and 5 of this bulletin give the reader a brief development and background of agricultural cooperatives and the reasons for the original study.

2—Burkes, Marshall R., **Changes in Financial Strength and Structure of Agricultural Business Organizations,** Unpublished Ph.D. Dissertation, O.S.U., 1962.

mation is available to management which should permit individual managers to make wise and sound decisions concerning the financial structure of their business firms in the future.

DEFINITION OF CAPITAL TERMS

The following are some terms that are used throughout this study. It is hoped that common ground can be reached since these terms have different meanings to different people.

In using and defining the terms, the writers have in most instances followed the classifications used by the auditors in preparing the financial statements for the firms involved in this study. It is difficult to classify the many different forms of capital that satisfy all of the many interests involved.

Net worth represents the stockholders' and patrons' investment in the business. This item may be increased by additional investments or by leaving net earnings in the business. Net worth can be decreased by withdrawals of assets by the investors or by business losses.

Net worth, as used in this study, includes the following forms of capital: (1) common stock, (2) preferred stock, (3) earned surplus funds, (4) membership capital, (5) book allocations, (6) reserves or allocated reserves, (7) certificates without maturity dates, (8) certificates with maturity dates, and (9) debenture bonds. Net worth includes all capital that makes up permanent, semi-permanent and non-permanent sources of funds.

Capital stock refers to the security outstanding and this represents shares of ownership. These issues include all series of common and preferred stock.

Undistributed patronage refunds is that part of net savings which has *not* been paid to patrons for business transacted with the association. These refunds still belong to the patrons but are retained in the business because the board of directors has decided that this is the best plan for the association and the stockholders. Allocations, reserves, certificates without maturity dates and earned surplus funds are varying forms of undistributed patronage refunds.

Earned surplus or tax-paid surplus is past earnings which are not subject to allocation to patrons on a patronage basis and federal income tax has been paid. The tax-exempt cooperatives pay federal income tax *only* on the amount of the reserve account based on corporate income tax rates. This is called an "unallowable reserve" which is not deductable from federal income tax. Care must be exercised not to circumvent the by-laws of a tax-exempt cooperative by paying taxes on this reserve. The non-exempt cooperatives must pay federal income taxes on the reserve at the same corporate rate as the remaining net saving before dividends.

Capital stock and earned surplus are permanent capital.

Book allocations refer to amounts of net savings after payment of interest, dividends and possible federal income tax which are allocated to patrons and members. These allocated patronage refunds are recorded on the books of the association but retained by the association in the amounts accrued to each patron. The patron usually receives a letter after the conclusion of each fiscal year stating the amount allocated based upon the amount of business transacted with the association.

Reserves or *allocated reserves* are the same as allocations with one exception. By establishing allocated patronage refunds as a reserve, the board of directors formally acknowledges that the patronage refunds will not be distributed to the patrons for an indefinite period of years.

Certificates without maturity dates are generally referred to as certificates of ownership or certificates of equity. These certificates were generally acquired through the process of allocating patronage refunds and did not possess a fixed rate of interest nor a fixed maturity date.

Certificates with maturity dates are generally referred to as Certificates of Indebtedness. These certificates possessed a fixed rate of interest and a maturity date. The instruments studied were unsecured and junior to current creditors. These certificates are generally acquired through sale to investors with only a few associations permitting acquisition through accumulation of patronage refunds.

Membership capital was generally associated with the non-stock organizations. The non-stock associations call the entrance fee for membership, "membership capital."

Debenture bonds are subordinated bonds with a fixed rate of interest and fixed maturity date which are secured only by the general credit of the firm, and thus have no claim on specific property. These notes must meet the approval of the state Securities Exchange Commission and, if the interest payment is not met, the principal becomes due.

In general accounting terms, any capital used by a firm other than capital stock and membership capital is a liability. This means that a firm would have no semi-permanent and non-permanent capital within net worth. However, the stockholder and patron are usually synonymous in a farmer-owned cooperative. Since most of the funds used for semi-permanent and non-permanent equity originate from undistributed patronage refunds of net earnings, the cooperative financial structure is unique. Therefore, the customary long term liabilities of undistributed patronage refunds are used as, and can be considered, a part of net worth or owners' equity. Debenture bonds are in this category. Most such bonds come into being through their issuance in place of accumulated patronage dividends.

CAPITAL STRUCTURE OF COMMON STOCK, COMMON AND PREFERRED STOCK AND NON-STOCK ASSOCIATIONS

In this section the amounts of several forms of net worth and their changes over a twenty-year time period were analyzed. One basic question underlies this subject of net worth. How are the various cooperatives financed?

Within a group of firms which represents a particular commodity or type of business, a single firm may be financed by two or more sources of capital. Another firm may use a different combination of funds. This section is concerned only with the structure of net worth. Most cooperatives are considered to have a complicated financial structure. Their primary source of net worth capital comes from common stock or membership fees; some firms also issue preferred stock and all firms use retained earnings or undistributed patronage refunds.

The 44 associations which include both local and state associations were divided into the following basic classifications: (1) cooperatives having only common stock, (2) cooperatives having a combination of common and preferred stock, and (3) membership cooperatives or non-stock associations. Each of the three classifications of association also use other forms of capital.

Permanency of capital was a relative concept since each association has by-laws which can provide for different redemption and transfer policies for the same form of capital. Common stock, preferred stock and earned surplus are considered permanent capital since these forms of capital are relatively permanent by provisions in the by-laws. Book allocations, allocated reserves, certificates without maturity dates and membership capital were considered semi-permanent forms of capital. Semi-permanent forms could be made relatively permanent by appropriate by-laws. With the exception of membership capital for non-stock firms, semi-permanent capital was undistributed patronage refunds. The Board of Directors of each association made the decision as to the net savings that were paid as stock dividends and the manner and time of patronage refunds payment. Therefore, the Board of Directors for each firm determines the degree of permanency of semi-permanent capital.

Non-permanent forms of capital were debenture bonds and certificates which possess a fixed rate of interest and a definite maturity date. The non-permanent forms of capital were normally considered long-term liabilities or debt by the financial community. However, most cooperative managements actually use debenture bonds and certificates with maturity dates as net worth. In fact, they have been sold or patronage refunds have been

allocated in competition with permanent capital. Many investor patrons prefer having their patronage refunds paid in the form of securities which pay a guaranteed rate of interest and mature at a known date. This preference probably results from cases of failure to pay a satisfactory dividend on stock and inability to redeem the stock investment. The Board of Directors has no control over the interest rate and maturity date after the securities are issued, but they may refund the securities with additional issues at maturity date. If these securities are refunded with succeeding issues, a stronger case can be built for debenture bonds and certificates with maturity dates as a regular but questionable means of financing net worth.

The manager, in accordance with the Board of Directors, should make capital expenditures based on the source of permanency of net worth with reference to cost.[1] This applies to any debt since borrowed funds from outside sources cannot be obtained at reasonable rates if net worth is weak.

The 44 associations were divided according to their capital structure in the following manner: (1) 16 common stock associations, (2) 19 common and preferred stock associations. (3) five non-stock associations and (4) four state wholesale associations. Also, for a look at the capital structure according to type of business, the firms were separated by the 27 local elevators and farm supply firms and the 13 other farm business organizations.

The four state wholesale associations were financed through a combination of common and preferred stock and undistributed patronage refunds. However, the problems facing these associations were somewhat different because of their volume which was not transacted directly with farmers. In fact, many of their securities are sold to the non-farm public.

For this analysis net worth or amount of capital was arranged by form and expressed by percentages of distribution.

1—Pearson Hunt, Charles M. Williams and Gordon Donaldson, **Basic Business Finance**, Richard D Irwin, Inc, Homewood, Illinois, 1958, page 521.

AMOUNTS AND FORMS OF CAPITAL USED BY 27 LOCAL ELEVATORS AND FARM SUPPLY ASSOCIATIONS

The sum and changes of various forms of capital used by both common stock and common and preferred stock firms are presented in Tables 1 and 2. Net worth was 6.6 times in 1960 compared to 1940. The major advance in net worth transpired between 1945 and 1950. This pace came down to 12 percent from 1955 to 1960. The straight-line projection for 1965 indicated that net worth will increase 22 percent from 1960 while total assets will expand 23 percent. Both semi-permanent and non-permanent capital are projected to climb faster than permanent capital by 1965.

TABLE 1—Amount and forms of capital used by 27 local elevators and farm supply agricultural business organizations, Ohio, five selected fiscal years.

Forms of Capital	1940-41	1945-46	1950-51	1955-56	1960-61
Permanent Capital					
Common stock	$ 833,646	$ 1,293,143	$ 1,900,508	$ 2,586,819	$ 2,995,838
Common A stock	—0—	—0—	175,327	144,625	146,970
Common B Stock	—0—	—0—	695,025	707,256	543,153
Sub-total	833,646	$ 1,293,143	2,770,860	3,438,700	3,685,961
Preferred stock	66,689	220,204	1,052,873	1,092,845	1,318,301
Preferred A stock	—0—	22,800	527,105	978,782	873,457
Preferred B stock	—0—	—0—	58,410	51,370	43,870
Sub-total	66,689	243,004	1,638,388	2,122,997	2,235,628
Tax-paid surplus	526,297	840,316	1,020,926	1,439,394	1,349,257
Total	1,426,631	2,376,464	5,430,173	7,001,094	7,270,846
Semi-permanent Capital					
Memberships	—0—	—0—	—0—	—0—	—0—
Book allocations	37,530	95,437	491,732	905,369	904,653
Reserves	26,185	96,867	177,499	135,299	298,225
Certificates*	4,307	23,200	—0—	331,501	692,526
Total	68,021	215,504	669,231	1,372,169	1,895,404
Non-permanent Capital					
Certificates	—0—	118,145	—0—	9,745	9,108
Debenture bonds	29,650	48,774	321,607	573,900	857,793
Total	29,650	166,919	321,607	583,645	866,901
Net Worth (Total Capital)	$ 1,524,303	$ 2,758,887	$ 6,421,012	$ 8,956,907	$10,033,151
Long Term Liabilities	—0—	—0—	655,858	1,342,355	1,850,065
Long Term Liabilities Plus Net Worth	$ 1,524,303	$ 2,758,887	$ 7,076,870	$10,299,262	$11,883,216

*Without maturity dates

Source: Original data.

