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CHAPTER 3

THE RELATIONSHIP OF THE ASSET CHARACTERISTICS OF AGRICULTURE TO FARM FINANCIAL ORGANIZATION

IN ORDER to demonstrate the relationships between the asset characteristics of agriculture and the patterns of farm financial organization that are pertinent to the present analysis, comparisons among counties can be developed from such data as (1) the average asset size of farms in the counties (2) the proportions of farm assets which consist of land, buildings, and non-real-estate assets; (3) the proportion of acreage in cropland; (4) the proportion of assets represented by cropland value; and (5) the proportion of farm real estate represented by the farm residence. Differences among counties in respect to these criteria often reflect other associated differences among farms viewed as economic units, and the relationship between a particular asset characteristic of farms and farm financial arrangements must be interpreted with an awareness that a combination of several related factors, some of which may not be susceptible to precise measurement, may actually exert the controlling influence. For this reason, evidence of a tendency for a particular farm asset characteristic to be associated with a particular financial characteristic is usually not as sound a basis for conclusions regarding causal connections as evidence of reasonably consistent relationships between patterns of interrelated economic characteristics and patterns of interrelated farm financial characteristics.

Relation of Asset Size to Financial Organization

Where differences are found among counties in the average asset size of farms, differences will ordinarily appear in other aspects of their agriculture. Even so, there is some reason to believe that the financial organization of farming may be systematically related to the asset size of farms. Capital requirements per farm would be expected to influence the extent to which farm operators are able to supply their own capital, and size of farm alone may have a bearing on the attractiveness of different sectors of agriculture for landlord investment or for mortgage investment by an absentee credit agency. But since it is not feasible to hold other farm economic characteristics constant

while relating asset size to farm financial characteristics, the tabulations presented will include information on certain of those other factors. Comparisons will be more detailed here than elsewhere in the study, in order to acquaint the reader at the outset with the nature of the data used throughout. Data are presented in three ways: (1) using four pairs of sharply contrasting counties; (2) comparing, from an array of the 108 counties by degree of asset deflation in the 1930's, the nine counties of each quartile having the highest assets per farm with all counties in the quartile; and (3) combining the nine counties that are highest in asset size within each quartile, and similarly the nine middle and the nine lowest, thus comparing three 36-county groups similarly stratified as to previous financial experience.[1]

FOUR PAIRS OF CONTRASTING COUNTIES

The pairs of counties in Table 5 are drawn from areas different in characteristic type of farming. They were selected for wide variations in average asset size between the members of a pair, but without wide differences in financial experience in the 1930's except in the case of Pair III, where the worse experience of the one county should be kept in mind.

Even a casual inspection of Table 5 indicates that the counties making up the four pairs differ in more respects than in the asset size of their farms. In the counties with large farms, land tends to be high and buildings low in per cent of total physical assets. Except in the fourth set, which includes a predominantly range livestock county, a higher proportion of cropland to total acreage is associated with higher average assets per farm;[2] and, similarly, the larger-farm counties derived a relatively high proportion of their farm income from combined sales of crops and livestock. These observations will suffice, perhaps, to show that when comparisons of the financial organization of agriculture are made among counties contrasting in average asset size of farm, it cannot be assumed that their agriculture differs economically only in that one factor.

[1] The presentation is designed also to bring out some of the problems that arise in making allowance for differential asset-deflation experience in the 1930's. For (2) and (3) the research methods are those described in Chapter 2.

[2] Percentage of acreage in cropland has different meanings in describing the assets of range livestock and of general farming counties. For this reason several indicators of the nature of farm assets are needed to differentiate among kinds of agriculture.

TABLE 5

ECONOMIC AND FINANCIAL CHARACTERISTICS:

Four Pairs of Counties Selected for Contrasting Farm Asset Size

(*dollar figures in thousands*)

	PAIR I		PAIR II		PAIR III		PAIR IV	
	Douglas, Ill.	*Trumbull, Ohio*	*Coahoma, Miss.*	*Warren, Miss.*	*Adams, Wash.*	*Douglas, Ore.*	*Webb, Tex.*	*Upshur, Tex.*
Economic Characteristics								
Physical assets per farm	$28.5	$5.7	$24.4	$3.0	$39.1	$7.8	$37.9	$2.8
Physical assets in:								
Land	71%	34%	69%	53%	74%	61%	75%	55%
Buildings	13	42	17	22	8	20	4	24
Non-real-estate	16	24	14	25	18	19	21	21
Cropland/total acreage[a]	82	41	71	17	72	12	3	31
Dwellings/farm real estate, 1930	7	29	16	23	6	12	3	26
Farm product value, 1939:								
Crops	70	23	88	47	86	20	35	41
Livestock	17	10	1	9	7	28	59	8
Dairy products	4	37	1	5	1	10	4	10
Poultry and prod. and misc.	3	11	[b]	2	3	26	[b]	3
Used by farm household	6	19	10	37	3	16	2	38
Off-farm work in days, 1939[c]	21	86	11	37	16	60	48	37
Change in phys. asset value, 1930-1940	−11%	−13%	−9%	−4%	−8	−28	−3	−7

(concluded on next page)

TABLE 5 (concluded)

