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CHAPTER 5

RELATIONSHIPS OF CREDIT USE TO ECONOMIC CHARACTERISTICS OF THE AGRICULTURE

ALTHOUGH few clear-cut relationships between farm credit use and the economic characteristics of agriculture emerge when these aspects are examined separately, this does not mean that credit use is uninfluenced by the economic nature of agriculture. It is possible, rather, that certain clusters of agricultural characteristics, and not single economic factors, influence credit needs and lender attitudes. Moreover, single economic characteristics, or combinations of them, may have decisive effects on the use of particular kinds of credit even when their influence on the totality of farm credit cannot be established. It is toward an analysis of this possibility that the study will now be directed.

Data are given in Table 20 for eight counties—four in which there was very little use of credit, and four in which considerable credit was employed.[1] The four counties with low creditor interest represent widely different types of agriculture: Adams, a large-scale wheat county in Washington; Calvert, a small-scale tobacco and general farming county in eastern Maryland; Webb, a Texas range livestock county; and Blount, a county in the mountainous section of eastern Tennessee. Two of these—Adams and Webb—are characterized by large farms, the other two—Calvert and Blount—by farms that are smaller than average; in all other respects the economic characteristics of the four counties are widely dissimilar.

The relatively moderate use of credit in these four counties may be due in part, of course, to an unwillingness of lenders to place funds at the disposal of farmers engaged in a particular type of agriculture; and it may reflect also a lack of demand for credit funds either because little outside capital is required or

[1] The possibility that errors may be present in the estimates of the indicators of economic and financial characteristics of individual counties renders somewhat hazardous any attempt to explain differences in farm credit use by comparing the economic characteristics of the agriculture of counties in which the creditor interest is light with those of counties in which it is relatively heavy. But this risk may be overcome in large part if we select counties in which contrasts are sharp and for which the estimates conform in general with our understanding of the type of agriculture involved.

TABLE 20

ECONOMIC AND FINANCIAL CHARACTERISTICS IN RELATION TO:

Creditor Interest in Physical Assets, 8 Counties

(dollar figures in thousands)

	CREDITOR INTEREST IN PHYSICAL ASSETS							
	Low Creditor Interest Counties				*High Creditor Interest Counties*			
	Adams, Wash.	*Calvert, Md.*	*Webb, Tex.*	*Blount, Tenn.*	*Coahoma, Miss.*	*Greene, Ga.*	*Hamilton, Iowa*	*Bradley, Ark.*
Creditor interest in phys. assets	15%	13%	13%	10%	30%	34%	33%	31%
Economic Characteristics								
Physical assets per farm	$39.1	$6.3	$37.9	$4.6	$24.4	$2.4	$22.6	$2.3
Physical assets in:								
Land	74%	40%	75%	53%	69%	44%	60%	49%
Buildings	8	45	4	28	17	28	20	24
Non-real-estate	18	15	21	19	14	28	19	27
Cropland/total acreage[a]	72	19	3	34	71	29	75	35
Dwellings/farm real estate, 1930	6	29	3	17	16	32	10	26
Farm product value, 1939:								
Crops and livestock	93	82	94	38	89	48	82	61
Dairy products	1	....	4	15	1	6	6	3
Poultry and prod. and misc.	3	3	....	6	....	2	6	2
Used by farm household	3	15	2	41	10	44	6	34
Off-farm work in days, 1939[b]	16	45	48	68	11	26	14	32
Change in phys. asset value, 1930-1940	−8%	−15%	−3%	−2%	−9%	−6%	−32%	−26%

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TABLE 20 (concluded)