Table 2—Percentage distribution of amount of capital by forms of capital, 27 local elevators and farm supply agricultural business organizations, Ohio, five selected fiscal years.

Forms of Capital	1940-41		1945-46		1950-51		1955-56		Percent	
	Percent		Percent		Percent		Percent		1960-61	
Permanent Capital										
Common stock	54.7		46.8		29.7		28.9		29.9	
Common A stock	—0—		—0—		2 7		1.6		1.5	
Common B Stock	—0—		—0—		10.8		7.9		5.4	
Sub-total	54.7		46.8		43.2		38.4		36.8	
Preferred stock	4.4		8.0		16.4		12.2		13 2	
Preferred A stock	—0—		.83		8.2		10.9		8.7	
Preferred B stock	—0—		—0—		91		.57		.44	
Sub-total	4.4		8.8		25.5		23 7		22.3	
Tax-paid surplus	34.5		30.5		15 9		16.1		13.4	
Total		93.6		86.1		84.6		78 2		72.5
Semi-permanent Capital										
Memberships	—0—		—0—		—0—		—0—		—0—	
Book allocations	2.5		3.5		7.6		10.1		9.0	
Reserves	1.7		3.5		2.8		1.5		3.0	
Certificates*	.28		.84		—0—		3.7		6.9	
Total		4.5		7.8		10.4		15.3		18.9
Non-permanent Capital										
Certificates	—0—		4.3		—0—		.11		.09	
Debenture bonds	1.9		1.8		5.0		6.4		8.5	
Total		1.9		6.1		5.0		6.5		8.6
Net Worth (Total Capital)		100.0		100.0		100.0		100.0		100.0

*Without maturity dates.

Source: Table 1.

Permanent capital has progressed at a slower pace since 1950. In fact, there has been only 4 percent change from 1955 to 1960. Only 72.5 percent of net worth was in permanent capital in 1960 compared to 93.6 in 1940 (Table 2). An early decline occurred in common stock as preferred stock was substituted. During this time, earned surplus fell from 34.5 percent to only 13.4 percent of net worth.

Semi-permanent capital made steady strides. As a percent of net worth, semi-permanent climbed from 4.5 percent in 1940 to 18.9 percent in 1960. In other words, funds that were previously transferred to permanent capital are remaining as semi-permanent capital. As undistributed patronage refunds accumulated, book allocations rose from 1950 to 1955 as certificates without maturity gained strength from 1950 to 1960. For example, Firm A had no certificates without maturity dates in 1950, but a sudden growth of $218,000 was provided by 1960. This was considered a sound decision since book allocations were advanced only $14,000 and reserves remained at $21,000. However, semi-permanent capital was advanced from $21,000 to $254,000 during the last ten years, which was much faster than permanent capital. Permanent capital was only strengthened from $375,000 to $425,000.

* * *

If undistributed patronage refunds are not to be distributed to the patrons in the near future, the funds should be shifted to reserves and certificates without maturity dates, but a strong preference should be given to earned surplus or stock.

Debenture bonds have continually grown at a faster rate than net worth. In fact, 8.6 percent of net worth appeared as non-permanent capital in 1960.

AMOUNTS AND FORMS OF CAPITAL USED BY 13 OTHER AGRICULTURAL BUSINESS ASSOCIATIONS

The 13 local associations contained types of business such as three poultry, two milk, one livestock, one wool marketing, two breeding, two production credit and two federal land bank associations. Net worth has strengthened by 6.7 times from 1940 to 1960 and at a very stable pace (Table 3). Also net worth is projected to expand only 22 percent from 1960 to 1965 compared to 24 percent for total assets. Non-permanent capital will be extended over 27 percent from 1960 to 1965 while semi-permanent capital will expand by only 19 percent.

The primary expansion of permanent capital came from 1945 to 1955 as noted by the fluctuation of permanent capital as a percent of net worth. A decline in common stock allowed permanent capital to drop from 63 percent of net worth in 1940 to 40 percent in 1945 (Table 4). Preferred

Table 3—Amount and forms of capital used by 13 other agricultural business organizations, Ohio, five selected fiscal years.

Forms of Capital	1940-41	1945-46	1950-51	1955-56	1960-61
Permanent Capital					
Common stock	$ 368,615	$ 628,709	$ 609,331	$ 1,213,577	$ 1,240,786
Common A stock	304,055	257,345	418,191	141,700	561,765
Common B Stock	103,010	111,875	377,785	632,705	1,265,435
Sub-total	775,680	997,929	1,405,307	1,987,982	3,067,986
Preferred stock	163,660	76,925	370,885	1,021,438	1,203,689
Preferred A stock	—0—	—0—	—0—	—0—	38,065
Preferred B stock	—0—	—0—	—0—	—0—	—0—
Sub-total	163,660	76,925	370,885	1,021,438	1,241,754
Tax-paid surplus	93,665	109,558	965,503	1,895,177	1,486,613
Total	1,033,005	1,184,412	2,741,694	4,904,597	5,796,353
Semi-permanent Capital					
Memberships	6,104	39,985	116,567	451,382	181,491
Book allocations	37,321	1,178,833	1,032,920	821,808	1,019,270
Reserves	185,290	289,318	344,034	224,675	1,745,877
Certificates*	—0—	138,201	230,470	880,810	176,371
Total	562,715	1,646,338	1,723,993	2,378,675	3,123,009
Non-permanent Capital					
Certificates	43,989	146,445	802,981	675,705	823,900
Debenture bonds	—0—	—0—	11,800	299,150	1,265,415
Total	43,989	146,445	814,781	956,855	2,089,315
Net Worth (Total Capital)	$ 1,639,708	$ 2,977,196	$ 5,280,468	$ 8,240,127	$11,008,677
Long Term Liabilities	5,915	14,599	209,639	87,280	776,909
Long Term Liabilities Plus Net Worth	$ 1,645,623	$ 2,991,795	$ 5,310,107	$ 8,327,407	$11,785,586

*Without maturity dates.

Source: Original data.

Table 4—Percentage distribution of amount of capital, by forms of capital, 13 other agricultural business organizations, Ohio, five selected fiscal years.

Forms of Capital	1940-41		1945-46		1950-51		1955-56		1960-61	
Permanent Capital										
Common stock	22.5		21.1		11.5		14.7		11.3	
Common A stock	18.5		8.6		7.9		1.7		5.1	
Common B Stock	6.3		3.8		7.2		7.7		11.5	
Sub-total	47.3		33.5		26.6		25.1		27.9	
Preferred stock	9.9		2.6		7.0		12.4		10.9	
Preferred A stock	—0—		—0—		—0—		—0—		.4	
Preferred B stock	—0—		—0—		—0—		—0—		—0—	
Sub-total	9.9		2.6		7.0		12.4		11.3	
Tax-paid surplus	5.7		3.7		18.3		23.0		13.5	
Total		63.0		39.8		51.9		59.6		52.6
Semi-permanent Capital										
Memberships	.4		1.3		2.2		5.5		1.7	
Book allocations	2.3		39.6		19.6		10.0		9.3	
Reserves	11.3		9.7		6.5		2.7		15.9	
Certificates*	—0—		4.6		4.4		10.7		1.6	
Total		34.3		55.3		32.7		28.8		28.4
Non-permanent Capital										
Certificates	2.7		4.9		15.2		8.0		7.5	
Debenture bonds	—0—		—0—		.2		3.6		11.5	
Total		2.7		4.9		15.4		11.6		19.0
Net Worth (Total Capital)		100.0		100.0		100 0		100 0		100.0

Source: Table 3.

stock and earned surplus have expanded since 1945. However, earned surplus fell from a high of 23 percent of net worth in 1955 to 13.5 percent in 1960.

Semi-permanent capital has remained fairly stable at 30 percent of net worth except in 1945 when book allocations were retained at 39.6 percent. Reserves made the most significant growth in 1960 when they suddenly outnumbered allocations. In contrast, certificates without maturity dates were reduced to a new low in only five years. For example, Firm B allowed certificates without maturity dates to fall from $102,000 in 1955 to $42,000 in 1960. This was considered a weakening trend since reserves were expanded slightly from $40,000 to $58,000. To make the situation more obvious, book allocations of $43,000 were set aside in 1960 instead of applying the funds to more permanent form of capital such as earned surplus. Thus, Firm B did not maintain permanent or semi-permanent capital at the average pace of the other firms.

Non-permanent capital has multiplied to a proportion about one-fifth of net worth. Debenture bonds have been the real offender in the last ten years since they represent 11.5 percent of net worth.

AMOUNTS AND FORMS OF CAPITAL USED BY 16 COMMON STOCK ASSOCIATIONS

Net worth in 1960 was 5.5 times what it was in 1940, but it increased at a very steady pace (Table 5). The rate of increase for net worth from 1960 to 1965 is projected at 22 percent while total assets are enlarging by 25 percent. Semi-permanent capital as shown in Table 5 will advance by 25 percent or 3 percent faster from 1960 than permanent or non-permanent capital.

Permanent capital as a percent of net worth dropped from 92 percent in 1945 to 84 percent for 1960 (Table 6).

During this time, earned surplus has held at about 30 percent of net worth while common stock has been reduced by about 10 percent.

Semi-permanent capital was limited before 1950, then book allocations expanded. Apparently, additional undistributed patronage refunds have been designated as reserves and certificates without maturity dates since 1955. This shift tends to make semi-permanent funds more permanent as it becomes more important in volume. For example, Firm C has strengthened certificates without maturity dates from $44,000 in 1955 to $210,000 in 1960. This was accomplished with undistributed patronage refunds since no reserves or book allocations were set aside. A favorable policy of additions to earned surplus has been followed but at a slow pace. Earned surplus for Firm C grew from $55,000 in 1955 to $80,000 in 1960. Semi-permanent capital spread from $500,000 to $625,000 during the five years.

Table 5—Amount and forms of capital used by 16 common stock agricultural business organizations, Ohio, five selected fiscal years.