	PAIR I		PAIR II		PAIR III		PAIR IV	
	Douglas, Ill.	*Trumbull, Ohio*	*Coahoma, Miss.*	*Warren, Miss.*	*Adams, Wash.*	*Douglas, Ore.*	*Webb, Tex.*	*Upshur, Tex.*
Financial Characteristics								
Interest in physical assets of:								
Operators	31%	72%	23%	54%	46%	70%	41%	60%
Landlords	50	11	46	24	39	14	46	22
Creditors	19	17	30	22	15	16	13	18
Mtgd. farms/all farms	45	42	65	26	47	45	27	21
Mtg. debt/value of mtgd. farms	38	42	37	35	28	34	14	30
Mtg. debt/value of all farms	17	17	28	15	14	17	11	9
Farm mtg. debt held by:								
FLB's and FFMC	41	29	21	40	57	41	27	67
Ins. and mtg. investment companies	47	[d]	50	[d]	21	6	[d]	[d]
Commercial and savings banks	[d]	12	4	53	[d]	6	[d]	11
Individuals and miscellaneous	12	59	25	7	22	47	73	22
Non-real-estate loans, as % of total non-real-estate farm assets, of:								
Banks and PCA's	15	7	25	21	9	9	8	10
FSA and ECFL Division of FCA	1	1	1	6	4	1	0	20

[a] Cropland excludes plowable pasture.
[b] Less than 0.5 per cent.
[c] Per farm operator.
[d] No loans reported in the sample.

Evidence that differences in asset size and in farm financial structure may be related can be sought, first, in the relative importance of operator, landlord, and creditor interests in farm physical assets. In all cases, low operator and high landlord interests in physical assets are associated with high average asset size of farm. One would expect large farms to depend more heavily than small farms on nonoperator capital, in view of the ordinarily limited resources of individual farm operators; but it is interesting to note that this means mainly a greater dependence on landlord capital. The data for these selected counties reveal no consistent tendency for counties with large farms to exhibit a greater reliance on credit than those with farms of smaller average size.

A second consistent relationship revealed by Table 5 is apparent in the frequency with which mortgage debt is encountered on the farms of the several counties. In each of the four pairs of counties, the percentage of farms under mortgage is higher in the county with larger farms, though with differences among pairs in degree of contrast. This latter fact suggests that frequency of mortgage debt may be affected by other characteristics of agriculture as well as farm size.

A third relationship can be observed, in the connection between farm size and the ratio of mortgage debt to the value of mortgaged farms. In three of the four pairs of counties in Table 5, the ratio of mortgage debt to value is lower in the large- than in the small-farm county, and in the one case in which the relationship is the reverse the difference is not marked. It should be noted also that in Pair III the higher ratio shown for the small-farm county includes the influence of that county's relatively greater asset deflation in the 1930's. Large farms would be expected to show a higher frequency of mortgage debt than small farms as a consequence of more of the owners' having to resort to borrowed capital; but it is not at once apparent why large-farm counties should have relatively lower debt-to-value ratios. The explanation of differences in debt-to-value ratios may lie in differences, not alone of asset size of farms, but of associated asset composition and product characteristics.[3] This point will be considered again at a later stage in the analysis.

[3] A part of the explanation may be found also in the differing extent to which real estate is used as security for general purpose loans. Operators who own their farms may use real estate as security for loans to finance operating capital; and a relatively large percentage of small farms are owner-operated. On the larger farms, where operators are less likely to own the

There seems to be no entirely consistent pattern revealed by the four pairs of large- and small-farm counties as regards the relative importance of various sources of mortgage credit. In the two pairs of southern counties, federal land bank and Federal Farm Mortgage Corporation loans were a larger proportion of the total in the small-farm counties, whereas in the two northern pairs the reverse was true. But except for the Texas counties, where no insurance company or mortgage investment company loans were reported in the sample data, insurance companies seem to have been relatively heavy lenders in the large-farm counties and banks in the small-farm counties.

Finally, there appears to be no consistency of relationship between farm size and the degree of dependence on different types of non-real-estate lenders.

This limited evidence concerning the relation of farm size to farm financial organization can be summarized by stating that in contrast to the agriculture of small-farm counties that of the large-farm counties tends (1) to be financed to a lesser extent by operator investment, (2) to be characterized by relatively high frequency of farm mortgage debt, and (3) to depend more heavily on insurance companies for real estate credit. Stated another way, the capital structure of large-unit agriculture is characterized by relatively high nonoperator interests (landlord and creditor), and the private mortgage credit used appears to be drawn more largely from absentee institutional investors who operate in a relatively broad capital market. Small-unit agriculture, on the other hand, appears to be financed to a greater extent by operator's equity, supplemented by mortgage credit from local lenders, notably commercial banks. While this general pattern emerging from the evidence provided by four selected pairs of counties is of interest, firm conclusions cannot be based entirely on such limited evidence.[4]

COMPARISONS WITHIN ASSET-DEFLATION CLASSES

The question of the relation between asset size of farm and farm financial organization can be approached in another way,

real estate, they may tend to use non-real-estate assets more frequently as security for such loans.

