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***FARM CORPORATIONS***  
***... a financial analysis***

## **ABSTRACT**

In 1968, of the total of 3.1 million farm tax returns filed, only 20,000 were from farm corporations. Even this small number represents an increase, but most of this increase is in corporations using the subchapter S option. These are closely held corporations, taxed like partnerships. Farm corporations as a group tended to have more losses and lower returns, with greater variability than certain other corporate industries. The 1963-68 average rate of earning on assets (cost or acquisition value) was 4.5 percent and the rate of return on equity was 5.3 percent. Farm corporations had moderate financial strength. Equity capital was 39 percent of the total. More than half of the assets of farm corporations were invested in land and depreciable assets. The slow turnover rate on these assets and low profit margin on receipts contributed to the low returns on assets and equity. In 1968, farm corporations averaged \$317,000 in assets, produced \$260,000 in receipts, and earned \$17,000 net income.

**Keywords:** farms, farming corporations, corporate farms, agricultural structure, farm structure, farm losses, farm finance, financial analysis, farm returns, net profit, returns to size, economies of size, assets, liabilities, net worth, farm size, large farms.

## PREFACE

The entry of corporations into farming continues to be discussed as a national issue. Internal Revenue Service (IRS) has published data from a sample of tax returns for a number of years. These data made it possible to examine trends in forms of business organization used in farming in terms of numbers and business receipts. The IRS data were also used to determine some of the characteristics of farm corporations and to make an

aggregate financial analysis. The IRS data provide detail of a type not available elsewhere, but their unusual characteristics need to be noted and understood (see section on data limitations).

Since farm corporations represent a wide range of sizes, types, and geographic distribution, many of the data in this report are grouped by size of assets or business receipts.

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## SUMMARY

Farm corporations in the United States filed fewer than 1 percent of all farm tax returns in 1968, but this represented an increase over earlier years. The number of tax returns filed by farm corporations increased 23 percent from 1963 to 1968. Farm corporations using the subchapter S option increased 65 percent. Under this option, corporations with 10 or fewer shareholders do not pay corporate income tax. Instead, the corporate earnings are passed through to shareholders who report the earnings on their individual tax returns. This tax treatment of such corporations is similar to partnerships.

Most subchapter S corporations are probably not new operators but are incorporations of previous sole proprietorships and partnerships. By 1968, just 10 years after its inception, 31 percent of all farm corporations used the subchapter S option. Those farm corporations using the option had smaller business receipts than other farm corporations, but larger receipts than farm partnerships.

Business receipts averaged \$319,000 for nonsubchapter S farm corporations and \$124,800 for subchapter S corporations as compared with \$41,000 for farm partnerships and \$12,000 for sole proprietorships. Although many sole proprietorships are small, some are large. Two-fifths of all farm tax returns with \$500,000 or more of business receipts were filed by sole proprietorships. On the other hand, a common impression is that all corporations are large. However, 41 percent of farm corporations had business receipts of less than \$50,000.

Assets of farm corporations averaged \$317,000 in 1968. More than half of the assets were land and depreciable items (buildings, machinery, and equipment). Between 1963 and 1968 the largest percentage increase in farm corporations occurred in the total asset class of \$1 million to \$5 million. However, the greatest numerical increase occurred in the \$100,000 to

\$499,999 asset group, which also contained 42 percent of farm corporations.

On the capital side of the balance sheet, average equity of farm corporations was 39 percent. This, separated into paid-in capital, 31 percent, and retained earnings, 8 percent. The 61 percent debt was composed of short term (under 1 year), 28 percent, and long term, 33 percent.

Farm corporations, as a group, gained by borrowing in 1968; that is, the earnings on borrowed funds were greater than their cost. The average rate of return to equity (ownership capital) was 6.4 percent before income taxes in 1968. For 1963-68, the annual average rate of return to equity was 5.3 percent. The rate of return to equity for farm corporations was less than for corporations in other industries selected for comparison. Another investment alternative, high grade corporate bonds, with less risk, were yielding only a slightly lower rate of return than equity in farm corporations for the 1963-68 annual average.

The average rate of return to equity for all farm corporations was low partly because nearly half reported losses during 1963-68. Those farm corporations reporting losses were not able to reduce their expenses in proportion to the reduction in receipts. Thus, many farm corporations had high loss rates.

The average rate of return to equity for 1963-68 tended to be greater for larger asset corporations, because the percentage reporting losses was less. When only those corporations reporting net profits are considered, the rate of return on equity declined slightly as assets increased.

Farm corporations as a group appeared to have moderate overall financial strength and adequate reserves, although short-term debt was a rather high proportion of current assets. However, the equity is probably sufficient to cover the risk and fluctuation associated with farming for most corporations.

# FARM CORPORATIONS: A FINANCIAL ANALYSIS

By George Coffman, Agricultural Economist,  
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## INTRODUCTION

The structure of the U.S. farm production sector continues to change. Many questions relating to the nature and cause of these structural changes remain to be answered. The extent of corporations in farming is one question that has been raised. Large numbers of corporations with no previous experience in farming have reportedly invested in farms. A previous study seemed to indicate that this was not the case, but questions about potential entries remained (2).<sup>1</sup> To judge some of the financial incentives for corporate entry into farming, this study was initiated.

Future structure and rates of change in the farm production sector will be influenced by many factors. These include rates of return to equity or ownership capital, probability of profits and losses, relative returns from investment in farming compared with investment in other industries, returns to size, and optimal type of business organization. These factors are examined in this report.

A financial analysis approach is used to examine the financial aspects of farm corporations. The financial analysis framework is designed to evaluate the stability and profitability of individual businesses. However, it is used here to evaluate aggregates for farm corporations. Standard or typical ratios of financial strength are established for many industry groups, but not for farm corporations.

The financial analysis framework attempts to assess the balance between debt and equity capital for absorbing shocks and profitability in terms of equity leverage. Also, the costs of capital and rates of returns are considered. The ability to pay fixed interest charges from income and the equity necessary to absorb any short-term losses are aspects of financial analysis.

Using IRS data, the study examines trends in the numbers of farm firms having different forms of business organization. Since financial data for partnerships and sole proprietorships are limited to receipts and expendi-

tures, only a few comparisons can be made among the three forms of business organization.

Projecting the future financing of agriculture requires that the present financial structure be better described. Farm corporations are often given limited treatment or ignored when considering alternative future financing of agriculture. Corporations tend to be larger and have different financial options, so separate consideration should be given them when projecting the future structure and capital requirements of farming. For example, can the larger, closely held corporations obtain equity and debt capital through public offerings? If they can, the share of total output from firms using investor capital would increase in relation to farms that depend on only retained earnings and debt capital for growth.

## Data Limitations

Readers of this report need to remember that a farm tax return does not necessarily represent the same business unit defined as a farm by the census of agriculture. Sole-proprietorship tax returns (Schedule F of Form 1040) cover only the farm portion, but tax returns for corporations and partnerships report statistics for the entire business and include all nonfarm activities. Partnerships and corporations are classified as farms if sales of farm products accounted for the largest portion of the total receipts—even if the firm is engaged in many different businesses. If farming is a minor business activity of the firm, the farm portion is included in some other industry classification. Some farms, by the census definition, may file more than one tax return. However, the census may count as a separate farm each location of the firm with several farming locations, but these may be combined on one tax return. Thus, the number of tax returns is not the same as the number of farms. (See appendix A for more detail on data limitations.)

IRS statistics report assets based on book values which relate to varying dates. This procedure tends to value assets at less than their current values and has an impact on the asset structure and evaluation of returns.

The IRS data are an aggregation of reports representing differing commodities, geographic areas of operation,

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<sup>1</sup>Italic numbers in parentheses indicate items in Selected References, p. 21.

and degrees of nonfarm activity. These different reports have different financial characteristics, but they are combined into averages.

Cash accounting, a legal method of computing income for tax purposes, allows timing of purchases and sales to shift net income from one year to the next. This does not avoid tax on income but tends to level out or delay recognition of income. Since the IRS data are an aggregation of returns from varying situations, this should average out in the data. However, income shifting may result in a return being placed in the loss group one year and a profit group the next.

Two adjustments in the data were made. First, the largest farm corporation—with \$250 million or more of assets—was excluded, as the farming operations of this

corporation were conducted outside the United States. Second, 287 farm corporations with zero assets were excluded from several tables.

### FARM TAX RETURNS AND RECEIPTS BY FORM OF BUSINESS ORGANIZATION

Table 1 indicates that the total number of Federal income tax returns classified as farm businesses was lower in 1966 than 1959.<sup>2</sup> During this period, the

<sup>2</sup> The slight increase shown for 1967 and 1968 is not statistically significant as it is within sampling error.

Table 1—Number of tax returns and business receipts of farms by form of business organization, United States, 1957-69

Year	Number of tax returns				Business receipts			
	Sole proprietorships	Partnerships	Corporations	Total	Sole proprietorships	Partnerships	Corporations	Total
	<i>Thousands</i>				<i>Billion dollars</i>			
1957 .....	3,343.2	136.6	(8.2)	3,488.0	22.4	3.4	[1.9]	27.7
1958 .....	3,374.5	134.8	(9.6)	3,518.9	24.7	3.5	[2.3]	30.5
1959 .....	3,386.9	131.5	(10.8)	3,529.2	26.3	3.6	[2.5]	32.4
1960 .....	3,358.6	126.2	(11.8)	3,496.6	25.5	3.6	[2.8]	31.9
1961 .....	3,362.1	126.9	(13.1)	3,502.1	26.3	3.9	[3.4]	33.6
1962 .....	3,319.3	122.7	(15.3)	3,457.3	28.3	4.1	[4.0]	36.4
1963 .....	3,208.1	119.7	16.2	3,344.0	28.3	3.8	4.9	37.0
1964 .....	3,130.0	117.8	17.6	3,265.4	27.7	4.0	3.6	35.3
1965 .....	3,063.6	116.3	18.5	3,198.4	29.9	4.1	4.4	38.4
1966 .....	3,020.5	114.6	18.9	3,154.0	33.3	4.5	4.9	42.7
1967 .....	3,030.1	114.3	21.8	3,166.2	33.1	4.6	5.3	43.0
1968 .....	3,042.6	109.9	20.0	3,172.5	35.0	4.7	5.2	44.9
1969 <sup>1</sup> .....	3,089.5	108.8	20.5	3,218.8	37.6	5.5	7.8	50.9
	<i>Percent</i>				<i>Percent</i>			
1957 .....	95.9	3.9	0.2	100.0	80.9	12.3	6.8	100.0
1958 .....	95.9	3.8	.3	100.0	81.0	11.5	7.5	100.0
1959 .....	96.0	3.7	.3	100.0	81.2	11.1	7.7	100.0
1960 .....	96.0	3.6	.4	100.0	79.9	11.3	8.8	100.0
1961 .....	96.0	3.6	.4	100.0	78.3	11.6	10.1	100.0
1962 .....	96.0	3.6	.4	100.0	77.7	11.3	11.0	100.0
1963 .....	95.9	3.6	.5	100.0	76.5	10.3	13.2	100.0
1964 .....	95.9	3.6	.5	100.0	78.5	11.3	10.2	100.0
1965 .....	95.8	3.6	.6	100.0	77.9	10.7	11.4	100.0
1966 .....	95.8	3.6	.6	100.0	78.0	10.5	11.5	100.0
1967 .....	95.7	3.6	.7	100.0	77.0	10.7	12.3	100.0
1968 .....	95.9	3.5	.6	100.0	77.9	10.5	11.6	100.0
1969 <sup>1</sup> .....	96.0	3.4	.6	100.0	73.9	10.8	15.3	100.0

( ) = Estimated at 69 percent of agricultural, forestry and fisheries.