Forms of Capital	1940-41	1945-46	1950-51	1955-56	1960-61
Permanent Capital					
Common stock	$ 990,308	$ 1,332,234	$ 2,196,002	$ 2,943,456	$ 4,237,808
Tax-paid surplus	362,787	567,165	1,117,425	1,908,963	2,466,440*
Total	1,353,096	1,899,399	3,313,427	4,852,420	6,768,398
Semi-Permanent Capital					
Book allocations	6,736	6,736	375,239	614,845	630,490
Reserves	83,215	87,301	5,362	—0—	102,972
Certificates**	4,307	23,200	—0—	81,940	236,086
Total	94,258	117,237	380,601	696,785	969,548
Non-permanent Capital					
Debenture Bonds	29,650	48,774	285,707	490,300	279,173
Total	29,650	48,774	285,707	490,300	279,173
Net Worth (Total Capital)	$ 1,477,003	$2,065,411	$3 979,735	$ 6,039,505	$ 8,017,119
Long Term Liabilities	—0—	—0—	5,070	54,389	129,203
Long Term Liabilities Plus Net Worth	$ 1,477,003	$2,065,411	$ 3,984,805	$ 6,093,894	$ 8,146,322

*Two firms added preferred stock during the last five-year period.

**Without maturity dates.

Source: Original data.

Table 6—Percentage distribution of amount of capital, by forms of capital, 16 common stock agricultural business organizations, Ohio, five selected fiscal years.

Forms of Capital	1940-41		1945-46		1950-51		1955-56		1960-61	
	Percent		Percent		Percent		Percent		Percent	
Permanent Capital										
Common stock	67.0		64.5		55.2		48.7		52.9	
Tax-paid surplus	24.6		27.5		28.1		31.6		30.8	
Total		91.6		92.0		83.3		80.3		84.4*
Semi-Permanent Capital										
Book allocations	0.4		0.3		9.4		10.2		7.9	
Reserves	5.6		4.2		0.2		—0—		1.3	
Certificates**	0.4		1.1		—0—		1.3		2.9	
Total		6.4		5.6		9.6		11.5		12.1
Non-permanent Capital										
Debenture Bonds	2.0		2.4		7.1		8.2		3.5	
Total		2.0		2.4		7.1		8.2		3.5
Net Worth (Total Capital)		100.0		100.0		100.0		100.0		100.0

*Two firms added preferred stock during the last five-year period.

**Without maturity dates.

Source: Table 5.

This trend should be reversed, but certificates without maturity are the more permanent of the semi-permanent funds.

* * *

Debenture bonds gained in use from 1945 to 1955. Fortunately, this trend was broken by 1960 and the common stock firms were the only group to successfully override the weakening expansion of debenture bonds. This 4 percent shift of funds from non-permanent to permanent capital as a percent of net worth was a definite improvement.

AMOUNTS AND FORMS OF CAPITAL USED BY 19 COMMON AND PREFERRED STOCK ASSOCIATIONS

Net worth has strengthened by 7.2 times from 1940 to 1960 (Table 7). Rapid strides were gained from 1945 to 1955, but the last five years show little improvement. With the recent trend, the 22 percent projected addition of net worth cannot be reached. Non-permanent capital has a stronger expansion trend than either semi-permanent or permanent capital. In fact, permanent capital actually declined absolutely from 1955 to 1960 which was contrary to sound financing.

Common stock has declined as preferred stock was expanded since 1945. This switch can be illustrated by Firm D which had $210,000 of common stock outstanding in 1955 and only $120,000 in 1960. At the same time, preferred stock jumped from $450,000 to $575,000. All issues of both common and preferred stock are considered permanent forms of net worth. Regardless of permanency, cost of capital must be figured. Dividends are paid to preferred stock before honoring a return on common stock. In this case, dividends were not paid to common stock since the dividend paid out to preferred stock was over $18,000 in excess of net savings for 1960 (Payment of dividends without sufficient net savings is considered an unsound practice by many financial advisors). The Board of Directors declared a 5 percent dividend on $490,000 of preferred A stock and 4 percent on $85,000 of preferred B stock. About $28,000 was paid to stockholders of the preferred stock, the common stockholders received no dividends and the patron accumulated no patronage refunds. As additional shares of preferred stock are sold, the extra cost of capital must be considered by management. If common stock fails to return dividends over time, its market and acceptance may disappear. Thus, Firm D has a weak financial structure.

* * *

The major weakness for this group of firms has developed as earned surplus dropped from 21 percent to 1.5 percent of net worth (Table 8). This was not desirable.

Semi-permanent capital has followed an unclear pattern with the exception of reserves which were allowed to decline after 1945. However, certificates with maturity dates have made headway since 1950.

Table 7—Amount and forms of capital used by 19 common and preferred stock agricultural business organizations, Ohio, five selected years.

Form of Capital	1940-41	1945-46	1950-51	1955-56	1960-61
Permanent Capital					
Common stock	$ 590,683	$ 958,838	$ 1,109,863	$ 1,631,344	$ 1,537,765
Common A stock	—0—	—0—	175,327	144,625	146,970
Common B stock	—0—	—0—	695,025	707,256	536,708
Sub-total	590,683	958,838	1,980,165	2,483,225	2,516,139
Preferred stock	230,349	297,129	1,423,757	2,114,283	2,457,840
Preferred A stock	—0—	22,800	527,105	978,785	911,532
Preferred B stock	—0—	—0—	58,410	51,370	43,870
Sub-total	230,349	319,929	2,009,272	3,144,438	3,413,232
Tax-paid surplus	257,174	382,710	869,003	489,838	137,372
Total	1,078,206	1,661,477	4,858,440	6,117,501	6,066,743
Semi-permanent Capital					
Memberships	2,418	6,387	5,075	4,995	4,970
Book allocations	38,015	91,027	137,452	693,241	581,028
Reserves	59,963	547,827	295,250	146,080	214,062
Certificates*	—0—	39,311	16,965	252,302	459,410
Total	100,396	684,554	454,742	1,096,618	1,259,570
Non-permanent Capital					
Certificates	43,989	118,145	324,086	841,355	828,353
Debenture bonds	—0—	—0—	47,700	135,300	647,420
Total	43,989	118,145	371,786	976,655	1,475,773
Net Worth (Total Capital)	$ 1,222,591	$ 2,464,176	$ 5,684,968	$ 8,190,774	$ 8,802,086
Long Term Liabilities	16,688	29,483	484,519	647,226	1,285,433
Long Term Liabilities Plus Net Worth	$1 239,279	$2,493,659	$ 6,169,487	$ 8,838,000	$10,087,519

*Without maturity dates.

Source: Original data.

Table 8—Percentage distribution of amount of capital, by forms of capital, 19 common and preferred stock agricutural business organizations, Ohio, five selected fiscal years.

Form of Capital	1940-41		1945-46		1950-51		1955-56		1960-61	
	Percent		Percent		Percent		Percent		Percent	
Permanent Capital										
Common stock	48.4		38.9		19.5		19.9		17.4	
Common A stock	—0—		—0—		3.1		1.8		1.6	
Common B stock	—0—		—0—		12.2		8.6		6.1	
Sub-total	48.4		38.9		34.8		30.3		28.6	
Preferred stock	18.8		12.1		25.0		25.8		27.9	
Preferred A stock	—0—		0.9		9.3		12.0		10.3	
Preferred B stock	—0—		—0—		1.0		0.6		0.4	
Sub-total	18.8		13.0		35.3		38.4		38.8	
Tax-paid surplus	21.0		15.5		15.3		6.0		1.5	
Total		88.2		67.4		85.4		68 7		68.9
Semi-permanent Capital										
Memberships	0.2		0.3		0.1		0.1		0.5	
Book allocations	3.1		3.7		2.4		8.5		6.6	
Reserves	4.9		22.2		5.2		1.8		2.4	
Certificates*	—0—		1.5		0.3		3.0		5.2	
Total		8.2		27.8		8.0		13.4		14.3
Non-permanent Capital										
Certificates	3.6		4.8		5.7		10.3		9.4	
Debenture bonds	—0—		—0—		0.9		1.6		7.3	
Total		3.6		4.8		6.6		11.9		16 8
Net Worth (Total Capital)		100.0		100.0		100.0		100.0		100.0

*Without maturity dates.

Source: Table 7.

Non-permanent capital has enlarged by an additional 10 percent of net worth since 1950. Certificates with maturity dates have nearly doubled from 1950 to 1955 and debenture bonds quadrupled from 1955 to 1960. This recent shift has allowed non-permanent capital to occupy 16.8 percent of net worth. Management and directors need to check this trend.

AMOUNTS AND FORMS OF CAPITAL USED BY 5 NON-STOCK ASSOCIATIONS

Net worth was expanded 9.7 times from 1940 to 1960 (Table 9). The projected net worth increase of 23.4 percent from 1960 to 1965 indicates that the non-stock firms will strengthen faster than the average of the stock firms. However, even with this favorable net worth trend for the firms, non-permanent capital will displace more semi-permanent capital by 1965.

Without stock the non-stock firms must look to earned surplus for permanent funds. A real step forward was made in 1955 when each firm averaged almost $200,000 of earned surplus but this situation was nearly lost by 1960.

Book allocations were the main source of semi-permanent capital, but reserves which are considered more permanent have been substituted. Possibly the reserves should be transferred to the earned surplus after paying federal income tax. Certificates without maturity dates gained acceptance during the early 1950's, but declined in use by 1960. The same trend occurred for certificates with maturity dates. A significant but weakening shift of funds from earned surplus and undistributed patronage allocations have allowed debenture bonds to displace 28.3 percent of net worth in less than ten years (Table 10).

To isolate the decisions behind the recent shift from semi-permanent capital to debenture bonds, Firm E was examined. In order to remove the $615,000 of certificates without maturity dates in 1955, the decision was made by the firm to convert them to debenture bonds with interest and revolve them according to maturity dates until the patrons are paid. This was attractive to the patron who had not been receiving a return on the un-

* * *

distributed patronage refund. However, this firm still had a strong need for working capital so the earned surplus was reduced from $900,000 to $200,000 in 1960. Therefore, short term needs were met with valuable long term funds.

This does *not* illustrate good financing for the future since most debenture bonds pay an interest of 5 percent so one million dollars of debenture bonds outstanding cost the firm a minimum of $50,000 per year which must be paid before there can be net savings.

Table 9—Amount and forms of capital used by 5 non-stock agricultural business organizations, Ohio, five selected fiscal years.