[4] The limitations of comparisons based on pairs of counties are apparent, yet in the exploratory phases of the study they yielded tentative hypotheses which suggested other lines of study. They also provide an element of concreteness that is lacking when groups of counties are compared. To avoid undue repetition, however, comparisons based on paired counties will be confined to only a few selected cases.

namely by grouping the 108-county sample into four asset-deflation classes, as described in Chapter 2. The 27 counties in each quartile were arrayed by farm asset size and the economic and financial characteristics of the agriculture of the 9 counties in each quartile having the largest assets per farm were compared, on the basis of selected indicators, with the average for the entire 27 counties, taken as 100. Table 6 thus permits a determination of the extent to which the financial characteristics of the large-farm counties in each asset-deflation quartile differ from those of the quartile group as a whole.

It is at once apparent that in each asset-deflation quartile the nine counties that had the largest assets per farm were somewhat above average in the importance of land in physical assets, of cropland in total acreage, and of sales of crops and livestock in total value of product. Except for those in the first quartile (greatest asset deflation), the counties high as to asset size were below average in operator equity in assets.[5] As to landlord equity, however, they were higher than the average in all four quartiles. The foregoing relationships parallel those observed for the pairs of counties compared in Table 5.

As in previous comparisons, creditor interest in the agriculture of large-farm counties does not appear to differ consistently from that in other counties, but frequency of mortgage debt is consistently higher than the average. Again, as in the case of paired counties, there is no clear evidence of a consistent relationship between asset size of farm and ratio of mortgage debt to the value of mortgaged real estate. In the first and fourth quartiles this ratio for the nine counties with larger-than-average farms was definitely lower than average, but in the second quartile it was higher (108), and in the third quarter it was only slightly below average (98). Taken together, the four groups high as to asset size had a slightly below average debt-value ratio (97).

With respect to sources of credit, the divergences of the large-farm county groups from the respective quartile averages conform in general to what was found for pairs of counties in Table 6.

[5] In the first quartile there was less difference in asset size between the high group and the quartile as a whole than was true for other quartiles. Its high group also experienced less asset deflation in the 1930's than the average for the quartile—41 as compared with 46 per cent. It is possible also that the economic disorganization associated with sharp deflation of assets and income in the first quartile tends to overshadow longer-run influences on the distribution of equities between operators and others.

TABLE 6

ECONOMIC AND FINANCIAL CHARACTERISTICS IN RELATION TO:

Farm Asset Size, Nine Counties with Highest Assets per Farm Compared with Quartile Groups of Counties Ranked by Asset Deflation

	NINE COUNTIES WITH HIGHEST ASSETS PER FARM (AVG. FOR RESPECTIVE QUARTILE GROUP = 100)				
	Asset-Deflation Quartiles[a]				AVERAGE OF
	1st	*2nd*	*3rd*	*4th*	QUARTILES
Physical assets per farm	169	200	179	228	194
Physical assets in land	108	102	117	115	110
Cropland/total acreage[b]	110	112	126	108	114
Farm product value, 1939, in crops and livestock	115	121	116	126	119
Interest in physical assets of:					
Operators	101	86	91	83	90
Landlords	105	122	111	131	117
Creditors	93	107	109	95	101
Mtgd. farms/all farms	110	111	116	113	112
Mtg. debt/value of mtgd. farms	91	108	98	90	97
Farm mtg. debt held by:					
FLB's and FFMC	98	94	105	88	96
Ins. and mtg. investment companies	143	133	182	158	154
Commercial and savings banks	94	70	74	65	76
Individuals and miscellaneous	85	107	75	103	92
Non-real-estate loans, as % of total non-real-estate farm assets, of:					
Banks and PCA's	110	85	126	113	108
FSA and ECFL Division of FCA	47	79	58	23	52

[a] The 108 counties were arrayed by degree of asset deflation in the 1930's, from greatest to least, and divided into quartiles.

[b] Cropland excludes plowable pasture.

That is, the large-farm counties used insurance company mortgage funds to a greater extent, and bank mortgage funds to a lesser extent, than average. Again, no clear-cut pattern emerges for the federal and federally sponsored mortgage agencies or for the residual group that includes individuals. But except in one quartile the large-farm counties appear to have obtained more-than-average amounts of non-real-estate credit from banks and production credit associations, and in all four classes they used substantially less-than-average amounts from emergency credit sources. Evidence from the paired-county comparisons is conflicting with respect to the latter relationships.

The quartile classifications in Table 6 also illustrate the kinds of data that have been combined into major groups for purposes of comparison elsewhere in this study.[6] In most instances it has been possible, using asset-deflation classes, to combine the nine high counties of each quartile into a new 36-county group consisting predominantly of counties high in the specified characteristic, without dimming those relationships that are clear-cut in the separate treatment. Where the evidence based on separate quartile analysis is inconclusive, it usually remains so in the 36-county comparisons. Comparisons of the latter type are presented next.

THREE GROUPS OF COUNTIES

An advantage of arranging the 108 counties in three groups of 36 each is that errors in basic estimates may be mutually compensating within groups of counties. Even more than the separate quartile analysis, however, the procedure obscures the separate influence of regional differences on farm financial organization.[7] Its main feature is that in retaining the quartile basis of selection, the effect of previous financial experience on the matters at issue is as nearly eliminated as possible, so that the average change in value of physical assets from 1930 to 1940 is approximately equal for each of the three groups of counties.[8]

Before examining the relation between farm asset size and the financial characteristics of the agriculture by means of 36-county groups, it will be necessary to examine how the method of removing the effect of previous financial experience may have affected the results obtained. Accordingly, average values for selected economic characteristics are shown in Table 7 for the "high," "middle," and "low" thirds of the sample as selected (1) by asset size alone, and (2) by asset size within quartile divisions according to degree of asset deflation in the 1930's.