[ ] = Estimated at 67 percent of agricultural, forestry and fisheries.

<sup>1</sup> Data for 1969 became available after the analysis described in this report was completed.

Source: Statistics of Income: Business Tax Returns, Internal Revenue Service, U.S. Department of Treasury.

number of sole proprietorships and partnerships tended to decline, while the number of farming corporations nearly doubled. Although corporations accounted for an increasing number, their percentage of the total remained small—0.6 percent.<sup>3</sup>

The corporate share of total farm business receipts was significantly higher in 1968 than in 1957—11.6 percent vs. 6.8 percent.<sup>4</sup> Thus, the share of the total business receipts reported as sole proprietorship and partnership farm returns decreased, even though the total business receipts for each increased (figure 1).

The three forms of business organizations classified by business receipts are shown in table 2, and a breakdown of the business receipts for each group is provided in table 3. A striking feature of these two

tables is the large number of sole proprietorships reporting less than \$5,000 of business receipts. This group probably includes a large number of share-rent landlords, part-time farmers, and residential farms, many of which have small farm receipts and may have other receipts which are greater than farm receipts (7, p. 14).

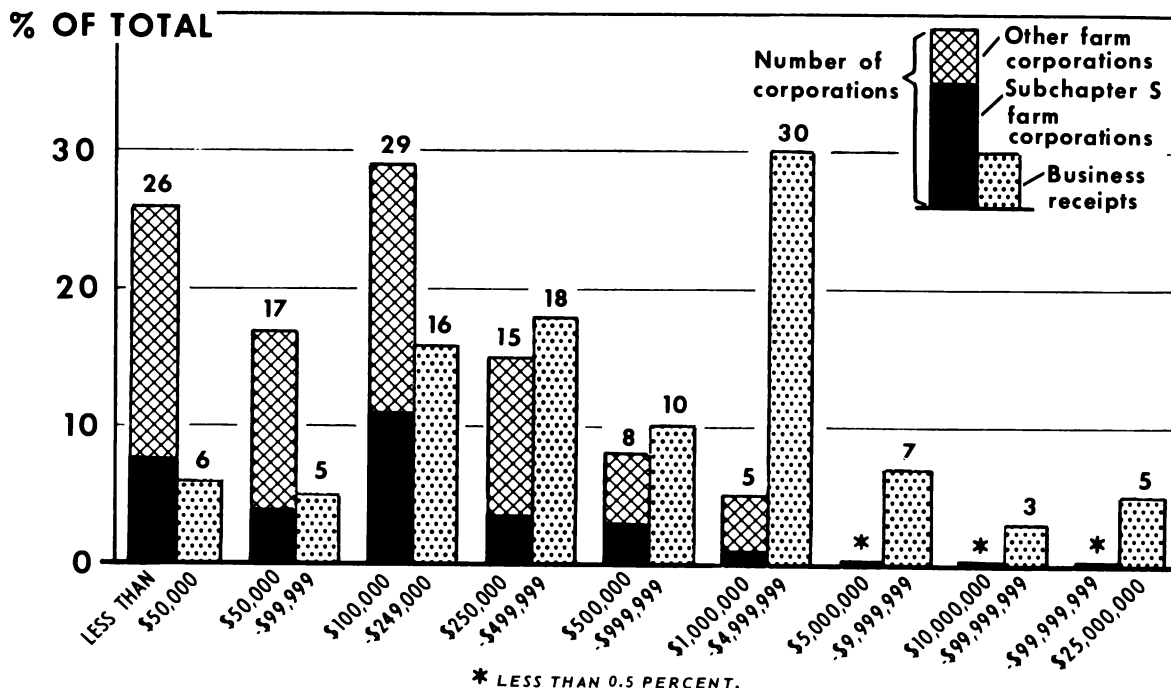
One should not equate small farms with sole proprietorships or large farms with corporations. It is clear that many sole proprietorships are large and that not all corporations are large. Although concentrated in the smaller sizes, sole proprietorships did have a surprisingly large proportion of the firms in the higher business receipts classes. About 39 percent of the farm tax returns reporting \$500,000 or more business receipts in 1967 were from sole proprietorships.

On the average, corporations were larger than sole proprietorships or partnerships. About 23 percent of all farm corporate tax returns reported \$200,000 or more in business receipts in 1967. However, many corporations are small, as indicated by the 41 percent with business receipts of less than \$50,000.

<sup>3</sup>The number of sole proprietorships, partnerships, and corporations in each State is shown in appendix table 4.

<sup>4</sup>Business receipts reported on farm tax returns are gross receipts, less allowances, rebates, and returns from all business activity.

## NUMBER AND BUSINESS RECEIPTS OF FARM CORPORATIONS AS PERCENT OF TOTAL, BY ASSET SIZE, 1968



U.S. DEPARTMENT OF AGRICULTURE

NEG. ERS 142-73 (4) ECONOMIC RESEARCH SERVICE

Figure 1



Table 2—Number and percentage of farm tax returns, by form of business organization and by business receipt class, United States, 1967

Business receipts	Number of tax returns				Percentage of tax returns			
	Sole proprietorships	Partnerships	Corporations	Total	Sole proprietorships	Partnerships	Corporations	Total
	<i>Number</i>				<i>Percent</i>			
Less than \$5,000 . . . . .	1,578,808	23,270	3,654	2,084,021	52.1	20.4	16.8	65.8
\$5,000-\$9,999 . . . . .	464,556	13,733			15.3	12.0		
\$10,000-\$24,999 . . . . .	593,145	22,351	2,476	617,972	19.6	19.5	11.4	19.5
\$25,000-\$49,999 . . . . .	211,773	19,744	2,868	234,385	7.0	17.3	13.2	7.4
\$50,000-\$99,999 . . . . .	71,253	14,350	3,043	88,646	2.4	12.5	14.0	2.8
\$100,000-\$199,999 . . . . .	18,845	6,577	3,314	28,736	.6	5.8	15.2	.9
\$200,000-\$499,999 . . . . .	5,313	2,860	3,158	11,331	.2	2.5	14.5	.4
\$500,000-\$999,999 . . . . .			977				4.5	
\$1,000,000 or more . . . . .	1,479	462	865	3,783		.4	4.0	.1
Not reported . . . . .	84,890	10,950	1,406	97,246	2.8	9.6	6.4	3.1
Total . . . . .	3,030,062	114,297	21,761	3,166,120	100.0	100.0	100.0	100.0

<sup>1</sup> Less than 0.05 percent.

Source: Statistics of Income: Business Tax Returns 1967, Internal Revenue Service, tables 2.3, 3.3 and 5.4.

Although the groups with less than \$5,000 of business receipts represented over half of the total number of farm returns from sole proprietors, this group accounted for only 8.6 percent of the business receipts reported on all sole-proprietorship farm returns. However, about half of all business receipts for farm corporations were for those in the "\$1 million or more" class.

The corporate form of business organization is not as prevalent in farming as in other industries. Only 1 percent of farm tax returns were filed by corporations and they reported 12 percent of the business receipts. In all major industry groups except farming, corporate business dominates the receipts. In 1968, corporations filed only 13 percent of all business tax returns, but they accounted for 82 percent of all business receipts.

Table 3—Amount and percentage of farm business receipts by form of business organization and by business receipt class, United States, 1967

Business receipts	Business receipts				Percentage of receipts			
	Sole proprietorships	Partnerships	Corporations	Total	Sole proprietorships	Partnerships	Corporations	Total
	<i>Million dollars</i>				<i>Percent</i>			
Less than \$5,000 . . . . .	2,841	55	15	6,374	8.6	1.2	0.3	14.8
\$5,000-\$9,999 . . . . .	3,362	101			10.2	2.2		
\$10,000-\$24,999 . . . . .	9,477	374	42	9,893	28.6	8.2	.8	23.0
\$25,000-\$49,999 . . . . .	7,128	706	105	7,939	21.5	15.4	2.0	18.5
\$50,000-\$99,999 . . . . .	4,811	995	226	6,032	14.5	21.8	4.3	14.0
\$100,000-\$199,999 . . . . .	2,556	912	472	3,940	7.7	20.0	8.9	9.2
\$200,000-\$499,999 . . . . .	1,533	825	974	3,332	4.6	18.1	18.4	7.8
\$500,000-\$999,999 . . . . .			656				12.4	
\$1,000,000 or more . . . . .	1,428	597	2,792	5,473	4.3	13.1	52.9	12.7
Total . . . . .	33,136	4,565	5,282	42,983	100.0	100.0	100.0	100.0

Source: Statistics of Income: Business Tax Returns 1967, Internal Revenue Service, tables 2.3, 3.3, and 5.4.

## SMALL BUSINESS CORPORATIONS IN FARMING

Small business corporations are legally incorporated businesses with 10 or fewer shareholders who elect to be taxed directly through the shareholders (similar to partnerships) rather than as corporations (4, p. 193).<sup>5</sup> This special tax option was enacted in 1958 as subchapter S of the Federal income tax law.<sup>6</sup> The subchapter S option allows many business to have the legal advantages of incorporation without taxing both corporate income and the income distributed as dividends to the shareholders.<sup>7</sup> Because of these advantages, the number of farms filing returns under subchapter S has increased since the option was initiated in 1958, while the number of partnerships has declined.

Small business corporations have increased more rapidly than other farming corporations (table 4). Probably the subchapter S option has encouraged many partnerships and larger "family" farms to incorporate. In

other words, the increase in the number of farming corporations most likely represents mainly the incorporation of existing farms rather than the entry of new firms.

As mentioned above, only a small percentage of all farm firms is incorporated, in contrast to other industries. However, subchapter S corporations account for a larger percentage of the total number of corporations in farming than in any other industry—31 percent in 1968, compared with an average of 14 percent for all other industries. In farming, subchapter S corporations accounted for about 15 percent of corporate business receipts in 1968. Subchapter S farm corporations tend to have fewer assets than other farm corporations. Nearly half of subchapter S farm corporations were in the \$100,000 to \$499,000 asset group, and this asset group also accounted for the largest proportion of all farm corporations (table 5 and figure 2). The greatest percentage increase in numbers of subchapter S farm corporations between 1963 and 1968 occurred in the \$1 million to \$5 million asset groups. In contrast, the number of other farm corporations increased most in the \$5 million to \$10 million asset group.

Only two of the subchapter S corporations were in the next asset group—\$5 million to \$10 million—and none in the two size groups above \$10 million. For the years up to 1968, \$10 million of assets seemed to be a maximum size for subchapter S farm corporations. This may reflect the fact that 10 or fewer shareholders find it difficult to provide the capital for an operation exceeding \$10 million in assets.

Another determining factor, in addition to the number of shareholders, would be the income tax structure. Farm corporations with profits in the \$5 to \$10 million asset group had an average net income of

<sup>5</sup> Other qualifications are:

- a. Shareholders may be estates, but not nonresident aliens.
- b. The corporation cannot be a member of an affiliated group eligible to file a consolidated return.
- c. The corporation may issue only one class of stock.
- d. The corporation generally (code section 1372 makes a few exceptions) could not receive more than 20 percent of gross receipts from rents, royalties, interests, annuities, and gains from sales or exchanges of stocks or securities.
- e. The corporation could not receive more than 20 percent of its gross income from sources outside the United States.

<sup>6</sup> Sometimes referred to as 1120-S corporations, since the returns are filed on form 1120-S.

<sup>7</sup> The corporate earnings would be subject to the corporate income tax and the shareholder's dividends would be subject to the individual income tax.