	CREDITOR INTEREST IN PHYSICAL ASSETS							
	Low Creditor Interest Counties				*High Creditor Interest Counties*			
	Adams, Wash.	*Calvert, Md.*	*Webb, Tex.*	*Blount, Tenn.*	*Coahoma, Miss.*	*Greene, Ga.*	*Hamilton, Iowa*	*Bradley, Ark.*
Financial Characteristics								
Interest in physical assets of:								
Operators	46%	48%	41%	74%	23%	38%	34%	55%
Landlords	39	39	46	16	47	28	33	14
Creditors	15	13	13	10	30	34	33	31
Mtgd. farms/all farms	47	34	27	28	65	33	57	47
Mtg. debt/value of mtgd. farms	28	23	14	36	37	35	50	38
Mtg. debt/value of all farms	14	11	11	11	28	15	30	16
Farm mtg. debt held by:								
FLB's and FFMC	57	18	27	18	21	47	33	50
Ins. and mtg. investment companies	21	....	....	27	50	5	43	6
Commercial and savings banks	....	27	....	9	4	15	7	19
Individuals and miscellaneous	22	55	73	46	25	33	17	25
Non-real-estate loans as % of total non-real-estate farm assets, of:								
Banks and PCA's	9	11	8	3	25	12	26	25
FSA and ECFL Division of FCA	4	4	....	....	1	55	1	18

[a] Cropland excludes plowable pasture.

[b] Per farm operator.

because the need is being met by some form of equity financing. In three of the counties, for example—Adams, Calvert, and Webb—landlord interests were substantially higher than the average for the entire sample (about 29 per cent), but in the fourth county—Blount—landlord interests were only 16 per cent; in this county of small farms there may have been little need for outside capital and not much to attract the investor of debt funds.

It should, perhaps, not be too surprising to find low creditor interests in large commercial farming counties, where capital requirements, particularly for real estate ownership, are met largely by landlords, and, at the same time, in small-scale subsistence agriculture, in which lenders would find security inadequate for the extension of credit.[2] That Calvert County belongs in neither of these categories suggests that still other economic factors—e.g. its location near two large cities—may account for its heavy landlord investment and restricted use of credit.

As for the four counties in which reliance on debt funds is relatively heavy, they also represent widely different types of agriculture: Coahoma, a delta county in Mississippi; Greene, a small-scale farming county in the poorer land area of Georgia; Hamilton, a large-scale farming county in North Central Iowa; and Bradley, a small-scale subsistence farming county in Arkansas. The two large-scale farming counties, Coahoma and Hamilton, are noteworthy for their extensive use of real estate credit, and the two small-scale farming counties, Greene and Bradley, for their use of the non-real-estate credit, particularly of the emergency type. The indebtedness of these small-scale farming counties consisted in 1940 largely of an accumulation of emergency and special purpose loans made by government agencies. Thus their high credit ratios may reflect the policy of public lending agencies during the depression years toward particular kinds of agriculture. But to the extent that Farm Security Administration and emergency crop and feed loans were substituted for credit that would have been obtained in the 1930's from merchants and other local sources if it had been available, the comparatively heavy reliance on debt funds may be indicative also of a continuing characteristic of the agriculture in these two counties.[3]

[2] An intensive study of each of these four counties probably would indicate specific reasons to account for moderate credit use. Detailed case studies, however, are beyond the scope of this work.

[3] It should be repeated that estimates of specific indicators of financial organization for the eight counties may contain substantial errors. Nevertheless, it is likely that Adams County, Washington, would fall at or near the

Whereas the data in Table 20 show wide variations in the economic characteristics as between the two sets of four counties, comparable averages for three 36-county groups in Table 21 reveal little variation from one third of the sample to another. The only respect in which the three groups differ markedly is the extent of off-farm work. Apparently, marked differences within groups of counties average out to about the same level in each of the three groups. This appears to be true even when the indicators are applied to the 108 sample counties arrayed in asset-deflation quartiles.

A partial explanation of the failure of Table 21 to reveal significant relationships between creditor interest and the several indicators of the economic nature of agriculture may be found in certain peculiarities of the data. For one thing, because of inadequate information on non-real-estate loans held by lenders other than the four specified types of lending institutions, the estimates for these miscellaneous lenders are necessarily rough approximations. A few of the counties may therefore be improperly classified among the three creditor interest groups. A second defect arises from the inclusion in the farm debt total of emergency and special purpose loans by governmental agencies. Some of the counties fall in the "high 36" group mainly because of large amounts of such loans, although the procedure whereby counties are regrouped to hold average financial experience in the 1930's relatively constant tends to reduce the influence of this factor. It is believed, however, that despite these deficiencies of the data, the three groups of counties differ sufficiently with respect to creditor interest to permit identification of any marked differences in the agriculture of these groups.