[6] The averages for the combined 9-county groups in Table 6 provide one basis for a summary comparison of the 36 counties that are high as to asset size of farms with the entire 108-county sample. An alternative basis for this comparison is given in Table 8.

[7] The use of 36-county groups raises the question whether regional differences, as such, are controlling in farm financial organization. If this were so, one would not expect to find consistent relationships between farm economic characteristics and farm financial organization in a nonregional analysis of this type. On the other hand, consistency of relationships in such an analysis does not necessarily rule out regional influences since these may be implicit in classifications by nonregional characteristics.

[8] See Chapter 2 for a discussion of this procedure.

Average asset deflation for the entire sample and for the 36 counties with largest average assets per farm (regardless of previous financial experience) was about 22 per cent; but for the middle third it was 29 per cent and for the low third, 15 per cent (Table 7). Stratifying the counties first into asset-deflation quartiles, then arraying them by asset size of farms, and finally forming a "high" group out of the nine high counties from each quartile, and likewise a "middle" and "low" group, brings average asset deflation for all three of the new 36-county groups into substantial equality. In the process, however, average asset size per farm is reduced slightly in the middle group and raised slightly in the low group. In general, of course, the effect of the stratification is to reduce the difference between the highest and lowest groups of counties in respect of the variable being arrayed, in this instance, asset size of farm. But here the effect is slight, and is also minor with regard to economic characteristics of the agriculture. In this case, therefore, stratification produces three groups of 36 counties each that continue to differ sharply in regard to average asset size of farm, without significantly distorting the other economic characteristics of the agriculture.

Examination of the data on 36-county groups in Table 8 suggests, in broad outline, economic and financial relationships similar to those brought out by comparisons of paired counties and those between nine-county groups and quartile averages. On the economic side, large-farm counties are characterized by (1) a high proportion of assets in land, (2) a high proportion of acreage in cropland, (3) a low ratio of value of farm residence to total real estate value, (4) high crop and livestock sales in relation to total product value, and (5) a relatively low home consumption of farm products. On the financial side, large-farm counties, in comparison with the other groups, are characterized by (1) heavy dependence on landlord investment and comparatively low operator interest, (2) high frequency of use of mortgage credit, (3) heavy use of insurance company mortgage funds, (4) less use of bank mortgage credit and (5) light dependence on non-real estate loans of the emergency type.

On a number of the points with respect to which the data for individual counties and for quartile groupings showed mixed results, the 36-county group data reveal little difference, on the average, between large- and small-scale farming (Table 8). The ratio of mortgage debt to the value of mortgaged farms, for example, was 39 per cent for both the large- and the small-farm

TABLE 7

ECONOMIC CHARACTERISTICS IN RELATION TO:

Farm Asset Size, 108 Counties, Regrouped to Equalize Asset Deflation, 1930-1940

(dollar figures in thousands)

	HIGH 36 COUNTIES		MIDDLE 36 COUNTIES		LOW 36 COUNTIES	
	Before Regrouping	*After Regrouping*	*Before Regrouping*	*After Regrouping*	*Before Regrouping*	*After Regrouping*
Change in phys. asset value, 1930-1940	—22%	—21%	—29%	—23%	—15%	—22%
Physical assets per farm	$15.5	$15.5	$7.5	$7.3	$3.8	$4.1
Physical assets in:						
Land	58%	57%	50%	50%	49%	49%
Buildings	18	19	25	26	25	25
Non-real-estate	24	24	25	25	26	26
Cropland/total acreage[a]	46	46	42	42	33	33
Farm product value, 1939:						
Crops and livestock	75	75	61	60	53	54
Dairy products	12	12	15	15	13	13
Miscellaneous	4	4	9	8	5	6
Used by farm household	9	9	15	17	29	27
Off-farm work in days, 1939[b]	30	30	37	38	40	39

[a] Cropland excludes plowable pasture.

[b] Per farm operator.

TABLE 8

ECONOMIC AND FINANCIAL CHARACTERISTICS IN RELATION TO:

Farm Asset Size, 108 Counties Ranked in Three Groups

(dollar figures in thousands)