Table 4—Number of returns, total assets, and business receipts, by type of farm corporation, United States, 1963-68

Year	Subchapter S			Other corporations		
	Returns	Total assets <sup>1</sup>	Business receipts	Returns	Total assets	Business receipts
	<i>Number</i>	<i>Million dollars</i>		<i>Number</i>	<i>Million dollars</i>	
1963 . . . . .	3,725	704	<sup>2</sup>	12,501	3,810	<sup>2</sup>
1964 . . . . .	4,444	830	<sup>2</sup>	13,133	4,094	<sup>2</sup>
1965 . . . . .	4,862	929	<sup>2</sup>	13,663	4,492	<sup>2</sup>
1966 . . . . .	5,409	1,180	766	13,520	4,748	4,104
1967 . . . . .	6,424	1,369	1,044	15,335	5,049	4,238
1968 . . . . .	6,164	1,521	769	13,814	4,815	4,408

<sup>1</sup> Estimated by multiplying the average assets for each class interval times number of subchapter S corporations.

<sup>2</sup> Not available.

Source: Statistics of Income: Business Tax Returns, various issues, and unpublished IRS Source Book of Statistics, Corporation Income Tax Returns.

Table 5—Subchapter S corporations: Number and percentage of all farm corporations, percent change, and comparison with other farm corporations, United States, 1963-68

Asset size group	Subchapter S corporations			Change in number of other farm corporations (1963-68)
	Returns (1968)	Percent of all farm corporations (1968)	Change in number (1963-68)	
	<i>Number</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
Zero <sup>1</sup> .....	54	19	— 72	— 37
\$1-\$49,999 .....	1,547	30	69	1
\$50,000-\$99,999 .....	829	25	19	13
\$100,000-\$499,999 .....	2,901	33	75	20
\$500,000-\$999,999 .....	630	41	215	— 11
\$1,000,000-\$4,999,999 .....	201	21	247	51
\$5,000,000-\$9,999,999 .....	2	3	0	61
\$10,000,000-\$24,999,999 .....	0	0	0	53
\$25,000,000 or more .....	0	0	0	0
Total .....	6,164	31	65	10

<sup>1</sup> Includes final returns of liquidating and merging corporations and foreign corporations with U.S. operations.

Source: Unpublished data from IRS Source Book of Statistics, Corporation Income Tax Returns, 1963 and 1968.

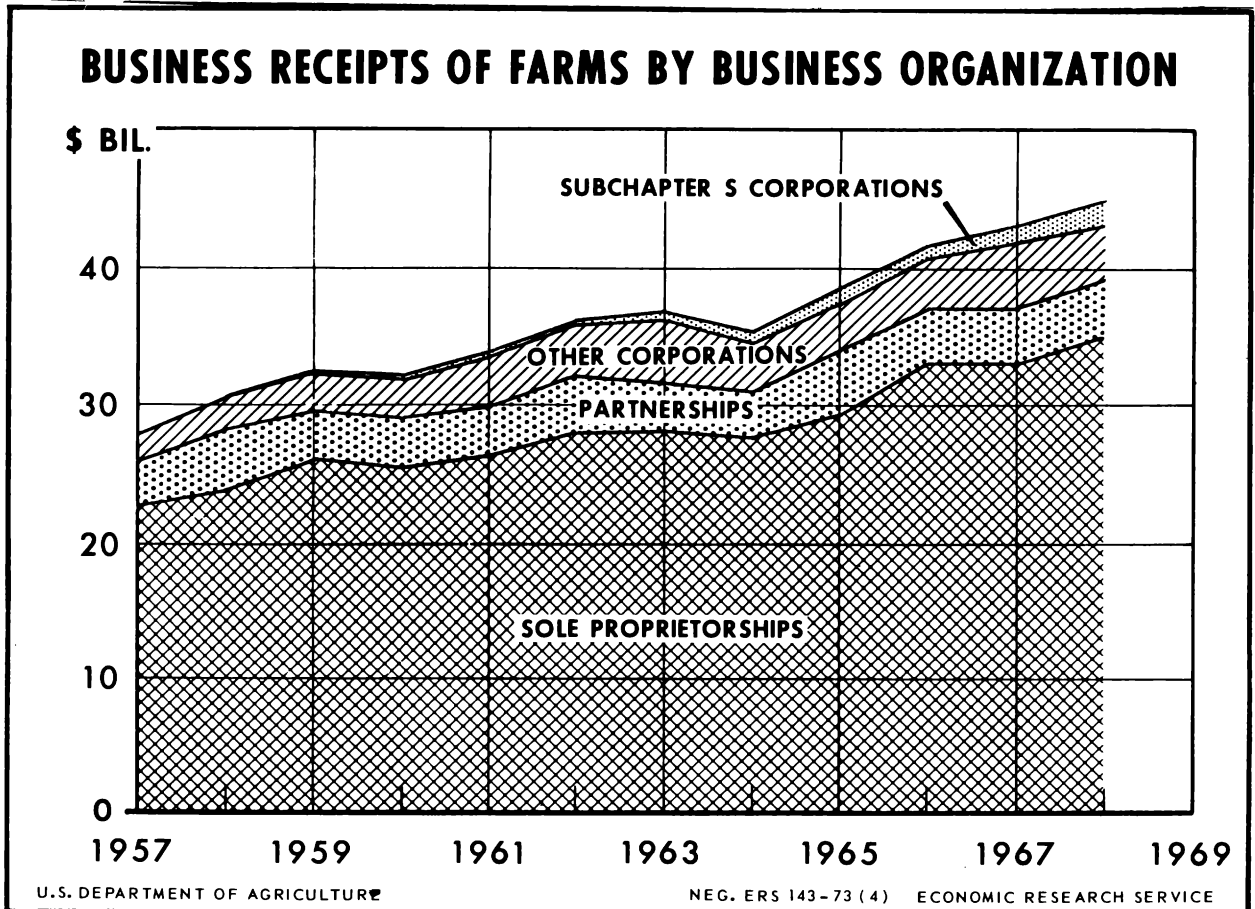


Figure 2

\$539,000. If such an amount were distributed to 10 or fewer shareholders, the marginal tax rate for the individuals might be greater than the corporate rate.<sup>8</sup> Closely held corporations with a growth policy could increase their investments in the corporation with lower tax costs by not using the subchapter S option, when the corporate rate is lower than the individual rate for the shareholders.

Some size progression is indicated by the number of owners and business receipts of the different forms of business organization. Sole proprietorships averaged only \$11,500 of business receipts in 1968. The average business receipts for the three multiownership business organizations which were classified as farms were partnerships, \$41,000; subchapter S corporations, \$124,800; and other corporations, \$319,100. The subchapter S corporations in agriculture, forestry, and fishery averaged 3.6 shareholders compared with an average of 2.5 partners per partnership.

The legal and tax advantages vary for each firm depending upon its circumstances; some firms, large and small, are found in all three forms of multiownerships—partnerships, subchapter S corporations, and other corporations. However, after a partnership reaches a certain size, it usually becomes advantageous to incorporate for both legal and financial reasons. One primary advantage is the conservation of assets in the transfer of the business from one generation to the next. Similarly, as corporate firms become larger, the subchapter S option

may no longer be desirable. The limitations, for example, on one class of stock and no more than 10 shareholders might restrict further growth of the firm.

## FINANCIAL STATEMENTS

Corporations tend to be larger and involve more owners than sole proprietorships and partnerships. The future of farm corporations depends upon their financial success and durability. The financial statements give pictures of the degree of financial success of business firms.

### Asset Structure

The average value of total assets reported by farm corporations increased from \$278,200 in 1963 to \$317,200 in 1968. The largest number of farm corporations (29 percent) was reported in the \$100,000 to \$249,999 asset size group (table 6). However, the assets were concentrated in the \$1 million to \$5 million asset group, where 5 percent of the firms had 26 percent of the total assets.

The number of returns in the group with \$1 million to \$5 million of assets increased 72 percent from 1963 to 1968. The assets of this group increased by a similar percentage. The number of returns for all farm corporations increased 23 percent in 1963-68, while assets increased by 40 percent. The 287 returns showing zero assets in 1968 included final returns of liquidating corporations, final returns of merging corporations, and returns of nonresident foreign corporation firms from

<sup>8</sup> The corporate income tax rate was 22 percent on taxable income plus 26 percent additional on the amount in excess of \$25,000 (4).

Table 6—Farm corporations: Returns and assets by asset size group, United States, 1968

Asset size group	Returns		Assets	
	Number	Percent	Mil. dol.	Percent
Zero .....	287	1	—	—
Less than \$50,000 .....	5,100	26	118.1	2
\$50,000-\$99,999 .....	3,268	16	232.5	4
\$100,000-\$249,999 .....	5,712	29	944.5	15
\$250,000-\$499,999 .....	3,011	15	1,055.2	16
\$500,000-\$999,999 .....	1,555	8	1,121.4	18
\$1,000,000-\$4,999,999 .....	950	5	1,659.7	26
\$5,000,000-\$9,999,999 .....	60	<sup>1</sup>	426.8	7
\$10,000,000-\$24,999,999 .....	26	<sup>1</sup>	374.0	6
\$25,000,000 or more .....	9	<sup>1</sup>	404.0	6
Total .....	19,978	100	6,336.2	100

<sup>1</sup> Less than 0.5 percent.

Source: Unpublished data from IRS Source Book of Statistics, Corporation Income Tax Returns, 1968.

abroad, but conducting business in the United States (6, p. 172). These farm corporation returns accounted for 1.4 percent of the total in 1968. The zero asset corporations reported average profits of \$12,100. However, 106 of the zero asset corporations reported profits averaging \$45,100 in 1968.

In 1968, the distribution of assets reported by farm corporations was as follows:

<i>Assets</i>	<i>Percent</i>
Cash .....	5
Accounts receivable <sup>1</sup> .....	10
Inventories .....	14
Other current assets <sup>2</sup> .....	<u>3</u>
Total current assets .....	32
Depreciable assets <sup>3</sup> .....	28
Land .....	<u>29</u>
Total fixed assets .....	57
Loans <sup>4</sup> .....	1
Other investments .....	6
Other assets <sup>5</sup> .....	<u>4</u>
Total assets .....	100

<sup>1</sup> Less allowance for bad debts.

<sup>2</sup> Includes Government securities and other current assets.

<sup>3</sup> Depreciable assets, less accumulated depreciation.

<sup>4</sup> Includes loans to stockholders, mortgage and real estate loans.

<sup>5</sup> Includes intangible assets, less amortization; depletable assets, less depletion, and other assets.

Source: Unpublished data from IRS Source Book of Statistics, Corporation Income Tax Returns, 1968.

Land is valued at the acquisition price, and land values have risen over time, so the book value was considerably

less than current market value. Economic Research Service (ERS) data indicate that the cost value of all farmland is about half of current value (3, p. 30).

Other assets are also likely to be undervalued in relation to the current market, but the undervaluation is probably not as great. The depreciation taken on depreciable assets indicates an average annual depreciation rate of 7.5 percent or a life span of about 13 years (table 7). The accumulated depreciation allowance is 46 percent of total assets based on book value. This would indicate an average age of about 6 years for the depreciable assets. Even less difference between book and current values would be expected for other assets (other than fixed and depreciable) on the balance sheet as they are more recently acquired.

Land and depreciable assets account for a lesser percentage of total assets for both the larger and smaller asset corporations (table 8). However, depreciable assets accounted for a larger percentage of total assets for small asset corporations and a smaller percentage for large corporations. Depreciable assets varied from 40 percent for the smallest to 21 percent of total assets for the largest corporation.