Forms of Capital	1940-41	1945-46	1950-51	1955-56	1960-61
Permanent Capital					
Tax-paid surplus	$ —0—	$ —0—	$ —0—	$ 935,769	$ 232,058
Total	—0—	—0—	—0—	$ 935,769	$ 232,058
Semi-permanent Capital					
Memberships	3,686	33,598	111,493	252,167	176,521
Book allocations	364,100	719,706	1,011,961	419,091	712,405
Reserves	68,298	207,855	220,923	213,893	1,726,968
Certificates*	—0—	98,890	213,505	878,069	173,401
Total	436,084	1,060,050	1,557,882	1,763,220	2,789,295
Non-permanent Capital					
Certificates	—0—	28,300	478,895	20,310	4,655
Debenture bonds	—0—	—0—	—0—	247,450	1,196,615
Total	—0—	28,300	478,895	267,765	1,201,270
Net Worth (Total Capital)	$ 436,084	$ 1,088,350	$ 2,036,777	$ 2,966,754	$ 4,222,623
Long Term Liabilities	2,803	6,000	3,000	1,000	363,815
Long Term Liabilities Plus Net Worth	$ 438,887	$ 1,094,350	$ 2,039,777	$ 2,967,754	$ 4,585,438

*Without maturity dates.

Source: Original data.

Table 10—Percentage distribution of amounts of capital, by forms of capital, 5 non-stock agricultural business organizations, Ohio, five selected years.

Forms of Capital	1940-41		1945-46		1950-51		1955-56		1960-61	
	Percent		Percent		Percent		Percent		Percent	
Permanent Capital										
Tax-paid surplus	—0—		—0—		—0—		31.6		5.5	
Total		—0—		—0—		—0—		31.6		5.5
Semi-permanent Capital										
Memberships	0.8		3.1		5.5		8.5		4.1	
Book allocations	83.5		66.1		49.7		14.1		16.8	
Reserves	15.7		19.1		10.8		7.2		40.8	
Certificates*	—0—		9.1		10.5		29.6		4.1	
Total		100.0		97.4		76.5		59.4		66.0
Non-permanent Capital										
Certificates	—0—		2.6		23.5		0.7		0.2	
Debenture bonds	—0—		—0—		—0—		8.3		28.3	
Total		—0—		2.6		23.5		9.0		28.5
Net Worth (Total Capital)		100.0		100.0		100.0		100.0		100.0

*Without maturity dates.

Source: Table 9.

AMOUNTS AND FORMS OF CAPITAL USED BY 4 COMMON AND PREFERRED STOCK STATE ASSOCIATIONS

Net worth has jumped rapidly, but at an even pace of 28.2 times from 1940 to 1960 (Table 11). This was the only group of firms that projected a slightly faster rate of increase for net worth than total assets from 1960 to 1965. However, much of the expansion of net worth is expected to come from non-permanent capital as permanent capital slacked off.

Permanent capital has suffered a decline from 97 percent of net worth in 1940 to only 44.4 percent in 1960 (Table 12). However, there has been a slight move upward since 1955. Common stock has increased relative to preferred stock during the 20 years. A major weakness in financial strength resulted when earned surplus was not maintained as net worth and was expanded after the prosperous 1940's. The funds that should have gone to earned surplus were retained as reserves and book allocations.

The state associations have been issuing only a part of the patronage refunds to the local retail organizations in cash. In leiu of cash, they send paper statements which are to be revolved at a later date, stock, certificates and more recently debenture bonds. For illustration, one local elevator and farm supply (Firm F) had $140,000 tied up in patronage receivables, which are carried on the audit as investments in other cooperatives.

These investments represent patronage refunds for past business transacted with state suppliers, but must be included as income by the local association for the year received, or a reserve set up against it. Also, $75,000 was invested as stock in other cooperatives which earned dividends of less than $1.800 in 1960.

* * *

Another firm (Firm G) can illustrate the financial danger from the failure to pay cash on a fixed rotation program. The firm included its $5,000 of paper patronage refunds as non-operating income. This amount of patronage represented nearly one-half of the $12,000 net savings for 1960. Of the $12,000 net savings $4,600 was paid out in dividends on common stock in this case and $5,400 was declared as patronage refunds. In other words, the local firm paid the farmers in cash when the firm received only paper income.

Debenture bonds represented the major growth in net worth in the early 1950's, but the recent sale of a new type of common stock by one of the associations has improved the position of permanent capital.

Table 11—Amount and forms of capital used by 4 common and preferred stock state elevator and farm supply associations, Ohio, five selected fiscal years.

Forms of Capital	1940-41	1945-46	1950-51	1955-56	1960-61
Permanent Capital					
Common stock	$ 94,165	$ 93,409	$ 236,411	$ 961,830	$ 1,548,904
Common A stock	—0—	—0—	18,600	18,575	18,525
Common B stock	—0—	—0—	3,185,150	3,064,650	1,844,052
Sub-total	94,165	93,409	3,440,161	4,045,055	7,604,597*
Preferred stock	467,544	199,700	475,100	369,100	611,300
Preferred A stock	—0—	1,495,600	4,429,035	6,088,950	6,323,200
Preferred B stock	—0—	1,654,600	540,900	85,000	—0—
Sub-total	467,544	3,349,900	5,445,036	6,543,050	6,934,500
Tax-paid surplus	615,086	322,387	77,751	651,566	893,204
Total	1,176,795	3,765,696	8,962,949	11,239,670	15,432,301
Semi-permanent Capital					
Memberships	17,614	—0—	—0—	—0—	—0—
Book allocations	18,569	461,958	3,436,148	4,222,889	4,574,395
Reserves	—0—	1,025,647	24,117	77,255	—0—
Certificates**	—0—	—0—	—0—	2,741,680	4,062,547
Total	36,183	1,487,605	3,460,265	7,041,680	8,636,942
Non-Permanent Capital					
Debenture bonds	—0—	—0—	1,049,700	8,343,540	10,713,661
Total	—0—	—0—	1,049,700	8,323,540	10,713,661
Net Worth (Total Capital)	$ 1,212,978	$ 5,253,301	$13,472,914	$26,605,034	$34,782,904
Long Term Liabilities	307,107	1,155,000	2,286,077	5,570,285	4,959,913
Long Term Liabilities Plus Net Worth	$ 1,520,085	$ 6,408,301	$15,758,991	$32,175,319	$39,742,817

*The total of common stock includes $4,203,116 of Common C and Cost of Living (CL) Stock.

**Without maturity dates.

Source: Original data.

Table 12—Percentage distribution of amount of capital, by forms of capital, 4 common and preferred stock elevator and farm supply associations, Ohio, five selected fiscal years.

Forms of Capital	1940-41		1945-46		1950-51		1955-56		1960-61	
	Percent		Percent		Percent		Percent		Percent	
Permanent Capital										
Common stock	7.8		1.8		1.8		3.6		4.4	
Common A stock	—0—		—0—		6.1		0.1		0.5	
Common B stock	—0—		—0—		23.6		11.5		5.3	
Sub-total	7.8		1.8		25.5		15.2		21.8*	
Preferred stock	38.5		3.8		3.5		1.4		1.8	
Preferred A stock	—0—		28.5		32.9		22.8		—0—	
Preferred B stock	—0—		31.5		4.0		0.3		—0—	
Sub-total	38.5		63.8		40.4		24.6		20.0	
Tax-paid surplus	50.7		6.1		0.6		2.4		2.5	
Total		97.0		71.7		66.5		42.4		44.4
Semi-permanent Capital										
Memberships	1.5		—0—		—0—		—0—		—0—	
Book allocations	1.5		8.8		25.5		15.9		13.1	
Reserves	—0—		19.5		0.2		0.3		—0—	
Certificates**	—0—		—0—		—0—		10.3		11.6	
Total		3.0		28.3		25.7		26.5		24.8
Non-Permanent Capital										
Debenture bonds	—0—		—0—		7.8		31.3		30.8	
Total		—0—		—0—		7.8		31.3		30.8
Net Worth (Total Capital)		100.0		100.0		100.0		100.0		100.0

*The total of common stock includes 11.6 percent of Common C and Cost of Living (CL) stock.

**Without maturity dates.

Source: Table 11.

SUMMARY OF THE CAPITAL STRUCTURE FOR VARIOUS COMBINATIONS OF THE 40 SELECTED COOPERATIVES AND 4 STATE ASSOCIATIONS

Net worth strengthened faster for the 4 state, the 5 non-stock and the 19 common and preferred associations. The 27 local elevators and farm supply firms, especially the low one-third, did not maintain their expansion of net worth from 1940 to 1960.

Permanent capital as a percent of net worth declined in all firms. Earned surplus suffered the major change. Several firms expanded earned surplus during and after World War II, while others built a fairly strong earned surplus during the early 1950's. Both groups have allowed it to wither away. However, the 16 common stock firms have maintained a steady 30 percent earned surplus of net worth. Preferred stock has been substituted for common stock in all common and preferred stock firms with the exception of the state associations.

Semi-permanent capital as a percent of net worth has fluctuated at 20 percent for the total of 40 firms and at the 25 percent level for the state associations. They have spread from 5 to 20 percent of net worth for the 27 local elevators and farm supply associations and at the 30 percent level for the 13 other farm business firms. However they have declined for the five non-stock firms.

Membership fees have remained stable. Book allocations fluctuated in the 1940's, but remained at 5 to 15 percent of net worth for all firms. Reserves were lower in both the local and state elevators and farm supply associations. Reserves of 10 to 40 percent of net worth were important to the non-stock firms. Certificates without maturity dates became stronger in all firms, particularly during the last ten years. However, the 13 other agricultural business firms allowed their certificates to slip back to possible reserve status in 1960. This descent was particularly true for the non-stock firms.

Non-permanent capital jumped from almost nothing in 1940 to about 15 percent of net worth in the total of 40 firms and over 30 percent in the state associations. The local elevator and farm supply firms have controlled their debenture bonds to less than 9 percent of net worth in 1960 compared to 19 percent for the 13 other firms. The common stock firms actually reduced debenture bonds from 1955 to 1960. Certificates with maturity dates advanced until the early 1950's but were retreating in 1960.

TRENDS AND PROJECTIONS OF TOTAL ASSETS, NET WORTH AND FIXED ASSETS

This section places the business firms with reference to the gross items on the balance sheet. This purpose can be accomplished by illustrating: (1) the trend of the average for the individual firm during the last 20 years. and (2) the projection of the trend for the next 15 years.