	ALL COUNTIES	GROUPS OF COUNTIES[a] (36 EACH) CONTAINING FARMS OF:			RATIO (%) OF "LARGE SIZE" TO ALL COUNTIES[b]
		Large Size	*Intermediate Size*	*Small Size*	
Economic Characteristics					
Physical assets per farm	$8.3	$15.5	$7.3	$4.1	187%
Physical assets in:					
Land	52%	57%	50%	49%	112%
Buildings	23	19	26	25	83
Non-real-estate	25	24	25	26	96
Cropland/total acreage[c]	40	46	42	33	115
Dwellings/farm real estate, 1930	16	11	18	20	69
Farm product value, 1939:					
Crops and livestock	63	75	60	54	119
Dairy products	13	12	15	13	92
Poultry and prod. and misc.	6	4	8	6	67
Used by farm household	18	9	17	27	50
Off-farm work in days, 1939[d]	35	30	38	39	86
Change in phys. asset value, 1930-1940	−22%	−21%	−23%	−22%	95%
Financial Characteristics					
Interest in physical assets of:					
Operators	48%	44%	50%	52%	92%
Landlords	29	34	28	25	117
Creditors	23	23	22	23	100
Mtgd. farms/all farms	43	48	43	37	112
Mtg. debt/value of mtgd. farms	40	39	42	39	97
Mtg. debt/value of all farms	19	20	19	16	105
Farm mtg. debt held by:					
FLB's and FFMC	47	45	45	51	96
Ins. and mtg. investment companies	12	19	11	6	158
Commercial and savings banks	10	7	10	12	70
Individuals and miscellaneous	31	29	34	31	94
Non-real-estate loans, as % of total non-real-estate farm assets, of:					
Banks and PCA's	13	14	12	13	108
FSA and ECFL Division of FCA	8	4	8	12	50

[a] Averages for county groups are unweighted, except for physical assets per farm, which is weighted by number of farms in each county.

(footnotes concluded on next page)

Footnotes to Table 8 (concluded)

[b] The percentages shown in this column permit comparisons of the 36 counties with "large size" farms within the 108-county sample as a whole. In Table 6 the relatives for each of the 9-county groups included in the "large size" groups in Table 8 are averaged, with the result that different methods of weighting are involved in the two tables. In view of the purpose for which the comparisons are made, either method of comparing these 36 counties with the sample as a whole produces satisfactory indicators of any differences that the data are capable of revealing.

[c] Cropland excludes plowable pasture.

[d] Per farm operator.

groups, and only a slight variation is evident in the extent of their dependence for mortgage credit on federal and federally sponsored agencies or on individuals and miscellaneous lenders. Similarly, in the degree to which non-real-estate credit is drawn from banks and PCA's, differences between farm-size groups of counties appear to be slight. It should be noted, however, that this rough similarity of averages as between large-farm and small-farm county groups does not necessarily signify similarity as regards individual counties or even individual farms of different size. Dissimilarities in farm financial organization between individual farms or individual counties that are comparable with respect to farm size may be traceable to dissimilarities in other farm economic characteristics which the particular basis of county classification used in Table 8 has not brought out.[9]

The main findings to be drawn from Tables 5 through 8 are that important differences in farm financial organization are fairly consistently related to farm asset size. This does not mean, of course, that there is a direct causal relationship linking the two. Nor does it exclude the possibility that other asset characteristics of agriculture may be influential in determining farm financial organization. The following section deals with such alternative factors, namely the kinds and relative importance of assets utilized in farm production.

Relation of Farm Asset Composition to Financial Organization

The results obtained when county groups are arranged according to the percentage of total physical assets that consists of land

[9] Because significant relationships may be obscured in group averages, it is insufficient to rely upon a single cross-tabulation of the data to reveal all pertinent relationships, and separate tabulations each based on a selected indicator of difference among counties in the nature of their agriculture are used. For presentation, an attempt has been made to choose those tabulations that bring out relationship not revealed by others. But because economic characteristics of agriculture are intercorrelated, some duplication is unavoidable.

(Table 9) supplement and modify in some respects the findings based on a size-of-farm grouping (Table 8). Counties in which land is most important as an asset exhibit a relatively high landlord interest in farm assets, while those in which land ranks lowest among farm physical assets are characterized by high equity investment by the farm operator. These facts make a reasonably strong case for the additional generalization that the importance of operator and landlord interests in farm assets is significantly related to the type of assets used in farm production and to the nature of farming operations.

Counties characterized by a high land component of physical farm assets differ also with respect to other financial characteristics from counties with a low land component of assets. They are high with respect to frequency of mortgage debt, but low with respect to the ratio of debt to value of mortgaged farms, so that their ratio of mortgage debt to value of all farms averages about the same as for the entire 108-county sample. They rank high with respect to importance of centralized credit agencies as sources of farm mortgage credit; also in the amount of non-real-estate credit obtained from banks and PCA's. It should be observed, however, that these counties are also characterized by larger-than-average farms. In fact, many of them are found also in the large-farm group in Table 8.[10]

The middle and low groups in Table 9 afford a chance to compare groups of counties that differ little with respect to average asset size of farm, but differ markedly as regards other dimensions of asset composition and nature of product. Thus, the group for which land is of medium importance among assets has a lower percentage of real estate assets in the farm dwelling, and a higher percentage of product value in crop and livestock sales, than the group with a low land component. The differences between these two groups in farm financial organization are like those found between the high and medium land component counties, which differ sharply with respect to farm asset size. This suggests that asset composition may have a relationship to financial organization of agriculture that is independent of asset size of farm.

The fact that the "middle" group contains a number of southern counties, and the "low" group a substantial number of northern counties, raises again the question of whether regional influences are an independent determinant of farm financial organization.

[10] But a number of large-scale dairy counties that are in the large asset-size group in Table 8 are not among the high land component counties of Table 9.