Current assets—including short-term securities—were 32 percent of total assets of farm corporations in 1968. Accounts receivable, less allowance for bad debts, accounted for 10 percent of total assets and inventories for 14 percent. Inventories increased as a percentage of total assets as size of farm corporations increased. Cash, however, declined as a percentage of total assets as assets increased. This may indicate more efficient use of cash, or it may be related to the differing types of operation conducted by corporations of differing sizes. Differences

Table 7—Depreciation of depreciable assets of farm corporations by asset size group, United States, 1968

Asset size group	Depreciation as a percent of business receipts	Depreciation rate	Estimated life	Average age	Accumulated depreciation taken
	<i>Percent</i>	<i>Percent</i>	<i>Years</i>	<i>Years</i>	<i>Percent</i>
Less than \$50,000 .....	4.5	14.2	7.0	3.4	49.0
\$50,000-\$99,999 .....	6.4	8.5	11.7	5.7	48.9
\$100,000-\$249,999 .....	5.3	8.4	11.9	5.4	45.0
\$250,000-\$499,999 .....	5.2	8.0	12.5	5.3	42.5
\$500,000-\$999,999 .....	6.6	6.7	15.0	6.7	44.7
\$1,000,000-\$4,999,999 .....	3.2	6.7	14.9	6.9	46.4
\$5,000,000-\$9,999,999 .....	4.7	7.2	13.9	6.8	49.3
\$10,000,000-\$24,999,999 .....	5.0	5.4	18.4	7.1	38.7
\$25,000,000 or more .....	4.9	7.1	14.2	7.5	53.2
Total .....	4.7	7.5	13.3	6.1	45.6

Source: Unpublished data from IRS Source Book of Statistics, Corporation Income Tax Returns, 1968.

Table 8—Asset structure of farm corporations by asset size group, United States, 1968

Asset account	Asset size									
	Less than \$50,000	\$50,000- \$99,999	\$100,000- \$249,999	\$250,000- \$499,999	\$500,000- \$999,999	\$1,000,000- \$4,999,999	\$5,000,000- \$9,999,999	\$10,000,000- \$24,999,999	\$25,000,000 or more	Total
	<i>Percent</i>									
Cash . . . . .	11	7	7	5	4	4	8	4	4	5
Accounts receivable <sup>1</sup> . . . . .	10	10	7	8	7	11	8	10	16	10
Inventories . . . . .	7	6	11	9	15	18	14	10	14	14
Other current assets <sup>2</sup> . . . . .	4	2	2	2	4	3	12	5	4	3
Total current assets . . . . .	32	25	27	24	30	36	42	29	38	32
Depreciable assets <sup>3</sup> . . . . .	40	38	31	32	26	23	27	27	21	28
Land . . . . .	16	28	34	35	33	29	18	23	17	29
Total fixed assets . . . . .	56	66	65	67	59	52	45	50	38	57
Other investments <sup>4</sup> . . . . .	3	6	4	5	6	9	8	17	18	7
Other assets <sup>5</sup> . . . . .	9	3	4	4	5	3	5	4	6	4
Total assets . . . . .	100	100	100	100	100	100	100	100	100	100

<sup>1</sup> Less allowance for bad debts.<sup>2</sup> Includes Government securities and other current assets.<sup>3</sup> Depreciable assets, less accumulated depreciation.<sup>4</sup> Includes loans to stockholders, mortgage and real estate loans.<sup>5</sup> Includes intangible assets, less amortization; depletable assets, less depletion, and other assets.

Source: Unpublished data from IRS Source Book of Statistics, Corporation Income Tax Returns, 1968.

Table 9—Capital structure of farm corporations by asset size group, United States, 1968

Capital account	Asset size									
	Less than \$50,000	\$50,000- \$99,999	\$100,000- \$249,999	\$250,000- \$499,999	\$500,000- \$999,999	\$1,000,000- \$4,999,999	\$5,000,000- \$9,999,999	\$10,000,000- \$24,999,999	\$25,000,000 or more	Total
	<i>Percent</i>									
Short-term debt <sup>1</sup> . . . . .	30	30	21	27	28	33	24	27	32	28
Long-term debt <sup>2</sup> . . . . .	42	31	34	36	34	35	28	31	20	33
Paid-in capital <sup>3</sup> . . . . .	63	41	42	32	34	24	23	30	12	31
Retained earnings . . . . .	—35	—2	3	5	4	8	25	12	36	8
Equity . . . . .	28	39	45	37	38	32	48	42	48	39
Total capital . . . . .	100	100	100	100	100	100	100	100	100	100

<sup>1</sup> Includes accounts payable, mortgages, notes, bonds under 1 year, and other current liabilities.

<sup>2</sup> Includes mortgages, notes, bonds over 1 year and loans from stockholders, and other liabilities.

<sup>3</sup> Capital stock less cost of treasury stocks, plus capital surplus.

Source: Unpublished data from IRS Source Book of Statistics, Corporation Income Tax Returns, 1968.

in size probably relate to geographic location, type of ownership, kinds of commodities produced, nonfarm business activities, and other factors.

Other investments increased significantly as asset size of farm corporations increased. The other assets are long-term nongovernment investments, those with maturity not indicated, stocks, bonds, mortgages, loans to subsidiaries, and other financial securities. Real estate not reported as a capital asset may also be included (6, p. 166). As the size of the corporation grows, other investments may offer greater returns than investments in current activities, causing the firm to diversify to maintain the level of returns. Also, the firm may wish to minimize risk.

### Capital Structure

The farm corporation's capital was supplied in 1968 from the following sources:

<i>Capital items</i>	<i>Percent</i>
Short-term debt <sup>1</sup> .....	28
Long-term debt <sup>2</sup> .....	33
Equity .....	39
Paid-in-capital <sup>3</sup> .....	31
Retained earnings .....	8
Total capital .....	100

<sup>1</sup> Includes accounts payable, mortgages, notes, bonds under 1 year, and other current liabilities.

<sup>2</sup> Includes mortgages, notes, bonds over 1 year, and loans from stockholders.

<sup>3</sup> Capital stock less cost of treasury stocks, plus capital surplus.

Source: Unpublished data from IRS Source Book of Statistics, Corporation Income Tax Returns, 1968.

Very little preferred stock, only 1 percent of total capital in 1966, was shown on the balance sheet of farm corporations. The amount of preferred stock was not shown in 1967 or 1968.

The capital structure by asset size group is shown in table 9. The equity level varied for different asset groups from 28 percent to 48 percent and tended to increase as asset size increased. The percentage of financing from retained earnings ranged from 35 percent for the smallest asset group to 36 percent for the largest. The negative retained earnings seemed to result from the accounting procedures used to absorb the losses. The smallest asset group did have an equity of 28 percent. The high proportion of paid-in capital for the smallest asset size (63 percent compared with 31 percent for all corporations) suggests that the paid-in capital has not

been adjusted for past losses. The larger corporations, in terms of assets, financed a larger percentage of their assets with retained earnings.

Farm corporations in the larger asset size groups had a smaller percentage of paid-in capital. These larger corporations have probably increased in size through time by using retained earnings, with paid-in capital nearly remaining constant. An option would have been to capitalize the retained earnings, that is, transfer the amounts to paid-in capital accounts and issue stock certificates.

### Business Receipts and Deductions

Total business receipts for farm corporations in 1968 were \$5 billion or an average of \$260,000 per return. Tables 2 and 3 show the distribution of the number of returns and business receipts by business receipts size classes for farm corporations in 1967. The number of returns was more concentrated in the smaller size groups. In contrast, business receipts were concentrated in the larger receipts group, as 53 percent of the business receipts of farm corporations were reported by tax returns with \$1 million or more in business receipts. Table 10 shows the average of business receipts and net income by asset size group for 1968.

Nonbusiness income averaged \$16,600 per farm corporation return and was 6 percent of total receipts in 1967 (table 11). Nonbusiness income included interest on Government obligations, other interest, rents, royalties, short- and long-term capital gains, and dividends from other corporations. Nonbusiness receipts ac-

Table 10—Average business receipts and net income of farm corporations by asset size group, 1968

Asset size group	Business receipts	Net income
	<i>1,000 dol</i>	
Less than \$50,000 .....	57	4
\$50,000-\$99,999 .....	71	6
\$100,000-\$249,999 .....	146	11
\$250,000-\$499,999 .....	305	18
\$500,000-\$999,999 .....	347	26
\$1,000,000-\$4,999,999 .....	1,595	76
\$5,000,000-\$9,999,999 .....	5,903	405
\$10,000,000-\$24,999,999 .....	6,877	549
\$25,000,000 or more .....	28,968	3,288
Total .....	260	17

Source: Unpublished data from IRS Source Book of Statistics, Corporation Income Tax Returns, 1968.



Table 11—Distribution of nonbusiness and business receipts, and nonbusiness receipts as percentage of total receipts of farm corporations by business receipts groups, United States, 1967

Business receipts group	Receipts		Nonbusiness receipts as percentage of total receipts <sup>1</sup>
	Non-business	Business	
	<i>Percent</i>		
Less than \$10,000 .....	4	<sup>2</sup>	46
\$10,000-\$24,999 .....	3	1	21
\$25,000-\$49,999 .....	8	2	20
\$50,000-\$99,999 .....	12	4	16
\$100,000-\$199,999 .....	12	8	8
\$200,000-\$499,999 .....	20	17	7
\$500,000-\$999,999 .....	12	11	6
\$1,000,000 or more .....	29	57	3
Total .....	100	100	6

<sup>1</sup> Total receipts include interest on Government obligations, other interest, rents, royalties, capital gains, and dividends in addition to business receipts.

<sup>2</sup> Less than 0.5 percent.

Source: Statistics of Income: Business Tax Returns 1967, Internal Revenue Service, Table 5.4.

counted for a larger percentage of total receipts of farm corporations in the classes with small business receipts. The percentage declined as business receipts increased. However, the largest portion (29 percent) of total nonbusiness receipts was reported on farm corporation returns with receipts of \$1 million or more.

Long-term capital gains less short-term capital losses accounted for only 2 percent of business receipts of farm corporations in 1968. However, capital gains are more similar to net income than business receipts. Because most of the capital gain (88 percent in 1968) was reported by those farm corporations reporting profits, the discussion here relates only to those reporting profits. Capital gains composed 28 percent of net income for farm corporations reporting profits in 1968. The range was from 11 to 53 percent of net income with little relationship to asset size. The percentage was higher (62 percent) for corporations with no assets, which includes liquidating corporations.

Not much detail on deductions (expenses) of farm corporations is shown in the IRS statistics. Most of the deductions are aggregated in the cost of sales and operations—70 percent of total deductions in 1968. Only minor items, such as compensation of officers, repairs, rent paid on business property, taxes paid, interest paid, and depreciation, were reported separately. Compensation of officers declined as a percentage of total deductions as the farm corporation increased in asset size. This may indicate a gain in efficiency of management, different structure of management, or profits taken as salaries by small, closely held corpora-

tions (see appendix B). Interest paid was an increasing percentage of deductions as corporations increased in size.

The depreciation deduction for farm corporations was shown as a separate item. Depreciation as a percentage of business receipts was small, as it averaged only 5 percent of deductions for all corporations and indicated no pattern as asset size changed. However, the annual percentage allowance for depreciation of assets did tend to decrease as asset size increased. Conversely, the estimated life of assets tended to increase as asset size increased.

### The Median Farm Corporation

The median was selected to give a financial picture of the "typical" farm corporation.<sup>9</sup> Averages were computed for the \$100,000 to \$249,999 asset group, containing 5,712 returns, 29 percent of all corporate farm returns, and 16 percent of the business receipts. The following discussion refers to the average for this group of corporations as if it were one corporation, "the median farm corporation."