This projection analysis assumes that the trends for the past 20 years will continue and that inflation and the general price level will continue to increase at approximately the same rate. The method used to forecast the trends of each group of associations was the plotting of historical data on arithmetic paper and the least squares method was used to project a straight line for each item.

Successful agricultural business firms have enjoyed fairly steady expansion since the depression of the 1930's. Based on recent data it is anticipated that the projected lines may level off somewhat by 1965. Thus, the projected average figures should be somewhat smaller than indicated by the straight line in 1975 but the relationship of the lines to each other is important.

Sound financial standards [1] specify that a 1-1 or less net worth to total debt relationship indicates financial weakness. A 2-1 net worth to total debt ratio is accepted as the standard of financial strength. Therefore, if only 45 percent of total assets is represented by net worth, the net worth to debt ratio is less than 1-1.

This single problem of financial weakness can be solved in either of two ways: (1) if the firm wants to expand and maintain high levels of total assets, net worth should be increased to two-thirds of total assets which means a 2-1 net worth to total debt ratio [2] or (2) if a firm can maintain net worth only at the present rate of increase, total assets should be restricted to keep a net worth which is two-thirds as large as total assets. Since management usually has more control over changes in total assets than net worth, total assets can be restricted effectively. With either management approach, the objective of a 2-1 net worth to total debt ratio must be accomplished again.

Types of Business

The major group of businesses studied contained 27 local elevators and farm supply firms. As illustrated in Figure 1, total assets for the average firm have increased from about $125.000 in 1945 to $575,000 in 1960 and to almost one million dollars which is projected for 1975.

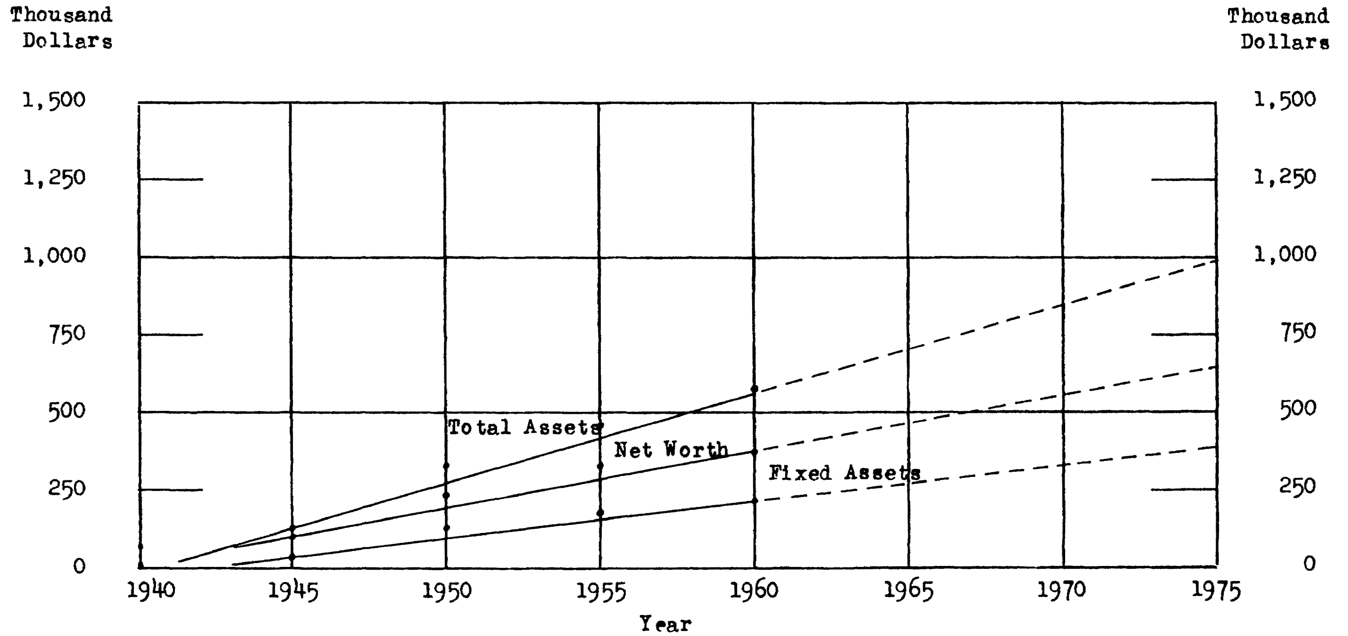
Fixed assets as a percent of total assets have increased about 8 percent since 1945 but the trend of about 40 percent of total assets tied up in fixed assets is expected to continue. The 4-1 net worth to total debt ratio of 1945 has declined but a 2-1 ratio should continue from 1960. Therefore, a sound business expansion can continue as fixed assets are held under control.

The other group of 13 local associations contained types of businesses such as poultry, milk, livestock and wool marketing, as well as breeding. production credit and federal land bank associations. These firms vary in

1—John C. Clendenin, **Introduction to Investments**, McGraw Hill Book Co., Inc., New York, 1960.

2—Pearson Hunt, Charles M. Williams and Gordon Donaldson, **Basic Business Finance**, Richard D. Irwin, Inc., Homewood, Illinois, 1958, page 109.

Fig. 1.—Average amount of total assets, net worth, and fixed assets, 27 local elevators and farm supply agricultural business organizations, Ohio, 1940, 1945, 1950, 1955, 1960, and amounts estimated for 1965, 1970 and 1975.



Source: Original Data

size and volume of operation but are still larger than most local elevators and farm supply firms. These gross items are illustrated in Figure 2.

Total assets for the average firm of this group have expanded from about one-third of a million dollars in 1945 to one and two-thirds million dollars in 1960. This rapid change is expected to slow down by 1975 so total assets should be about two and one-half million dollars.

Fixed assets are remaining fairly constant at about one-fourth of total assets. The sound 2-1 net worth to total debt ratio of 1945 has declined to less than a 1-1 ratio. In fact, net worth must be increased from the projected $1,250,000 figure to $1,750,000 to reach a 2-1 net worth to total debt ratio for a two and one-half million dollar total asset operation.

However, if net worth cannot be increased from $1,250,000, total assets should not be allowed to exceed two million dollars in 1975.

Types of Stock

The total of 40 local associations were divided according to common stock, common and preferred stock, and non-stock associations. The average amount of total assets. net worth and fixed assets of 16 common stock associations is presented in Figure 3. The common stock sample contained 11 local elevator and farm supply, two production credit, one federal land bank and one breeding association.

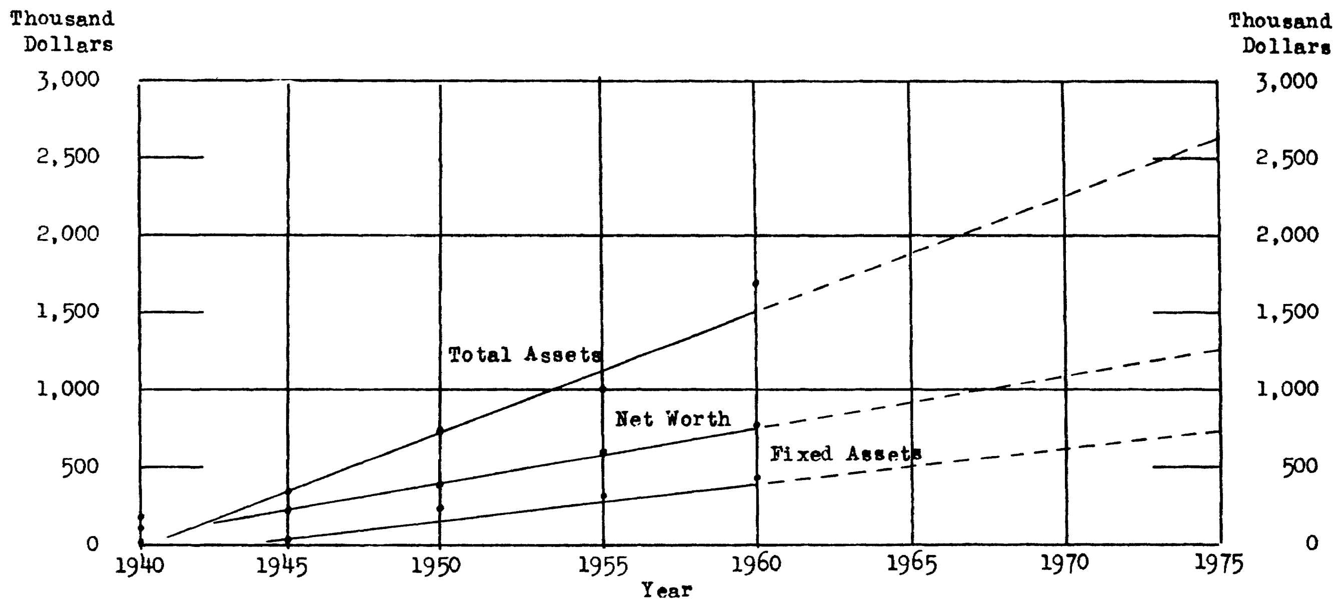
Total assets have been expanding rapidly from about $225,000 in 1945 to over one and one-half million dollars in 1960, and about two and one-half million dollars of total assets per firm are anticipated by 1975. This grouping includes the production credit associations and federal land bank associations which have increased both the number and size of their loans outstanding. These loans are recorded as a current asset within total assets.

Fixed assets as a percent of total assets have declined from 17 percent in 1945 to 11 percent in 1960. The 11 percent figure will remain steady through 1975, indicating a favorable trend.

The net worth to total debt ratio has weakened from just over a 1-1 ratio in 1945 to a .5-1 ratio in 1960, and the 1975 projection indicates a similar weak situation. In fact, net worth must be increased to almost one and one-half million dollars if total assets of two and one-half million dollars is reached in 1975. However, total assets must be restricted to less than one and one-fourth million dollars if net worth cannot be expanded above $800,000 in 1975.

The average amount of total assets, net worth and fixed assets of 19 common and preferred stock associations is illustrated in Figure 4. The common and preferred stock sample contained 11 local elevator and farm supply, two dairy and one poultry associations.