TABLE 9

ECONOMIC AND FINANCIAL CHARACTERISTICS IN RELATION TO:

Land Component of Physical Assets, 108 Counties

(*dollar figures in thousands*)

	COUNTIES GROUPED BY LAND COMPONENT OF PHYSICAL ASSETS[a]			RATIO (%) OF HIGH 36 COUNTIES TO ALL COUNTIES
	High 36 Counties	*Middle 36 Counties*	*Low 36 Counties*	
Economic Characteristics				
Physical assets per farm	$11.1	$6.5	$7.6	134%
Physical assets in:				
Land	66%	52%	38%	127%
Buildings	14	22	33	61
Non-real-estate	20	26	29	80
Cropland/total acreage[b]	45	34	42	113
Dwellings/farm real estate, 1930	10	16	22	63
Farm product value, 1939:				
Crops and livestock	77	65	47	122
Dairy products	6	8	25	46
Poultry and prod. and misc.	4	5	9	67
Used by farm household	13	22	18	72
Off-farm work in days, 1939[c]	32	33	42	91
Change in phys. asset value, 1930-1940[d]	−22%	−22%	−23%	100%
Financial Characteristics				
Interest in physical assets of:				
Operators	40%	48%	58%	83%
Landlords	37	29	20	128
Creditors	23	23	22	100
Mtgd. farms/all farms	47	38	44	109
Mtg. debt/value of mtgd. farms	37	40	44	93
Mtg. debt/value of all farms	19	18	19	100
Farm mtg. debt held by:				
FLB's and FFMC	50	47	43	106
Ins. and mtg. investment companies	21	11	6	175
Commercial and savings banks	5	11	13	50
Individuals and miscellaneous	24	31	38	77
Non-real-estate loans, as % of total non-real-estate farm assets, of:				
Banks and PCA's	16	13	10	123
FSA and ECFL Division of FCA	7	10	6	88

(footnotes on next page)

Footnotes to Table 9

[a] Group averages are unweighted, except for physical assets per farm, which is weighted by the number of farms in the several counties.

[b] Cropland excludes plowable pasture.

[c] Per farm operator.

[d] Counties are regrouped as explained in Chapter 2. When grouped from a direct array of the entire sample by percentage of assets in land, the difference between groups in average asset deflation is small, as can be seen from the following tabulation:

	High	*Middle*	*Low*
Change in physical asset value, 1930-1940	—24%	—21%	—22%
Physical assets in land	66	53	37

Little is gained, therefore, in this case by applying the analytical method designed to equalize asset deflation among the three groups of counties.

It should be noted, however, that the southern counties included in the middle group are characterized by relatively low-valued farms engaged heavily in crop production, while the northern counties in the low group are characterized by relatively small-scale general farming and dairying. The data so far developed are obviously not conclusive on this issue, and additional evidence will be introduced at later points.

But, regional influences apart, the fact of dissimilarity in types of agriculture as between the "middle" and "low" groups of counties provides at least a partial explanation of the observed differences in their farm financial organization. High operator interests in the "low" group may be partially due to a reluctance on the part of absentee landlords to invest in even moderate-sized farms with assets consisting so largely of buildings, livestock, and equipment. The operator, also, may derive some advantage by owning rather than renting if the farm operations use nonland assets extensively, particularly when many day-to-day decisions are to be made in adapting assets to his operations. He stands to gain from giving good care to these assets and by the exercise of better-than-average judgment in their selection and use. Moreover, the absentee supplier of capital, whether as owner or lender, may tend to restrict investment in such farms—dairying and general farming, for example—in order to limit the risks associated with farm operations in which management in contrast to weather and product prices is the crucial element in success.

However, regional institutional differences cannot be ignored; rental contracts and other tenure arrangements used in the southern counties, which often involve substantial control of operations by the landlord, may protect the landlord against loss to about the same extent as would a mortgage against the property

of an owner operator in another region. The substantive content of mortgage and rental contracts may be more significant for interregional comparisons than the relationship between the operator and the supplier of capital.

Two additional comparative analyses (Table 10) may serve to clarify further the relationship between farm financial organization and the composition of farm assets.[11] The first is made by taking the 36 large-farm counties identified in Table 8, arraying them according to the percentage of physical assets in land, and placing the upper half of the array in a "high" group and the lower half in a "low" group. A comparison of the economic and financial characteristics of these two sets of eighteen counties makes it possible to study the relation between what may be called the land-asset component of farms and their financial organization, where the influence of farm size has been partially eliminated.

The large-farm counties with a relatively high proportion of assets in land are characterized by (1) low operator and high landlord interests, (2) comparatively high frequency of mortgage debt, (3) a low ratio of mortgage debt to the value of mortgaged farms, (4) low dependence on mortgage credit from banks and individuals, (5) high dependence on insurance company mortgage credit, (6) somewhat greater use of mortgage credit from the federal and federally sponsored credit agencies, and (7) relatively heavy use of non-real-estate credit.