The median farm corporation had assets composed of 27 percent current assets and 65 percent fixed assets

<sup>9</sup>The median is the central or middle observation. Since it was not possible to determine exact values for the median farm corporation return, the average for the class containing the median was used.

(land and depreciable assets). Equity capital provided 45 percent of capital and debt provided 55 percent (table 12). Short-term debt made up 21 percent of total capital and long-term debt made up 34 percent. Retained earnings supplied very little of the total capital. This

Table 12—Balance sheet for typical farm corporation, 1968<sup>1</sup>

Account	Value
<b>Assets</b>	<b>1,000 dollars</b>
Current assets:	
Cash .....	11.9
Inventories .....	18.8
Accounts receivable <sup>2</sup> .....	11.5
Other current assets <sup>3</sup> .....	2.7
Total .....	44.9
Fixed assets:	
Depreciable assets <sup>4</sup> .....	51.0
Land .....	55.8
Total .....	106.8
Other investments .....	5.5
Other assets <sup>5</sup> .....	8.1
Total assets .....	165.3
<b>Capital</b>	
Debt capital:	
Short term <sup>6</sup> .....	34.5
Long term <sup>7</sup> .....	56.7
Total debt .....	91.2
Equity capital:	
Paid in capital <sup>8</sup> .....	69.4
Retained earnings .....	4.7
Total equity capital .....	74.1
Total capital .....	165.3

<sup>1</sup> Based on 5,712 tax returns (42 percent of total farm corporations returns) with \$100,000-\$249,999 assets.

<sup>2</sup> Less allowances for bad debts.

<sup>3</sup> Includes Government securities.

<sup>4</sup> Less accumulated depreciation.

<sup>5</sup> Includes loans; intangible assets, less amortization and depletable assets, less depletion.

<sup>6</sup> Includes accounts payable; mortgage, notes, and loans under 1 year and other current liabilities.

<sup>7</sup> Includes mortgages, notes, and bonds over 1 year plus loans from stockholders, other liabilities.

<sup>8</sup> Capital stock less treasury stock, plus capital surplus.

Source: Unpublished data from IRS, Source Book of Statistics, Corporation Income Tax Returns, 1968.

may be partly explained by the 34 percent increase in number in this size group from 1963 to 1968. Many were probably new corporations rather than existing ones moving up from smaller size groups. Also, losses by some farm corporations in this size group reduced the average accumulation of retained earnings.

The current ratio (the number of times current assets cover current obligations) was 1.3, and the ratio of fixed assets to long-term debt was 1.9. Equity capital was 45 percent. These statistics indicate a moderate financial health for the median farm corporation.

The \$165,300 of average assets generated total receipts of \$152,500 in 1968, or \$0.92 for each \$1 of assets. The net income of the median corporation averaged \$4,400 (table 13). Expenses were 97 percent of business receipts; in other words, the profit rate on receipts was 3 percent. This seems low, especially for

Table 13—Profit and loss statement for typical farm corporations, 1968<sup>1</sup>

Account	Value
<b>Receipts</b>	<b>1,000 dollars</b>
Business .....	146.2
Nonbusiness:	
Long-term capital gain <sup>2</sup> .....	1.6
Other <sup>3</sup> .....	4.7
Total nonbusiness .....	6.3
Total receipts .....	152.5
<b>Deductions</b>	
Cost of sales and operations .....	96.4
Compensation of officers .....	5.6
Repairs .....	3.0
Rent on business property .....	4.3
Taxes paid .....	3.7
Interest paid .....	3.9
Depreciation .....	7.8
Other deductions <sup>4</sup> .....	23.4
Total deductions .....	148.1
Net income .....	4.4

<sup>1</sup> Based on 5,712 tax returns (42 percent of total farm corporation returns) with \$100,000-\$249,999 assets.

<sup>2</sup> Net of short term capital losses.

<sup>3</sup> Interest, rents, royalties, dividends, net gain, non-capital assets, short-term capital gains (net of long-term losses) and other receipts.

<sup>4</sup> Includes bad debts, contributions, amortization, etc.

Source: Unpublished data from IRS Source Book of Statistics, Corporation Income Tax Returns, 1968.

such a low capital turnover ratio. The rate of return on equity was 6 percent, which was also rather low.

The return to the owners would average \$4,400. However, probably only part of net income was distributed to shareholders and the remainder was retained by the corporations for reinvestment. Assuming that the corporations are closely held and half is distributed, the distribution plus the \$5,600 compensation of officers would total about \$7,800 as payment to the owners. This small amount of funds would probably be distributed among two to five shareholders, who may or may not have other income sources. In addition to these amounts, some returns in the form of wages to shareholders may be included in the cost of sales and operations.

## FINANCIAL CONDITIONS AND PROFITS

Balance-sheet data and profit-and-loss data were used to attempt some aggregate financial analysis of farm corporations. This kind of analysis is usually applied to individual firms, but is useful in assessing the overall financial well-being and rates of return from the farm corporation group. The data presented are from many different kinds of operations which are aggregated into the farm corporation classification. Nurseries, cattle feedlots, cattle ranches, sugarcane farms, and orchards are a few of the diverse groups included. Also included are closely held farm corporations, in many cases family

owned, and corporations with stock available to the investing public.

## Financial Ratios

Farm corporations required \$1 of assets to generate \$0.90 of business receipts in 1968 (table 14). This rate, called the capital turnover rate, declined as the asset size of the operation increased. However, this slower rate of turnover was not offset by an increasing profit margin on receipts.

When only fixed assets, land, and depreciable assets were considered, \$1 was related to \$1.40 of business receipts. This ratio failed to show any consistent relationship with asset size. However, the inventory turnover (business receipts divided by inventory) rate tended to decrease as the asset size increased. The inventory turnover rate is much lower in farming than in businesses such as merchandising. In farming, \$1 of inventory was associated with \$6 of business receipts in 1968.

Certain aggregate ratios were calculated to indicate the financial strength of farm corporations. The first, interest coverage, indicates the ability to pay the interest charges on the firm's debt from annual income. The interest coverage for all farm corporations was 1.9 times (table 15). This means that farm corporations could have paid the interest charges on the debt 1.9 times from operating revenue in 1968 and still have met all other

Table 14—Selected financial ratios of farm corporations by asset size group, United States, 1968

Asset size group	Turnover ratio			Profit rate on receipts <sup>4</sup>
	Total capital <sup>1</sup>	Fixed assets <sup>2</sup>	Inventory <sup>3</sup>	
	Times			Percent
Less than \$50,000 .....	2.5	4.4	35.2	0.1
\$50,000-\$99,999 .....	1.0	1.5	17.9	4.1
\$100,000-\$249,999 .....	.9	1.4	7.8	2.9
\$250,000-\$499,999 .....	.9	1.3	9.9	2.8
\$500,000-\$999,999 .....	.5	.8	3.2	2.2
\$1,000,000-\$4,999,999 .....	1.0	1.8	4.9	2.2
\$5,000,000-\$9,999,999 .....	.9	1.8	6.0	4.6
\$10,000,000-\$24,999,999 .....	.5	1.0	4.6	-.3
\$25,000,000 or more .....	.7	1.7	4.5	9.5
Total .....	.9	1.4	6.0	2.8

<sup>1</sup> Total receipts divided by total assets.

<sup>2</sup> Business receipts divided by land and depreciable assets.

<sup>3</sup> Business receipts divided by inventories.

<sup>4</sup> Net income divided by total receipts.

Source: Unpublished data from IRS Source Book of Statistics, Corporation Income Tax Returns, 1968.

Table 15—Financial indicators of farm corporations by asset size group, United States, 1968

Asset size group	Interest coverage <sup>1</sup>	Long-term debt on fixed assets	Current ratio <sup>2</sup>	Equity
	<i>Times</i>	<i>Percent</i>	<i>Times</i>	<i>Percent</i>
Less than \$50,000 .....	1.1	76	1.1	28
\$50,000-\$99,999 .....	2.9	47	.8	39
\$100,000-\$249,999 .....	2.1	53	1.3	45
\$250,000-\$499,999 .....	1.9	53	.9	37
\$500,000-\$999,999 .....	1.5	57	1.1	38
\$1,000,000-\$4,999,999 .....	1.7	68	1.1	52
\$5,000,000-\$9,999,999 .....	2.8	63	1.8	48
\$10,000,000-\$24,999,999 .....	0.9	62	1.1	42
\$25,000,000 or more .....	3.6	53	1.2	48
Total .....	1.9	59	1.1	39

<sup>1</sup> Interest deductions plus net income divided by interest deduction.

<sup>2</sup> Current assets divided by current liabilities.

Source: Unpublished data from IRS Source Book of Statistics, Corporation Income Tax Returns, 1968.

expenses. The larger farm corporations, in terms of asset size, had greater coverage of interest than the smaller farm corporations.

Long-term debt was 59 percent of fixed assets (net of allowed depreciation) for all farm corporations, which seems to be a conservative level. The percentage ranged from 47 to 76 percent, but was not related to asset size.

The relationship of current assets to current debts—the current ratio—was only 1.1 in 1968, but the ratio varied from 0.8 to 1.8 percent for the various asset sizes. Since the current assets are cash or readily convertible to cash, it is an indication of the ability of the firm to meet its current obligations. This ratio suggests that some farm corporations were in a weak current position. The calculations are based on the end of the accounting period and include firms with varying types of cash flows. This could be the time of low cash reserves in the accounting year for the majority of firms rather than representative of the situation throughout the year.

The equity ratio, or percentage of total assets owned, averaged 39 percent in 1968. For different asset size groups, the range was from 28 to 48 percent and tended to increase with size. The percentage of equity would probably have been higher if assets, particularly land, had been valued in current terms.

Farm corporations as a group appear to be stronger in relation to long-term than to short-term indicators but have adequate reserves and borrowing capacity. The equity level should support most of the risks and fluctuation associated with farming. However, some corporate farm returns report high losses. (Losses are discussed in a later section.)

### Earnings on Equity

The earnings on total assets of farm corporations were only 5.2 percent before corporate income taxes in 1968. Because the computed average interest rate of 4.8 percent paid on borrowed capital was less than the rate earned on total assets, a positive leverage is indicated.<sup>10</sup> The leverage increased the return on equity capital to 6.4 percent. In 1967, the average interest rate of 4.6 percent on borrowed capital was higher than the 3.9 percent earnings on all assets. This resulted in a negative leverage which reduced the return on equity capital to 3.6 percent. For 1963-68, the rate of return for farm corporations averaged 5.3 percent, which seems rather low. However, the rate of return of farm corporations reporting profits was from 13.5 to 16.8 percent before corporate income taxes for 1963-68.

Not only are returns on farm corporations low, but they seem to have a high probability of loss (table 16). The percentage reporting losses ranged from a high of 53 percent in 1963 to a low of 42 percent in 1966. Losses as a percentage of equity ranged from 46 percent in 1965 to 32 percent in 1966 and 1967. Three consecutive years of such high loss rates could place a corporation in bankruptcy. In other words, the loss would reduce

<sup>10</sup> This average interest rate appears low. It was calculated by dividing interest-paid deductions by the total liabilities, less accounts payable. The debt may include some taxes and social security payable, but probably only small amounts. Also included are loans from stockholders, which may have no or very low interest. Most of the debt was mortgages, notes, and bonds.

Table 16—Rate of returns, percentage reporting losses, and rate of loss, farm corporations, United States, 1963-68

Year	Rate of returns on equity <sup>1</sup>		Percentage reporting loss	Rate of net loss on equity <sup>1</sup>
	All farm corporations	With net profit		
	Percent			
1963 .....	3.3	14.8	52	44
1964 .....	4.4	14.4	47	41
1965 .....	7.1	15.8	44	46
1966 .....	6.8	15.0	42	32
1967 .....	3.6	13.5	47	32
1968 .....	6.4	16.8	45	40

<sup>1</sup> Returns and loss on equity are computed on end of accounting year equity.