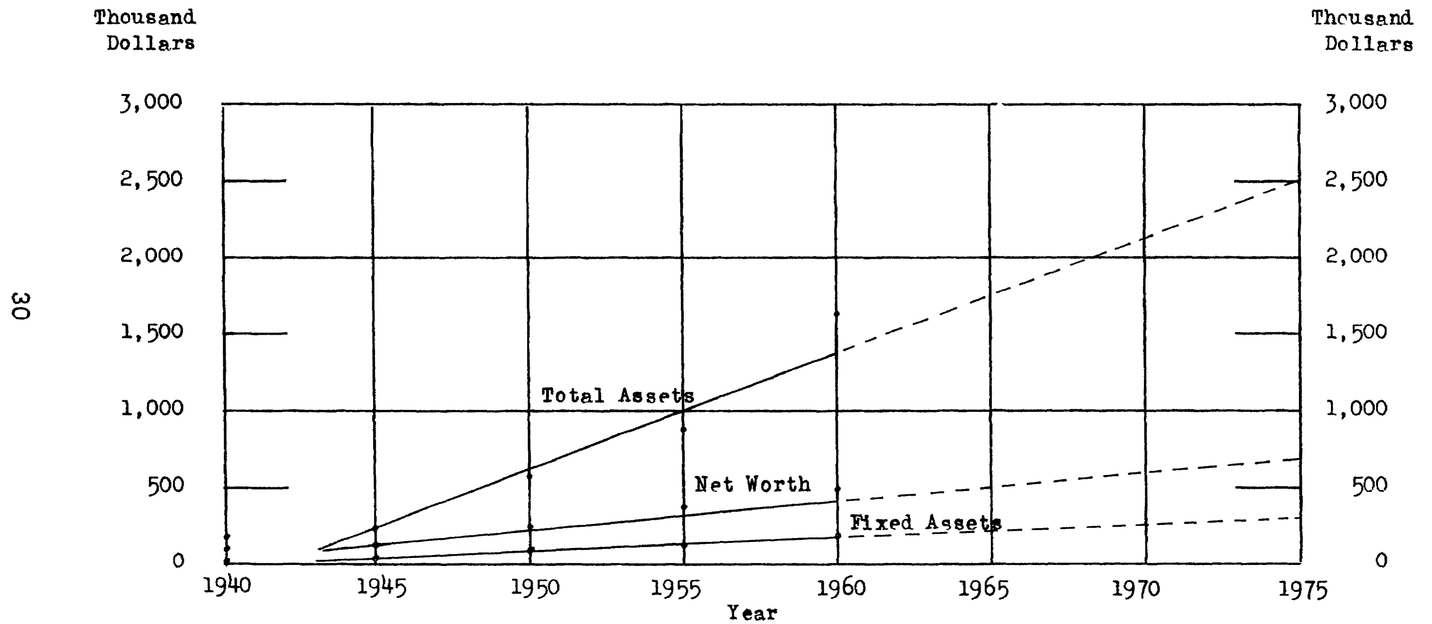
Fig. 2.—Average amount of total assets, net worth, and fixed assets, 13[1] other agricultural business organizations, Ohio, 1940, 1945, 1950, 1955, 1960, and amounts estimated for 1965, 1970 and 1975.



[1]Data from one production credit association were omitted because of unusual growth in loans outstanding which cannot be maintained.

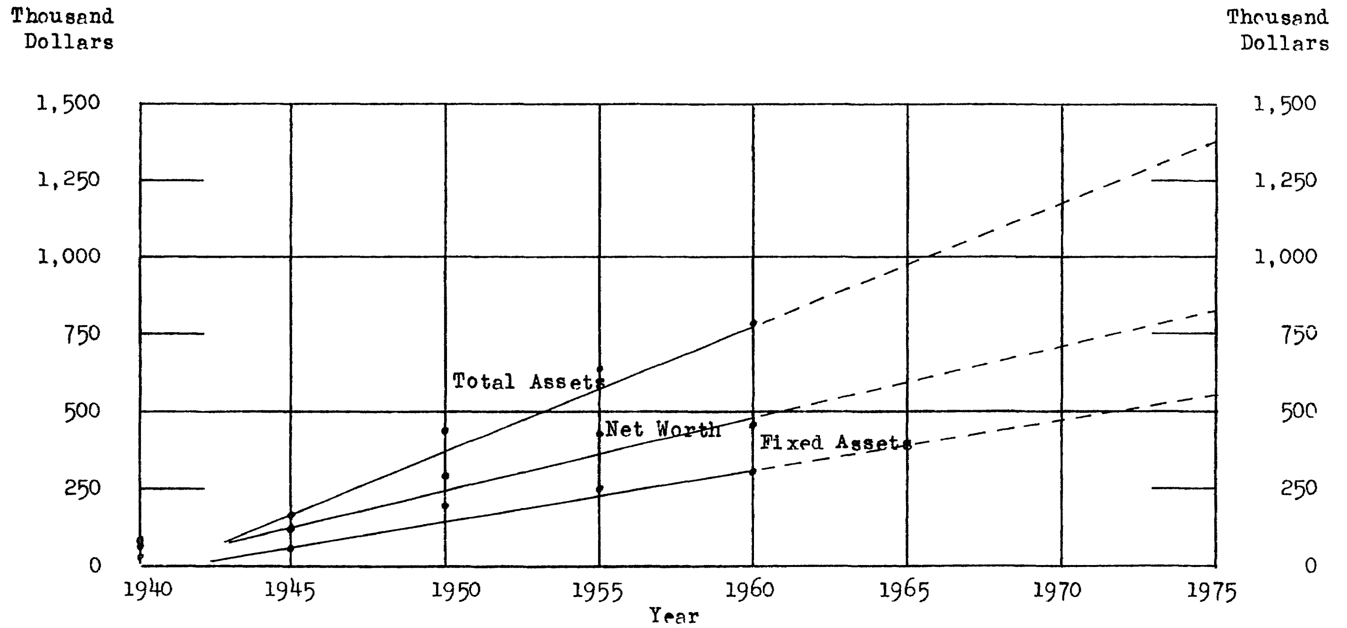
Source: Original Data

Fig. 3.—Average amount of total assets, net worth, and fixed assets, 16 common stock agricultural business organizations, Ohio, 1940, 1945, 1955, 1960, and amounts estimated for 1965, 1970 and 1975.



Source Table 7 Original Data

Fig. 4.—Average amount of total assets, net worth, and fixed assets, 19 common and preferred stock agricultural business organizations, Ohio, 1940, 1945, 1950, 1955, 1960, and amounts estimated for 1965, 1970 and 1975.



Source Original Data

Total assets have jumped from less than $175,000 in 1945 to about $800,000 in 1960 and will expand to over one and one-third millon dollars by 1975. The common and preferred stock firms have not expanded as rapidly as the common stock firms which are almost twice as large in total assets. However, fixed assets have the opposite relation between the two types of stock associations. Fixed assets for the common and preferred stock firms have been a fairly constant 40 percent of total assets which is twice the actual volume of the common stock firms.

Net worth, as a proportion of total assets. has declined from a 4-1 net worth to total debt ratio to less than a 2-1 ratio. If total assets of one and one-third million dollars is reached in 1975. an extra one hundred thousand dollars of net worth must be obtained above the projected $825,000. If the projected net worth cannot be obtained, total assets should not be expanded beyond one and one-fourth million dollars in order to maintain a favorable ratio.

The average amount of total assets, net worth and fixed assets of the 5 non-stock marketing associations is presented in Figure 5.

Total assets indicate that the non-stock firms have maintained a steady growth, with over $1,600,000 in 1960. Fixed assets as a proportion of total assets has remained stable at about 30 percent through the years.

Net worth as a proportion of total assets has weakened steadily as the firms have expanded their operations. The net worth to total debt ratio of 3-1 in 1945 has declined to about 1-1 in 1960.

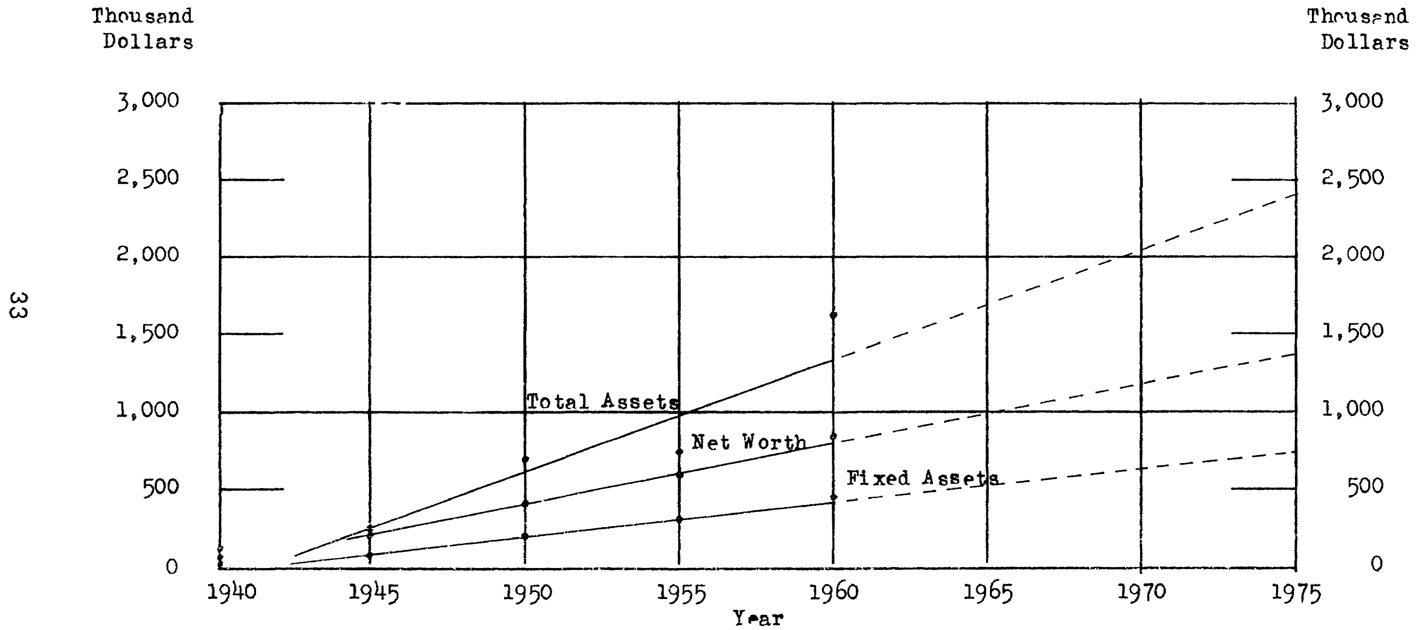
To re-establish financial strength, an extra one-quarter million dollars will be needed above the 1975 projection in order to have a 2-1 net worth to total debt ratio. Otherwise. management should keep total assets below two million dollars.