The two large-farm county groups in Table 10 differ less in asset size of farm ($17,500 and $14,200 for the high and low land component counties respectively) than their combined average differed from the small-farm group in Table 8 ($15,500 versus $4,100). Yet in a number of respects the differences in their financial organization are more marked. For example, in Table 8 it is found that operator interest is 44 and 52 per cent, respectively, for the "large size" and "small size" groups. But when in Table 10 the "large size" group is subclassified according to importance of land in total assets, the operator interest is 37 per cent for the high land component group and 50 per cent for the low land component group. Furthermore, banks, individuals, and miscellaneous mortgage lenders held 36 and 43 per cent, respectively, of total mortgage debt in the "large size" and "small size"

[11] Relationships of asset composition to financial organization are so clear-cut in Table 10 that little is added by further breakdowns within asset-deflation quartiles such as were shown for the relationships of asset size to financial organization.

groups of Table 8, but 24 and 48 per cent, respectively, of the high and low land component groups of Table 10.

Further evidence suggesting that asset composition and associated product characteristics of agriculture may be more influential than asset size in determining financial organization of agriculture can be adduced from a breakdown of the small size group in Table 8 similar to that presented for the large size group in Table 10. Selected items for that breakdown are shown below along with comparable items for the large-farm, low land component group of Table 10.

	Large Size, Low Land Component (18 Counties)	*Small Size, High Land Component (18 Counties)*
Physical assets per farm	$14,200	$4,000
Physical assets in land	47%	56%
Dairy products/value of products	19	6
Interest in physical assets, of:		
Operators	50	45
Landlords	27	32
Mortgage debt held by banks, individuals, or miscellaneous lenders	48	37

The results illustrate the need to consider exceptions to the average pattern of relationships revealed by the summary tabulations. In this case it appears that influences stemming from other economic characteristics of the agriculture in the two groups of counties are sufficient to offset those that might be expected to stem exclusively from differences in asset size. The difference in the importance of dairy farming in the two groups (analyzed in the following chapter) may be a major factor offsetting the influence of asset size on financial organization.

In its second comparison, Table 10 takes the 36 counties identified in Table 9 as high group in the proportion of total physical assets in land, and from an array according to the percentage of acreage in cropland divides them equally into "high" and "low" groups. Thus it is possible to compare the financial characteristics of groups of counties similar as to the importance of land but differing with respect to kind of land. Although no data are available for 1940 on the relative value per acre of cropland and noncropland, it is possible to derive indicators of the relative importance of cropland value in total assets in different groups of counties by assuming that value per acre is the same for each

TABLE 10

ECONOMIC AND FINANCIAL CHARACTERISTICS IN RELATION TO:

Land Component of Physical Assets and Cropland Component of Acreage, Two Groups of Counties

(*dollar figures in thousands*)

	36 LARGE-FARM COUNTIES GROUPED BY LAND COMPONENT OF PHYSICAL ASSETS[a]		36 HIGH LAND COMPONENT COUNTIES, GROUPED BY CROPLAND COMPONENT OF ACREAGE[a]	
	High 18 Counties	*Low 18 Counties*	*High 18 Counties*	*Low 18 Counties*
Economic Characteristics				
Physical assets per farm	$17.5	$14.2	$12.1	$9.9
Physical assets in:				
Land	68%	47%	67%	65%
Buildings	13	24	16	14
Non-real-estate	19	29	18	22
Cropland/total acreage[b]	48	42	60	26
Dwellings/farm real estate, 1930	9	14	11	10
Farm product value, 1939:				
Crops and livestock	84	66	80	74
Dairy products	5	19	5	7
Poultry and prod. and misc.	3	6	4	5
Used by farm household	8	10	11	14
Off-farm work in days, 1939[c]	29	30	21	42
Change in phys. assets value, 1930-1940	−18%	−23%	−23%	−21%
Financial Characteristics				
Interest in physical assets of:				
Operators	37%	50%	35%	44%
Landlords	40	27	41	34
Creditors	23	23	24	22
Mtgd. farms/all farms	51	44	51	43
Mtg. debt/value of mtgd. farms	34	42	39	34
Mtg. debt/value of all farms	20	21	21	16
Farm mtg. debt held by:				
FLB'S and FFMC	51	40	46	56
Ins. and mtg. investment companies	25	13	29	10
Commercial and savings banks	4	10	5	5
Individuals and miscellaneous	20	38	20	29
Non-real-estate loans, as % of total non-real-estate farm assets, of:				
Banks and PCA's	18	11	16	16
FSA and ECFL Division of FCA	5	3	7	7

(footnotes on next page)

Footnotes to Table 10

[a] Group averages are unweighted, except for physical assets per farm, which is weighted by the number of farms in the several counties.
[b] Cropland excludes plowable pasture.
[c] Per farm operator.

class of land. Thus for the two groups of counties in Table 10 it can be said that cropland value as a per cent of total assets differs by a ratio of about 40 to 17.

The two groups based on importance of cropland differ, but not greatly, with respect to asset size. They differ very sharply in importance of off-farm work of the operator. On the financial side, the high-cropland group is characterized by (1) relatively low operator and relatively high landlord interests, (2) both high mortgage debt frequency and high ratio of mortgage debt to value of mortgaged farms, and (3) relatively heavy use of insurance company mortgage credit. Banks, however, held about 5 per cent of the mortgage loans in both groups, whereas both the federally sponsored mortgage lenders and individuals held higher percentages in the low-cropland counties. A low cropland component of total assets appears to restrict landlord investment; also, total mortgage loans in relation to total real estate and the proportion of such loans held by private centralized lenders such as insurance companies are low in counties of this type.