Source: Unpublished data from IRS Source Book of Statistics, Corporation Income Tax Returns, 1963-68.

equity capital to zero and creditors would insist on repayment of their loans.

### Comparative Investment Returns

In the 4-year period 1963-66, farm corporations had the lowest average rate of return on equity and the greatest fluctuation in returns, except for fisheries, among the selected industries (table 17). Also, among the selected corporate industries the farm corporations had one of the highest percentages of firms reporting losses, 46 percent. The high percentage reporting losses was rather stable, with only 9 percent fluctuation.

Returns for farm corporations seem to be too low to attract significant amounts of risk capital from investors. For 1963-68, investments in high-grade corporate bonds (Moody's quality rating of Aaa), with less risk, had an average yield of 5.1 percent compared with 5.3 percent for farm corporations (12). In addition, as mentioned above, the assets were probably undervalued in current terms, which would reduce the return to an even lower level. Also, the return is calculated before payment of income tax.

These data indicate that farm corporations produced a lower return on capital for investors in 1963-66 than other businesses. However, anticipated appreciation of assets, especially land, is not reflected in annual earnings and represents a more significant part of the total long-term returns in farming than in other businesses. This does not result in realized income unless the assets are sold, which may end the business. Nevertheless, the appreciation can be converted to cash by supporting additional borrowing which can be used to purchase additional earning assets.

Another reason for lower returns in farming is the

greater degree of price competition in farming than in the other industries selected. Also, some returns to capital may be taken in the form of higher salaries. This option would be important to the many closely held corporations in which management and ownership are the same. When salaries are increased, the net income and the rate of return on equity are reduced (see appendix B).

Agriculture has been characterized as an industry with excess resources employed and a long adjustment process. This results in excess production, which faces a relatively inelastic demand and results in low returns for the industry. Also, a 4-year period may not represent a true longrun equilibrium, as some industries experienced fluctuations or cycles that may be in different stages in any one period.

### Returns to Size

An attempt was made to examine the returns to equity by asset size groups. However, this attempt contains several elements which tend to cloud the results. The farm corporations include a wide diversity of farming operations such as dairy, citrus, orchards, cotton, horticulture—all having different technical economies of size. Also, there are various combinations of enterprises and activities. The fact that calculations are before income taxes causes some distortion.

The average return on equity before Federal income taxes for all farm corporations for 1963-68 was rather low, at 5 percent (table 18). The rate of return increased for farm corporations as a group as asset size increased. The annual fluctuation in rates of return also tended to decline as asset size increased, but not uniformly. The increase in the aggregate rate of return on equity for the

Table 17—Rate of returns to equity, percentage reporting losses, and fluctuations for corporations of selected industries, United States, average 1963-66

Industry	Returns to equity		Percentage reporting loss	
	Average	Coefficient of variation <sup>1</sup>	Average	Coefficient of variation <sup>1</sup>
<i>Percent</i>				
Farms . . . . .	5	50	46	9
Forestry and forestry services . . . . .	7	44	50	16
Fisheries . . . . .	11	71	44	14
Copper, lead and zinc, gold and silver . . . . .	12	29	NA	NA
Coal mining . . . . .	6	17	53	5
Crude petroleum, natural gas . . . . .	21	26	57	4
Crushed rock, sand and gravel . . . . .	10	3	34	6
Building construction . . . . .	11	27	44	4
Other heavy construction . . . . .	15	18	34	8
Meat products . . . . .	11	24	26	25
Dairy products . . . . .	15	4	34	8
Canned and frozen foods . . . . .	16	8	34	15
Grain mill products . . . . .	17	4	27	15
Bakery products . . . . .	15	5	40	9
Malt and malt liquors . . . . .	16	3	NA	NA
Tobacco manufactures . . . . .	24	3	NA	NA
Textile mill products . . . . .	14	17	28	4
Logging, lumber, and wood products . . . . .	11	8	33	1
Millwork, plywood and prefab. struct. prod. . . . .	11	19	34	11
Paper and products . . . . .	12	11	31	13
Basic chemicals . . . . .	20	17	35	12
Soap and related products . . . . .	26	12	38	21
Perfumes and cosmetics . . . . .	30	17	45	18
Fertilizer and other agr. chemicals . . . . .	6	33	40	12
Glass and products . . . . .	19	8	35	32
Clay products (structural) . . . . .	11	15	39	13
Cutlery, hand tools and general hardware . . . . .	24	12	26	22
Heating equipment and plumbing fixtures . . . . .	16	7	32	22
Household appliances . . . . .	19	15	28	37
Radio and TV, except communications . . . . .	29	33	53	5

<sup>1</sup>(Standard deviation ÷ mean) x 100.

Source: Data from Statistics of Income-Corporate Income Tax Returns, Internal Revenue Service, 1963-1966.

corporations in larger asset size groups seems to result from the decreased percentage reporting losses.

When the rate of return on equity before taxes is calculated only for farm corporations reporting net profit (excluding those with losses), the rate declines as asset size increases. However, the decline is slight between asset sizes from \$100,000 to \$25 million or more. If computed after taxes, the decline would probably be more pronounced. A higher rate of return on equity for some smaller corporations with profits may result from income shifting from large to smaller

corporations in the same corporate complex. In case of operations composed of several corporations, proportionally more income could be shifted to smaller subsidiary corporations which would probably pay less income taxes.

The variation in the rate of return on equity for net profit farm corporations is lower for the middle asset size groups.<sup>11</sup> A profit rate with less variability is more

<sup>11</sup>The variation was measured using the coefficient of variation, the standard deviation divided by the average.

Table 18—Rate of return on equity for all farm corporations and those reporting net profit, and percentage of corporations reporting losses, by asset size group, United States, average 1963-68

Asset size	All farm corporations				Farm corporations with profit	
	Return on equity <sup>1</sup>	Coefficient of variation <sup>2</sup>	Proportion reporting losses <sup>1</sup>	Coefficient of variation <sup>2</sup>	Return to equity <sup>1</sup>	Coefficient of variation <sup>2</sup>
	<i>Percent</i>					
Less than \$50,000 . . . . .	15	192	60	8	43	40
\$50,000-\$99,999 . . . . .	3	177	47	10	22	19
\$100,000-\$499,999 . . . . .	4	36	39	6	16	19
\$500,000-\$999,999 . . . . .	3	59	37	15	13	14
\$1,000,000-\$4,999,999 . . . . .	5	43	35	7	15	12
\$5,000,000-\$9,999,999 . . . . .	8	42	30	25	14	19
\$10,000,000-\$24,999,999 . . . . .	6	85	32	38	13	25
\$25,000,000 or more . . . . .	12	22	21	<sup>3</sup>	13	21
Total . . . . .	5	38	48	10	15	7

<sup>1</sup> Average of the average annual rates.

<sup>2</sup> (Standard deviation ÷ mean) × 100

<sup>3</sup> Less than 5 years.

Source: Unpublished data from IRS Source Book of Statistics, Corporation Income Tax Returns, 1963-1968.

desirable than one at an equivalent rate with greater fluctuation, because of costs of financing and planning.

Some attempts have been made to study economies of size or scale by the survivor technique (10, 11, 13). The optimum size of firm is defined as the size of plant that earns maximum profits considering its total economic environment. The survivorship technique assumes that the size classes in which firms are increasing in number are optimal sizes or shifting toward optimal size. Although all size groups increased in number, the greatest percentage increase occurred in the group of farm corporations with \$1 million to \$5 million of assets. No additional farm corporations were reported in the largest asset group of \$25 million or more. However, the value of assets in this size group increased 8.4 percent from 1963 to 1968. This is probably an optional or survival size for only a few farm corporations in special situations.

Many new farm corporations tend to be subchapter S corporations (table 4 and appendix table 1). Subchapter S corporations increased faster in smaller size groups than other corporations between 1963 and 1968. This seems to indicate a smaller minimum size for incorporation for the subchapter S corporations.<sup>12</sup> The corporate form of business organization becomes advantageous for

a larger number of smaller firms when the subchapter S option is used.

Most of the "new" farm corporations appearing in IRS data were probably previously sole proprietorship and partnership returns. Incorporation usually results in no substantial change in the nature of the firm. If true, the data would really indicate the size of firm at which, for legal, financial, and tax reasons, it becomes advantageous to incorporate. Although some growth in existing farm corporations does occur, it is not possible to determine how much of the net gain in a size class results from changes in size classes of present farm corporations, new incorporations, and the negative effect of discontinued operations.

Decreasing numbers of corporations with zero assets indicate that about half as many farm corporations were involved in mergers and liquidations or giving up corporate status in 1968 than in 1963. The small corporations with less than \$100,000 assets continued to increase. In 1968, 72 percent of these were not subchapter S corporations. However, much of the 1963-68 increase in this size group was subchapter S corporations. One explanation is that some operating units have been split into several corporations, each filing separate returns.<sup>13</sup> An earlier study observed some

<sup>12</sup>One group of nonsubchapter S corporations (\$500,000 to \$1 million assets) declined but this may be a sampling error. Note the yearly variation by asset classes in appendix table 3.

<sup>13</sup>The company must not have been eligible to file a consolidated return to qualify for the subchapter S option (4, p. 194).

operations of this type in California (2). These may be subsidiary corporations or separate corporations with essentially the same ownership. Such an operation may have a landowning corporation, a machinery owning or custom operation corporation, and a management or operating corporation. The latter might have few assets and the first two corporations would not be classified as farms.

In summation, the rate of return on equity for all farm corporations increased with increasing size, because the severity of losses decreased as size increased. However, when only farm corporations with profits were considered, a slight decline in equity returns was observed as size increased. The middle asset group (\$1 million to \$5 million assets) had the greatest percentage increase in terms of farm corporation numbers.

### Farm Corporations Reporting Losses

As indicated earlier, a high percentage of farm corporations reported losses. These losses represented a high percentage of their net worth. This section reports the results of an attempt to examine these losses.

The cash accounting system, a legal accounting method of computing farm income for tax purposes, presented an opportunity for some income shifting. Such a shift could have resulted in a loss and a reduction in income taxes in one year, but in most cases, a larger-than-normal profit in following years. However, some potential existed for conversion of ordinary income into capital gains which are taxed at a lower rate, especially in the case of breeding cattle, orchard development, and soil and water conservation expenses. Moreover, income tax regulations often require accounting concepts which result in different net incomes than do more traditional accounting concepts.

Some have suggested that farm losses for tax purposes are not real losses, but result from applying Federal income tax regulations in a manner to reduce Federal income tax liabilities. IRS has published data comparing net income and deficits per income tax return and books of account for agriculture, forestry, and fisheries corporations.<sup>14</sup> For 1964, 1965, and 1966, the tax returns of the agriculture, forestry, and fisheries group reporting profits had net incomes that were 88 percent, 94 percent, and 88 percent of the amount computed on books of account (5, p. 107). The losses reported by this industry group for these 3 years on Federal tax returns

were 103 percent, 102 percent, and 105 percent of the amounts reported on the books of the corporation. These data indicate some reduction of profits and some increase in losses on tax returns as compared with the "company books."

Data for corporations reporting losses were obtained by using IRS published data and subtracting those reporting profits from data reported for all corporations. Thus, it is possible to compare certain characteristics of those corporations reporting losses with those reporting profits.

To show differences between profit and loss farm corporations, the median farm corporation is used. That is the average of the 5,712 farm corporation tax returns in the \$100,000 to \$250,000 asset group in 1968 (first shown in tables 11 and 12). For this discussion, the group is separated into 3,367 returns with profits and 2,345 returns with losses (tables 19 and 20). With nearly the same average assets, one group reported a net operating loss of \$15,800, while the other group reported profits of \$18,400, a difference of \$34,200.