TRENDS AND PROJECTIONS OF 4 COMMON AND PREFERRED STOCK STATE ELEVATOR AND FARM SUPPLY ASSOCIATIONS

The average amount of total assets, net worth, and fixed assets of the 4 state wholesale associations is shown in Figue 6. Total assets have expanded by more than 2 million dollars every five-year time period and this growth is projected to continue. The relationship of fixed assets to total assets has remained steady at just above 25 percent. This means that a stable balance has been maintained between fixed and current assets.

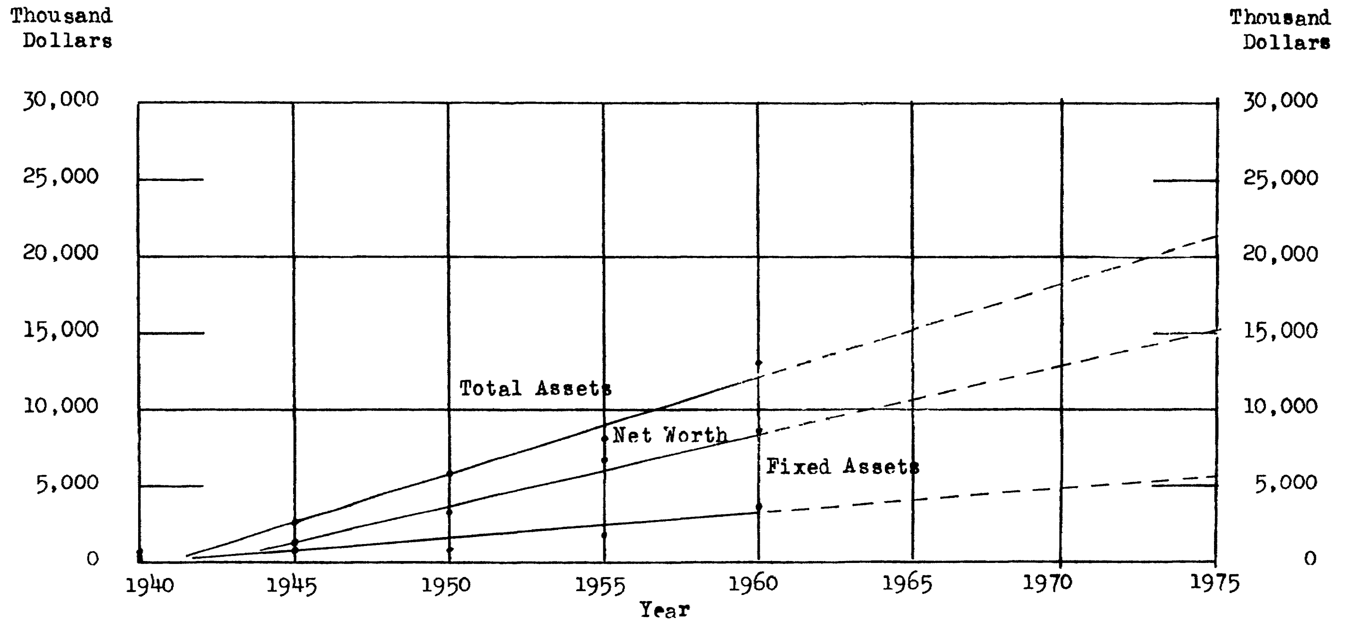
Net worth in relation to total assets has increased from a weak 1-1 net worth to total debt ratio to over a 2-1 ratio. This is the only group of associations that has strengthened their respective net worth position even with rapid expansion.

Fig. 5.—Average amount of total assets, net worth, and fixed assets, 5 non-stock agricultural business organizations, Ohio, 1940, 1945, 1950, 1955, 1960, and amounts estimated for 1965, 1970 and 1975.



Source: Original Data

Fig. 6.—Average amounts of total assets, net worth, and fixed assets, 4 common and preferred stock state elevator and farm supply associations, Ohio, 1940, 1945, 1950, 1955, 1960, and amounts estimated for 1965, 1970 and 1975.



Source Original Data

SUMMARY OF TRENDS AND PROJECTIONS

Total assets have continually increased during each five-year period for each group of associations. Presently, most firms own about eight times more total assets than they did in 1940. Based on the projection of total assets, it is anticipated that the local elevator and farm supply associations will expand about 58 percent from 1960 to 1975. The data for the 13 other associations indicate that total assets will increase by over 64 percent by 1975. While the straight line trend may project the 1975 situation, the reader should be cautioned that a possible slow-down might be encountered within the next ten years.

Fixed assets have increased at a steady pace and represent about 25 percent of total assets. The local elevator and farm supply associations are the only firms that have allowed fixed assets to increase as a percentage of total assets. About 40 percent of their present total assets are represented by fixed assets.

With rapid increases in both total assets and fixed assets, net worth has increased at a much slower rate. Most firms had a 2-1 net worth to total debt ratio in the early 1940's. This relationship has deteriorated to less than a 1-1 net worth to total debt ratio in 1960 for the 40 associations that transact business directly with the farmers. The expanding loan associations are not required to observe standard financial net worth norms. The net worth position of the 27 local elevator and farm supply associations has only declined from a 3-1 to slightly less than 2-1 net worth to total debt ratio. The state elevator and supply associations are the only firms to reverse the trend. They started the 1940's with a 1-1 net worth to total debt ratio and now have a strong 2-1 ratio, but about one-third of their net worth is composed of non-permanent capital.

CONCLUSIONS

The financial structure and operations of a cooperative are interwoven with management problems, membership relations, new services and expansion programs. Currently, increased needs for the strengthening of farmer cooperatives to meet concentration of both buying and selling power in fewer hands call for more financial strength. If associations are to improve their bargaining positions in selling their members' products or in obtaining farm supplies, they will require substantial amounts of additional capital. [1]

Cooperatives are faced with the timeless question of who will finance further growth and expansion except from their own earnings or net savings. Three primary sources of funds are recognized: (1) outside investors who can seek only a competitive income since a cooperative security can-

1—Kelsey B. Gardner, **What About Cooperative Financing?** News for Farmer Cooperatives, Farmer Cooperative Service, United States Department of Agriculture, April, 1959.

not have a growth appeal, (2) creditors and lending institutions who demand the maintenance of an adequate net worth to total debt ratio, and (3) farmer-owners who invest capital as an expression of confidence in the effectiveness of management and the services of their cooperative.

The financial plan must contribute to better membership understanding and participation. The Board of Directors and managerial employees are faced with the dual responsibility of operating a sound business enterprise and maintaining its cooperative character.

General conclusions are drawn from the two major divisions of the total of 40 firms that transact business directly with farmers.

The average firm of the 27 local elevator and farm supply associations has increased net worth from $55.000 in 1940 to $370,000 in 1960. The major advance came between 1945 and 1950. Only a 12 percent growth occurred from 1955 to 1960. However, straight line analysis projects a net worth of $650,000 in 1975, but this may not be reached if only the growth rate from 1955 to 1960 will be maintained.

1. Permanent capital as a percent of net worth has declined from 94 percent to 72.5 percent. The expansion of earned surplus was neglected. Some preferred stock has been substituted for common stock as net worth was expanded in the common and preferred stock firms. Book allocations and certificates without maturity dates have been used to replace most of the decreased permanent capital. Debenture bonds occupied 8.5 percent of net worth in 1960 or over $30,000 per firm compared to $1,000 in 1950. However, some firms have not issued any debenture bonds.

2. Total assets per firm have advanced from $65,000 in 1940 to $575,000 in 1960. Total assets of nearly one million dollars are projected for 1975, which still allows a 2-1 net worth to total debt ratio. This expansion is both feasible and reasonable. However, total debt jumped about 50 percent from 1955 to 1960 which means that most of the growth in total assets came from borrowed funds (debt) and debenture bonds. About 40 percent of total assets remain invested in fixed assets.

3. The 16 common stock associations which were primarily elevator and farm supply firms have remained the stronger financed firms particularly since 1955. They have expanded permanent capital and reduced debenture bonds.

The average firm of the other group of 13 local marketing, breeding and financing associations enjoyed a very stable expansion of net worth per firm from $120,000 in 1940 to $770,000 in 1960. At this steady rate, net worth is projected to reach $1,250,000 by 1975.

4. Permanent capital as a percent of net worth declined from 63 percent in 1940 to 53 percent in 1960 which was unfavorable. Earned surplus

climbed to a high of 23 percent of net worth in 1955 but dropped to 13 percent by 1960. This was an unfortunate trend. For the stock firms, preferred stock tended to replace common stock as new capital was added. This was an unfavorable trend.

5. Semi-permanent capital remained fairly stable at 30 percent of net worth except in 1945 when book allocations were retained near the 40 percent level. Reserves made the most significant growth in 1960 when they outnumbered book allocations. This recent shift was considered financially desirable.

6. Non-permanent capital was allowed to multiply to one-fifth of net worth. Debenture bonds became the real offender in the last ten years as they represented 11.5 percent of net worth in 1960.

7. Total assets for the average firm were expanded from $200,000 in 1940 to $1,700,000 in 1960. If projected total assets of $2,600,000 by 1975 should occur, the present unsound 1-1 net worth to total debt ratio will continue which has declined from the sound 2-1 ratio of 1945. It is doubtful that the net worth can be expanded from the projected $1,250,000 so the total assets should not be allowed to exceed two million dollars by 1975.

8. Total debt has jumped 250 percent from 1955 to 1960 primarily to finance total receivables. As this trend continues, additional net worth of a permanent form will be needed.