Because individual county comparisons suggested an association between variations in the proportion of total asset value of farms represented by cropland value and variations in a bundle of other economic characteristics of agriculture which might be expected to have a similar influence on financial organization of farms, an analysis based on this factor is presented in greater detail in Chart 3. Here, since the comparisons are not limited to groups similar in the land component of assets, comparisons as to the importance of cropland have to be made in value terms rather than acreage. The proportion of total assets represented by cropland was approximated for each county from the estimates of the proportion of total assets represented by land value and the percentage of acreage in cropland.[12] The counties were then grouped into 12 groups of 9 counties each, using the same method for equalizing asset deflation in the thirties as that described in Chapter 2. To facilitate graphic presentation, the data for the 12

[12] In these calculations value per acre for cropland and that for other land are assumed equal. The absolute percentages thus derived probably are too low, because value of cropland in individual counties would be expected to be higher per acre than value of other land. But used only for ranking, the percentages are adequate.

groups of counties are given as relatives based on the average for the entire 108 counties.

From Chart 3 it can be seen that as cropland increases as a component of total assets, landlord interests rise and operator interests fall. As in other comparisons based on economic characteristics of agriculture, the level of creditor interests does not appear to be closely related to the importance of cropland in total assets; but such relationship as there is appears to be the same as that for landlord interests. It can be seen also that in these three comparisons the two nine-county groups with lowest and highest cropland component of assets diverge from the relationships shown for the other ten groups of counties. Lowest cropland ratios are found in range livestock agriculture, in which this ratio probably is inappropriate to measure differences in assets that would influence investor attitudes. The reason for the divergence of counties with high crop ratios is not readily apparent, but with only nine counties in a group it is possible that sufficient influence is exerted by other characteristics of the agriculture to account for this divergence.

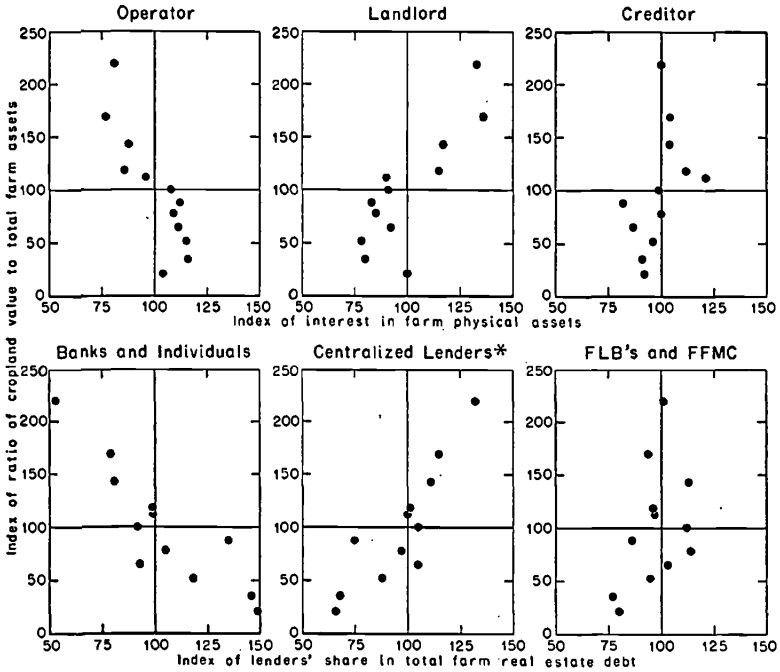
The chart reveals also a tendency for local lenders' proportion of mortgage loans to fall and centralized lenders' proportion to rise with increasing ratios of cropland to total asset values. However, any separate relationship between the cropland ratio and the proportion of mortgage loans held by federal land banks and the Federal Farm Mortgage Corporation is very slight.

In the interpretation of the relationships revealed by Chart 3 it is well to remember that the use of the ratio of cropland to total assets to classify counties also tends to classify counties by regions. Thus the groups with low-cropland ratios tend to be composed of counties located in the Northeast and the Mountain states, whereas the group with high-cropland ratios tends to reflect the grain areas and cash crop areas in the South. Despite this fact, it is significant for the evaluation of separate regional influences that even when these geographically different areas are combined for the purpose of this rather detailed grouping of counties, fairly consistent patterns of relationship still are obtained.

The other indicators of asset characteristics of agriculture used in the study are either directly related to, or are intercorrelated with, the asset characteristics already used as a basis of county classification. For example, grouping counties according to the land component of assets also effects a reasonably good classification according to the importance of all farm buildings and of

CHART 3

Selected Financial Characteristics Related to Percentages of Assets in Cropland, 1940



* Includes insurance and mortgage investment companies and the federally sponsored mortgage credit agencies.

residential buildings, and the ratio of non-real-estate assets to total assets. Tabulations by the latter criteria do not add significantly to the results, and are not presented. The data presented so far also indicate that variations in the importance of particular asset characteristics are related to variations in other economic characteristics of agriculture reflected in product characteristics. Thus the one third of the counties characterized by a high non-real-estate component of assets are also high with respect to dairy products. But despite these intercorrelations, direct comparisons of county groups classified according to specific product characteristics yield additional insights. A selected group of such comparisons is presented in Chapter 4.