The typical farm corporation reporting losses seems to generate fewer business receipts than the typical one with profits. With only slightly fewer assets, corporations with net profits averaged more than twice the business receipts of those with losses. Farm corporations with net profits reported 88 percent and those with losses 12 percent of all capital gains. However, farm corporations reporting losses had more nonbusiness receipts than those with profits.

As mentioned previously, the receipts of farm corporations with losses seem to be low. Some possible reasons are (1) acts of nature such as disease or weather which reduce quantities produced, (2) low prices, and (3) a shifting of income to the preceding or the following year. It is not possible to determine to what extent each factor or other factors were responsible. As size, measured in business receipts, increased, losses as a percentage of equity for farm corporations declined from 273 percent for the less than \$50,000 asset class to 29 percent for the \$10 to \$25 million asset group in 1968.

Farm corporations with losses had lower expenditures as well as lower receipts but expenditures were not reduced enough to avoid a loss. When compared with net profit farm corporations, those with losses had 42 percent as many receipts but 45 percent as many deductions. Very little detail is shown for deductions, but for those items shown, farm corporations with losses had less deductions than those with net profit. Exceptions were interest paid and depreciation. The interest deduction was higher because farm corporations with losses had a higher percentage of their assets

<sup>14</sup>Sixty-four percent of business receipts of this group were from farms in 1964.



Table 19—Average profit and loss statement for median corporations reporting income or losses, 1968<sup>1</sup>

Account	With net income	With losses
<i>Receipts</i>	<i>Million dollars</i>	
Business .....	194.9	76.2
Nonbusiness:		
Long-term capital gain <sup>2</sup> ....	2.2	.9
Other <sup>3</sup> .....	3.4	6.4
Total nonbusiness .....	5.6	7.3
<b>Total .....</b>	<b>200.5</b>	<b>83.5</b>
<i>Deductions</i>		
Cost of sales and operations ...	124.4	56.2
Compensation of officers ....	7.1	3.4
Repairs .....	3.1	2.9
Rent on business property ....	4.7	3.6
Taxes paid .....	3.9	3.4
Interest paid .....	3.4	4.8
Depreciation .....	7.6	8.1
Other deductions <sup>4</sup> .....	27.9	16.9
<b>Total .....</b>	<b>182.1</b>	<b>99.3</b>
<b>Net income or loss .....</b>	<b>18.4</b>	<b>-15.8</b>

<sup>1</sup> 3,367 tax returns reporting profits and 2,345 tax returns reporting losses in the \$100,000 to \$249,999 asset size group.

<sup>2</sup> Net of short-term capital losses.

<sup>3</sup> Interest, rents, royalties, dividends, net gain, noncapital assets, short-term capital gains, and other receipts.

<sup>4</sup> Includes bad debts, contributions, amortization, depletion, etc.

Source: Unpublished data from IRS Source Book of Statistics, Corporation Income Tax Returns, 1968.

financed by debt. However, the larger interest deduction did not contribute much to the amount of the net operating loss.

The farm corporations with losses had larger depreciation deductions, as they had more depreciable assets. Also, the depreciation rates on depreciable assets were slightly higher for farm corporations with losses (18 percent) than for those with net profits (16 percent). This could result from the use of accelerated forms of depreciation and tax credits or different asset compositions. Even if depreciation (not a cash expense) had not been deducted, the loss would have remained.

The balance sheet for the median farm corporation reporting losses shows a larger percentage of fixed assets (mainly depreciable assets) than for those reporting profits. However, it had a smaller percentage of current assets.

Table 20—Average balance sheet for median farm corporations reporting profits or losses, 1968<sup>1</sup>

Account	With net profit	With losses
<i>Assets</i>	<i>1,000 dollars</i>	
Current assets:		
Cash .....	16.7	5.1
Inventories .....	15.7	23.3
Accounts receivable <sup>2</sup> .....	13.0	9.2
Other current assets <sup>3</sup> .....	3.5	1.5
<b>Total .....</b>	<b>48.9</b>	<b>39.1</b>
Fixed assets:		
Depreciable assets <sup>4</sup> .....	48.3	54.7
Land .....	56.1	55.4
<b>Total .....</b>	<b>104.4</b>	<b>110.1</b>
Other investments .....	5.7	5.3
Other assets <sup>5</sup> .....	8.7	7.3
<b>Total assets .....</b>	<b>167.7</b>	<b>161.8</b>
<i>Capital</i>		
Debt capital:		
Short term <sup>6</sup> .....	25.8	46.8
Long term <sup>7</sup> .....	43.3	76.0
<b>Total debt .....</b>	<b>69.1</b>	<b>122.8</b>
Equity capital:		
Paid in capital <sup>8</sup> .....	68.5	70.9
Retained earnings .....	30.1	- 31.9
<b>Total equity capital .....</b>	<b>98.6</b>	<b>39.0</b>
<b>Total capital .....</b>	<b>167.7</b>	<b>161.8</b>

<sup>1</sup> 3,367 tax returns in the \$100,000-\$249,999 asset size group reporting profits, 2,345 tax returns reporting losses.

<sup>2</sup> Less allowances for bad debts.

<sup>3</sup> Includes Government securities.

<sup>4</sup> Less accumulated depreciation.

<sup>5</sup> Includes loans; intangible assets, less amortization and depletable assets, less depletion.

<sup>6</sup> Includes accounts payable; mortgage, notes, and bonds under 1 year and other current liabilities.

<sup>7</sup> Includes mortgages, notes, and bonds over 1 year plus loans from stockholders, other liabilities.

<sup>8</sup> Capital stock less treasury stock, plus capital surplus.

Source: Unpublished data from IRS Source Book of Statistics, Corporation Income Tax Returns, 1968.

Inventories were significantly higher for farm corporations reporting losses. Business receipts for the net loss farm corporation were low, and this may have resulted partly from accumulation in inventories. But the larger

inventories could probably explain only a small part of the reduced business receipts. The increased inventory could account for a substantial part of the losses for some firms if they used the cash accounting option. This may indicate some attempt at income shifting. Unfortunately, data for this subgroup are hidden in the average and cannot be separated.

Farm corporations reporting losses had more debt and less equity capital than the farm corporations reporting profits. The net profit farm corporations had an equity level of 60 percent, while the ones with losses had only 24 percent. The paid-in capital was about the same, but the loss corporations had negative retained earnings. The negative retained earnings were about equal to 2 years of losses at the 1968 average. If the loss corporations at one time had a balance sheet with about the same retained earnings as the net profit farm corporations, the difference would be approximately equal to 4 successive years of losses at the 1968 rate. This seems to indicate that several of the individual farm corporations had experienced 2 to 4 years of losses in the last few years.

Losses for farm corporations as a percentage of net worth tended to decline as asset size of the farm corporations increased. This might indicate that larger corporations are better able to minimize their losses and reduce risks by diversification, either geographically or by producing several commodities.

The comparison of profit and loss farming corporations did not result in a clear understanding of the cause or nature of the loss reported. Some of the losses seemed to be "paper losses" for Federal income tax returns that differ from usual accounting practices. Some farming operations have losses resulting from fluctuation in weather, floods, diseases, price cycles, poor management, and various other factors.

The IRS data indicate substantial losses by a large percentage of farm corporations. These losses appear to be greater and affect a larger percentage of farm corporations than corporations in certain other industries.

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## APPENDIX A. DATA LIMITATIONS

Internal Revenue Service (IRS) tabulates the data from a stratified random sample of business tax returns. The sampling rate is increased with each increase in the size stratum since the concentration of assets and receipts is skewed to the right. The sole proprietorship returns are stratified by size of adjusted gross income, partnerships by size of business receipts, and corporations by size of assets.

IRS tabulates the number of tax returns and the data reported on the returns. This procedure and the associated definitions differ from those usually employed by the U.S. Department of Agriculture (USDA) and the Bureau of the Census. Some of the differences are:

(1) Small sole proprietorships with low incomes or with large deductions may not have a tax liability, therefore, no income tax return is filed. Consequently, the IRS counts would be lower than with the USDA and Census definitions.

(2) IRS tabulates returns from share-rent landlords as farms separate from the tenant portion, whereas USDA usually counts the entire operation as one unit. Tax returns from landlords receiving cash rent are classified as part of the real-estate industry by IRS.

(3) Members of informal partnerships may file separate sole proprietorship returns from farm operations that USDA and Census would count as one farm.

(4) IRS counts those corporations or partnerships with the largest percentage of receipts from farming as farms, but those with the largest percentage of receipts from some nonfarm activity as in another business activity group. The data associated with the farming activity of such firms are not included as part of the farming sector in IRS statistics. Therefore, those farms are not counted. USDA and Census would include all firms with any farming operations, even if the farming activity is a minor part of the entire business operation. Some sole proprietorships or partnership returns probably do not include Schedule F of form 1040 where farming is a minor business activity in relation to other business activities (7, p. 3).<sup>15</sup>

(5) Conversely, business receipts, assets, and other IRS data include nonfarm receipts, assets, and deductions for partnerships and corporations classified as farms.

(6) Corporations with subsidiaries may file a separate tax return for each subsidiary or they may file consolidated returns. Such a corporation might have a separate subsidiary for each commodity, geographic location, or function. For example, in a business organization with a separate machinery subsidiary, that subsidiary would be classified as a farm service corporation. The landowning subsidiary would be classified as a real-estate corporation. Whereas only the farm-operating subsidiary would qualify as a farm corporation return, one does not know how the assets, costs, and profits are partitioned for these complex firms. Thus, the number of returns is not necessarily the same as the number of business units.

(7) IRS reports as active firms those with receipts or expenses during the year, whereas Census surveys usually determine eligibility on the basis of potential farm production during that year.

Questions about the nature of the reports included in the sample are unanswered since the returns are confidential and are not available for inspection. Considerable caution must be exercised in using and interpreting the data available from income tax returns, since primary use of the returns is for reporting income for tax purposes. The statistics published are only incidental to the tax purpose. The concepts and regulations are those used for tax purposes and are explained in the income tax manuals. These concepts are not always consistent with financial or economic criteria.

IRS data for corporations are made available by asset groups which permit some disaggregation of the data. This is especially desirable for farm corporations because they are a diverse group producing various commodities under different systems and in a variety of economic environments. If the individual returns were available and the sample size adequate, other disaggregations would have been more meaningful for some of the analysis.

The measure of size by total assets has some limitations. Assets (capital) are only one input, and firms can have different capital-labor ratios for the same output level. Firms have varying amounts of equity capital for the same asset size. Leased assets or custom services can substitute for owned assets, and this enables a firm to reduce asset holdings for a given level of output. The assets should not be assumed to be all farm assets. because the corporations classified as farms may also have other business activities. Equity capital would have been a more desirable measure of size for part of the analysis, had such data been available.

Business receipts are used as a measure of size in some tables. This measure of size also has certain limitations:

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<sup>15</sup>Schedule F of form 1040 is a special IRS schedule used by individuals and partnerships for reporting receipts and expenses from farming. There are no comparable forms required of farm corporations.

(1) Firms that purchase most of their inputs—for example, cattle feedlots—are likely to have larger gross receipts than firms that operate chiefly with firm-supplied inputs for the same net income.

(2) Fluctuations in quantities produced and prices received cause distortions in business receipts.

(3) Different commodities have different combinations of inputs, hence ratios are difficult to compare among the various types of farms.

(4) Business receipts often include nonfarm receipts

of unknown proportions. However, farm receipts represent the major share by definition.