RECOMMENDATIONS

One of the basic cooperative theories holds that earnings or net savings in a cooperative belong to the patrons or members. An absolute interpretation of this doctrine has prevented a financial plan that would build a strong net worth. Net worth can be acquired only from investments primarily by farmer's capital and undistributed patronage refunds of the firm. Since some cooperative patrons have been slow to invest funds not earned by the association, patrons should forego the use of a portion of the patronage refunds. Their ownership responsibility as stockholders or members in the cooperative must be accepted and demonstrated or they can no longer enjoy the fruits of earnings from a financially successful association. Otherwise, expenses may increase excessively as a result of costly services and unqualified management. These can take a large part of gross savings. Then interest or borrowed funds (mortgages and debenture bonds) will require the remaining net savings. This seems to be the trend developing in the past five years. Such a trend or development would practically abolish the cooperative theory of the distribution of net savings. Cooperative leaders and directors should not follow this trend in financing but instead work for more permanent capital in the agricultural business firms.

Permanent Capital Financing

The degree of permanency of any form of capital is determined by the wording of the articles and by-laws and the subsequent policies adopted by the Board of Directors. Associations should attempt to make their existing and future capital as permanent as possible. In order to approach an ideal but realistic standard for each form of capital, a standard was recommended in Table 13 which offers guidelines for a sound financial structure. This anaylsis used net worth as the real standard of financial strength. However, another finance program based on total assets has received attention recently.[1] In arriving at recommendations in Table 13 the ten financially strong and successful firms were used as a standard, based on net worth. but the reader should remember that: (A) net worth should be at least two-thirds of total assets or a net worth to total debt ratio of 2-1, and (B) funds should be distinguished according to net worth capital and long-term borrowed capital.

A close inspection of Table 13 indicates that the recommendations based on net worth rather than total assets were more strict as justified by the financial weakness noted from 1955 to 1960. The use of total assets as a yardstick of growth is acceptable only when the equal expansion of net worth occurs through the proportionate increase of more permanent capital.

Common stock should remain the basic stock in a firm. If it is the only stock, a reasonabile dividend must be paid. Even if a firm has preferred stock outstanding with a fixed dividend rate, common stock should not be ignored. Certain firms are ruining the future sale of both preferred and common stock by overlooking the necessity of dividend payments.

Associations should rebuild the image of other common stock that pays a dividend but not necessarily at a fixed rate. Apparently, preferred stock has been oversold since several firms have been unable to meet the fixed dividend which occurs as a regular cost to a firm.

With the increased need for permanent capital, specifically common stock, management must improve the marketability and the market place for their stock. Redemption and sale of stock could be accomplished through a stock transfer program with the association acting as an intermediary between the buyer and seller.

As the earned surplus of the association is increased, the preferred stock outstanding should be reduced in order to avoid the fixed obligation

1—Mr. Glenn S. Fox of Consumers Cooperative Association of Kansas City, Missouri suggests an allocation of the source of funds based on total assets as follows: (1) 25 percent or more of total assets in formation capital—common stock, memberships, patrons' equity reserves, surplus, etc, (2) 25 percent of total assets in certificates of ownership, preferred stock or loan capital—mainly from the members, but representing cash investment. (3) 25 percent of total assets in undistributed patronage refunds or revolving funds, (4) 25 percent of total assets in loans from Banks for Cooperatives (or other business creditors).

Table 13—Recommended percentage distribution of amount of net worth by means of capital for agricultural business organizations that transact business directly with farmers.

Forms of Capital	Stock Firms	Non-stock Firms
	Percent	Percent
Permanent Capital	60-75	40-50
Common stock or membership Capital*	40-45	20-25
Preferred stock	0- 5	0
Earned surplus	20-25	20-25
Semi-Permanent Capital	20-25	60-40
Allocations	6- 8	15-10
Reserves	5- 7	20-15
Certificates**	9-10	25-15
Non-Permanent Capital	20- 0	0-10
Certificates and/or		
Debenture Bonds	20- 0	0-10
Net Worth (Total Capital)	100	100
Long-Term Borrowed Funds (as a percent net worth)	0-25	0-25

*Membership capital can be considered as permanent capital when the amount becomes significant. Also, the possibility of transferring membership capital into common stock might be considered.

**Without maturity dates.

Source: Original data.

of dividend payments. Earned surplus should be gradually expanded to equal the amount of all kinds of capital stock outstanding.

Some associations have forgotten that present and future development of any association is primarily dependent upon the reaction of the current and future patrons to the financial advantage of transacting business with it. Long time use of patronage refunds with little or no returns to them or to capital invested by the patron is not conducive to continued business patronage. Therefore, a portion of the current patronage refunds should be distributed immediately to the patron in the form of common stock. This is the simplest process of building permanent capital with earnings. Also, the payment of possible dividends would go to the common stock for patronage refunds and current debenture bonds. Therefore, the Class B voting stock would go to the members who are the primary patrons.

If the non-stock associations do not reorganize to stock associations, they should issue certificates of ownership. A reasonable dividend, not neces-

sarily a fixed rate. should be paid. Most non-stock organinzations which have a relatively high percentage of fixed assets to total assets (30 percent or more) should consider reorganizing to a stock basis. Bargaining and other similar associations that only need a small percentage of fixed assets to total assets (less than 30 percent) can safely use a non-stock type of organization.

Semi-Permanent Capital Financing

Intermediate capital needs (five to ten years) can be met with certificates without maturity dates. These certificates should be issued only on a revolving plan during years of expansion or other unusual situations. The associations using the revolving fund method should set aside all or part of net savings for a definite number of years and plan to revolve them at the end of a specific time period.

Several associations have been unable to continue a revolving capital program under the following conditions: (1) when earnings of the current or past year were less than the (past) year's earnings which were to be revolved (paid to the patron); (2) when capital requirements for current operations were greater than during the year to be revolved; and (3) when expansion or improvement programs were undertaken.

An association cannot expand operations when earnings remain the same without lengthening the time period for which capital is retained. From a financial point of view, it is better to assume that there will be years when earnings may decline significantly. Few associations can expect increased earnings year after year. Therefore, associations are faced with the problem of attempting to revolve past year's certificates or allocated patronage with lower earnings of the current year. This situation has been the experience of many Ohio associations.

Intermediate capital needs can also be acquired through unallocated reserves. If the Board of Directors decide not to allocate certain amounts of patronage refunds for specific reasons, these funds can be held as an established reserve account.

These reserves that are non-exempt from federal income tax should be transferred after tax payment to earned surplus by the action of the Board of Directors and following consultation of the auditor. One source of such funds could be patronage refunds from unallocated non-producer business. Both stock and non-stock firms should solicit trade with the non-producers, but this patronage should be transferred to earned surplus after paying federal income tax.

Short-term capital needs (one to five years) can be supplied with only one form of patronage refund. Book allocations should be reduced to a minimum even if they are considered to be interest or dividend free by

some Boards of Directors and managers. The use of allocated funds should be only a temporary adjustment in the capital structure since their use does not add to the permanency of net worth nor does it lend itself to the principle that current members should receive a reasonable cash patronage refund.

The development of the financial structure of the local association is directly influenced by the form of patronage refunds which are returned from state associations. If state associations need additional capital, they should allocate only the minimum amount of patronage refunds to the local associations. As a goal, 75 percent of patronage refunds should be distributed to the local associations in the form of cash. Unless the state associations can pay at least 50 percent of current earnings in cash, net savings should be retained as long as this form of capital is needed, but federal income tax should be paid on these unallocated net savings for the transfer to permanent capital.

Thus, the local association would receive a smaller amount of patronage refunds. But patronage refunds, as a result of the current year's business, would be received primarily in cash. Where net savings of state associations are relatively high, perhaps cutting margins or selling at lower wholesale prices would be more beneficial for competitive purposes than a large cash patronage refund at the end of the fiscal year.

Patronage refunds received from state associations should be separated from the net earnings of the local firm's operations. The annual audit should carry the amount of the patronage refunds which are received in the form of paper at no value until cash is paid.

Since Congress amended in 1962 the act concerned with Federal income tax of cooperatives, it would seem that cooperatives will adopt a sounder financial policy with respect to patronage refunds. It will take several years for this action to show a changed trend in the balance sheets.

Non-Permanent Capital Financing

Securities which have a fixed interest or dividend rate and maturity date may have a place in the financial program of large associations, but serious questions can be raised as to their desirability in smaller local associations. Earning potential and length of time to maturity are important factors to consider before adopting non-permanent forms of financing.

The issuance of debenture bonds and certificates with maturity dates reflect a weakened financial position for some associations. Their members and the investing public had little faith in the other investment securities issued by the association. Where preferred stock could not be sold because the association had failed to pay a satisfactory dividend, the question can be raised concerning the payment of debenture bonds when additional non-permanent forms of capital are issued.

Most firms with debenture bonds have issues that will mature each year during the 1960's. It is questionable if they can pay them off at the maturity date without the embarrassment of issuing replacements. If those same firms can be studied in 1970, it will be interesting to note how this type of financing has performed for the period

In order to avoid the overexpansion of debenture bonds, it is recommended that not over 25 percent of net savings go for interest on both debenture bonds and long-term borrowed funds. Patronage refunds (old or new) should never be distributed in the form of debenture bonds. They should only be used as a source of outside capital and sold to investors.

Currently, debenture bonds are used by some firms to finance total assets which are tied up primarily in the expansion of accounts receivable. The association should not allow their customers to continue the abuse of the credit privilege. The existing or a more appropriate credit policy must be enforced. Certain firms are charging a 1 percent per month service charge on overdue accounts receivable in an effort to encourage patrons to use financial lending institutions as a source of borrowed capital. Accounts receivable with an age over 60 days are considered overdue. The patron should use the local banks or Production Credit Associations just like the cooperative has been forced to look toward both the commercial banks and the bank for cooperatives as a source of short and long-range borrowed funds. A large part of these funds were used to finance accounts receivable.

Management and Board of Directors should be alert to the changing needs of financing the operations of their firm. Financing is an individual firm's problem. However, decision makers can borrow from the experience of more successful firms or avoid the poor decisions of other firms as evaluated in this study. Agricultural business organizations in Ohio have undergone some unsatisfactory experiences within the last decade and many adjustments have not been made. Rebuilding permanent capital structure (primarily with common stock and tax-paid surplus) in relationship to growth and development remains the major financial problem that should be solved.

It is suggested that Research Bulletin 880—Financial Structure of Agricultural Business Organizations—Ohio Agricultural Experiment Station be reread from pages 40 to 52.

It is the conclusion of the writers that this group of agricultural business firms should be restudied in five or ten years and a critical appraisal be made at that future period of their financial structure. Managers and directors of weak organizations should give more attention to the financial structure of the top 25 percent and adjust their structure for sound financial growth.