Another limitation of IRS statistics is that the number reporting each item by asset size group is not given. As a result, all averages are calculated by assuming that all returns reported the individual items. For example, land as an asset may not be reported on all returns as some farm corporations may rent all the land they use. The difference is not likely to be very significant for the data shown in this report.

## APPENDIX B. RETURNS TO SIZE

For comparability between firms or industries, the rate of return on equity should be computed after taxes. One reason is that average tax rate increases as size increases. As asset size increased from \$50,000 to \$25 million or more, the average 1963-68 tax rate increased from 22 percent to 44 percent. The after-tax computation of rates of return on equity was not made because of the large number of subchapter S corporations which pay no corporation income tax. Separate income data are given for nonsubchapter S corporations, but equity data are not. However, the return to equity for farm corporations with net profits in the two largest asset size groups (which contained no subchapter S corporations) was reduced from 13.3 and 15.7 percent before Federal income taxes to 9.1 and 9.4 percent after deducting corporate income taxes in 1968. These corporations had average tax rates of 41 and 44 percent before tax credits.

As discussed in the section on data limitations, total assets have several limitations as a measure of size. Equity capital as a measure of size would have been preferable to compare rate returns since this relates better to the optimal size investment of risk capital.

The valuation of assets also affects the rate of return by size and probably varies by asset size groups. Since ages of assets are not known, it is not possible to adjust them to a current or comparable value. A lower valuation of assets results in a higher rate of return on equity. Probably the age of assets increases as the asset size groups increase, but this cannot be tested. If true,

this would mean a greater distortion of the rate of return on equity for the larger asset size corporations.

Another factor influencing the rate of return on equity is the allocation of earnings between salaries and profits. Owner-managers of small, closely held farm corporations may choose between salaries and profits. Stiegler states, "Officers of small corporations who own much of the stock have considerable discretion in withdrawing income either as salaries or as returns on capital, but only the latter form of income enters our rates of returns" (11).

An earlier study adjusted officers' salaries by using the average salaries paid by corporations reporting losses (1, p. 233). The assumption was that no incentive existed for overpayment of salaries to shareholder-officers by corporations with losses. The adjustment assumed no relationship between size and the proportion of owner-manager corporations. Appendix table 1 shows that farm corporations with profits paid salaries about three times those paid by corporations with losses. Salaries of officers ranged from 26 percent less to 313 percent more for profit corporations compared with those reporting losses for the same asset size group. The amount of difference was not well correlated with size, though one would expect a larger proportion of the smaller corporations to be owner-managed. Appendix table 2 compares the returns by asset size groups before and after adjusting for excess salaries of owner-managers for corporations with profits.

Appendix table 1—Officers' salaries: Average expense per farm corporation for profit and loss groups and by asset size group, United States, 1968

Asset size	Average expenditure		Percentage difference
	Corporations with losses	Corporations with profits	
	<i>Dollars</i>		<i>Percent</i>
Less than \$50,000 . . . . .	975	2,939	201
\$50,000-\$99,999 . . . . .	1,820	5,491	202
\$100,000-\$249,999 . . . . .	3,432	7,142	108
\$250,000-\$499,999 . . . . .	3,755	15,512	313
\$500,000-\$999,999 . . . . .	6,918	15,188	120
\$1,000,000-\$4,999,999 . . . . .	18,696	28,547	53
\$5,000,000-\$9,999,999 . . . . .	49,133	72,244	47
\$10,000,000-\$24,999,999 . . . . .	104,727	77,933	-26
\$25,000,000 or more . . . . .	113,333	260,333	130
Total . . . . .	3,376	10,115	200

Source: Unpublished data from IRS Source Book of Statistics, Corporation Income Tax Returns, 1968.

Appendix table 2—Rate of return on equity for farm corporations with net profit before and after adjustment by asset size group, United States, 1968

Asset size group	Unadjusted	Adjusted <sup>1</sup>
	<i>Percent</i>	
Less than \$50,000 . . . . .	73.9	89.4
\$50,000-\$99,999 . . . . .	27.4	36.6
\$100,000-\$249,999 . . . . .	18.6	22.4
\$250,000-\$499,999 . . . . .	17.5	25.3
\$500,000-\$999,999 . . . . .	12.0	14.7
\$1,000,000-\$4,999,999 . . . . .	16.8	18.3
\$5,000,000-\$9,999,999 . . . . .	12.6	13.1
\$10,000,000-\$24,999,999 . . . . .	13.3	12.9
\$25,000,000 or more . . . . .	15.7	16.1
Total . . . . .	16.8	20.0

<sup>1</sup>Salaries of officers on net profit corporations adjusted to level of corporations with net loss by asset group.

Source: Unpublished data from IRS Source Book of Statistics, Corporation Income Tax Returns, 1968.

Appendix table 3—Number and percentage distribution of farm corporations, by asset size group, United States, 1963-69

Year	Asset size group													
	Zero assets <sup>1</sup>	Less than \$100,000	\$100,000-\$499,999	\$500,000-\$999,999	\$1,000,000-\$4,999,999	\$5,000,000 or more	Total	Zero assets <sup>1</sup>	Less than \$100,000	\$100,000-\$499,999	\$500,000-\$999,999	\$1,000,000-\$4,999,999	\$5,000,000 or more	Total
	<i>Number</i>							<i>Percent</i>						
	<i>All corporations</i>							<i>All corporations</i>						
1963	566	7,282	6,525	1,236	553	64	16,226	3.5	49.9	40.2	7.6	3.4	0.4	100.0
1964	489	8,249	6,906	1,168	701	64	17,577	2.8	46.9	39.3	6.6	4.0	.4	100.0
1965	458	8,057	8,102	1,079	757	72	18,525	2.5	43.5	43.7	5.8	4.1	.4	100.0
1966	388	7,766	8,653	1,269	755	98	18,929	2.1	41.0	45.7	6.7	4.0	.5	100.0
1967	568	9,526	9,119	1,478	987	81	21,759	2.6	43.8	41.9	6.8	4.5	.4	100.0
1968	287	8,368	8,723	1,555	950	95	19,978	1.4	41.9	43.7	7.8	4.7	.5	100.0
1969	388	7,675	8,855	2,249	1,161	139	20,467	1.9	37.5	43.2	11.0	5.7	.7	100.0
	<i>Subchapter S</i>							<i>Subchapter S</i>						
1963	194	1,615	1,656	200	58	2	3,725	5.2	43.3	44.5	5.4	1.5	0.1	100.0
1964	102	2,197	1,784	290	70	1	4,444	2.3	49.4	40.2	6.5	1.6	<sup>2</sup>	100.0
1965	129	2,141	2,222	257	113	0	4,862	2.7	44.0	45.7	5.3	2.3	0	100.0
1966	54	2,202	2,660	407	84	2	5,409	1.0	40.7	49.2	7.5	1.6	<sup>2</sup>	100.0
1967	227	2,919	2,693	381	202	2	6,424	3.5	45.5	41.9	5.9	3.2	<sup>2</sup>	100.0
1968	54	2,376	2,901	630	201	2	6,164	.9	38.5	47.1	10.2	3.3	<sup>2</sup>	100.0
1969	51	2,653	2,755	765	278	2	6,504	.8	40.8	42.3	11.8	4.3	<sup>2</sup>	100.0
	<i>Other corporations</i>							<i>Other corporations</i>						
1963	372	5,667	4,869	1,036	495	62	12,501	3.0	45.3	38.9	8.3	4.0	0.5	100.0
1964	387	6,052	5,122	878	631	63	13,133	2.9	46.1	39.0	6.7	4.8	.5	100.0
1965	329	5,916	5,880	822	644	72	13,663	2.4	43.3	43.1	6.0	4.7	.5	100.0
1966	334	5,564	5,993	862	671	96	13,520	2.5	41.1	44.3	6.4	5.0	.7	100.0
1967	341	6,607	6,426	1,097	785	79	15,335	2.2	43.1	41.9	7.2	5.1	.5	100.0
1968	233	5,992	5,822	925	749	93	13,814	1.7	43.4	42.1	6.7	5.4	.7	100.0
1969	337	5,022	6,100	1,484	883	137	13,963	2.4	36.0	43.7	10.6	6.3	1.0	100.0

<sup>1</sup> Includes final returns of liquidating and merging corporations and foreign corporations with U.S. operations.<sup>2</sup> Less than 0.05 percent.

Source: Unpublished data from IRS Source Book of Statistics, Corporation Income Tax Returns, 1968.

Appendix table 4—Farm tax returns by form of business organization, by States, United States, 1967

States	Farms		Agriculture, forestry and fisheries	
	Sole proprietorship	Partnership	All corporations	Corporations with sales of \$1 million or more
	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>
U.S. or total . . . . .	3,030,160	114,297	32,155	1,395
Alabama . . . . .	62,770	1,442	284	1
Alaska . . . . .	1,002	248*	1	1
Arizona . . . . .	7,308	865*	633	30
Arkansas . . . . .	175	1,975	818	62
California . . . . .	100,666	10,265	3,174	298
Colorado . . . . .	32,980	2,078	998	41
Connecticut . . . . .	4,678	369*	330	7
Delaware . . . . .	3,998	244*	189	4
Florida . . . . .	42,543	3,204	3,778	248
Georgia . . . . .	68,726	1,545	471	18
Hawaii . . . . .	3,348	1*	1	1
Idaho . . . . .	30,375	1,453*	748	4
Illinois . . . . .	160,717	6,494	618	26
Indiana . . . . .	142,448	2,410	553	5
Iowa . . . . .	166,433	8,816	711	7
Kansas . . . . .	109,331	3,257	278	48
Kentucky . . . . .	116,200	2,964	393	8
Louisiana . . . . .	37,991	1,739	370	1
Maine . . . . .	8,898	488*	190	1
Maryland . . . . .	22,803	743	757	47
Massachusetts . . . . .	6,887	320*	956	2
Michigan . . . . .	93,354	2,249	437	6
Minnesota . . . . .	136,269	5,518	421	6
Mississippi . . . . .	49,721	2,126*	940	9
Missouri . . . . .	139,596	4,886	783	58
Montana . . . . .	31,348	1,731*	790	6
Nebraska . . . . .	93,048	4,032*	849	21
Nevada . . . . .	2,401	376*	183	16
New Hampshire . . . . .	2,489	1*	1	1
New Jersey . . . . .	11,905	960	699	0
New Mexico . . . . .	15,425	951*	212	20
New York . . . . .	55,335	4,079	1,042	78
North Carolina . . . . .	123,494	2,261	536	4
North Dakota . . . . .	55,420	2,102*	1	1
Ohio . . . . .	135,026	2,833	1,115	54
Oklahoma . . . . .	84,174	1,342	334	9
Oregon . . . . .	33,893	1,741	750	44
Pennsylvania . . . . .	71,068	2,575	840	8
Rhode Island . . . . .	1,027	1*	1	1
South Carolina . . . . .	37,595	1,217*	152	1
South Dakota . . . . .	56,113	1,991*	307	1
Tennessee . . . . .	115,341	2,527	88	1
Texas . . . . .	230,032	10,041	2,072	106
Utah . . . . .	13,600	665*	472	0
Vermont . . . . .	6,786	525*	1	1
Virginia . . . . .	60,373	1,754	381	3
Washington . . . . .	39,830	1,676	716	28
West Virginia . . . . .	13,980	272*	1	1
Wisconsin . . . . .	122,144	4,057	864	6
Wyoming . . . . .	9,727	631*	444	15

\*Agriculture, forestry and fisheries.

1 Estimate not shown, however, data is included in total. State totals shown do not add to U.S. total.

Source: IRS Statistics of Income, business tax returns, 1967.