The lack of marked differences in Table 21 with respect to the nature of the agriculture may perhaps be attributed to deficiencies in the group averages. As a test of this possibility, each of the three groups was further distributed according to farm asset size and other criteria. Two of these frequency distributions—by ratio of land value to total assets and by ratio of cropland to total acreage—reveal differences between the "high" and "low"

lower end of an array based on true estimates and that Coahoma County, Mississippi, would fall at or near the upper end. Parenthetically, if these eight counties are representative of the whole sample, it may be understood why averages for county groups based on classifications according to specific indicators of asset and product characteristics do not show significant differences in the extent of creditor interests.

TABLE 21

ECONOMIC AND FINANCIAL CHARACTERISTICS IN RELATION TO:

Creditor Interest in Physical Assets, 108 Counties

(*dollar figures in thousands*)

	COUNTY GROUPS BY CREDITOR INTEREST IN PHYSICAL ASSETS			RATIO (%) OF HIGH 36 COUNTIES TO ALL COUNTIES
	High 36	*Middle 36*	*Low 36*	
Creditor interest in phys. assets	30%	22%	16%	130%
Economic Characteristics				
Physical assets per farm	$8.4	$8.8	$7.7	101%
Physical assets in:				
Land	53%	50%	52%	102%
Buildings	21	25	24	91
Non-real-estate	26	25	24	104
Cropland/total acreage[a]	42	42	37	105
Dwellings/farm real estate, 1930	16	16	17	100
Farm product value, 1939:				
Crops and livestock	67	62	61	106
Dairy products	10	17	12	77
Poultry and prod. and misc.	5	6	8	83
Used by farm household	18	15	19	100
Off-farm work in days, 1939[b]	26	37	43	74
Change in phys. asset value, 1930-1940[c]	—24%	—22%	—20%	109%
Financial Characteristics				
Interest in physical assets of:				
Operators	41%	50%	55%	85%
Landlords	29	28	29	100
Creditors	30	22	16	130
Mtgd. farms/all farms	47	45	37	109
Mtg. debt/value of mtgd. farms	43	41	36	108
Mtg. debt/value of all farms	21	19	15	110
Farm mtg. debt held by:				
FLB's and FFMC	54	41	44	115
Ins. and mtg. investment companies	10	16	12	83
Commercial and savings banks	8	11	10	80
Individuals and miscellaneous	28	32	34	90
Non-real-estate loans, as % of total non-real-estate farm assets, of:				
Banks and PCA's	19	12	18	146
FSA and ECFL Division of FCA	15	5	4	188

(footnotes on next page)

Footnotes to Table 21

[a] Cropland excludes plowable pasture.

[b] Per farm operator.

[c] Data on creditor interest in physical assets and change in physical assets, 1930-1940, based on a straight array, are shown below:

	High	*Middle*	*Low*
Creditor interest in physical assets	31%	22%	15%
Change in physical asset value, 1930-1940	−31	−21	−14

36 counties that may provide a partial explanation of differences in creditor interest, as follows:

	COUNTY GROUPS BY CREDITOR INTEREST IN PHYSICAL ASSETS	
	High 36	*Low 36*
Ratio of Land Value to Total Physical Assets		
Less than 40.0%	4	8
40.0 - 59.9	23	16
60.0 and over	9	12
Total counties	36	36
Ratio of Cropland to Total Acreage		
Less than 20.0%	10	15
20.0 - 49.9	15	7
50.0 and over	11	14
Total counties	36	36

In both frequency distributions the low group shows less concentration around the mean than the high group. This corroborates an impression gained from the study of individual counties, namely that low creditor interests are found in rather extreme kinds of agriculture. Agriculture with a low land component of assets and a low cropland component of acreage may exhibit a low creditor interest partly because creditors—particularly real estate lenders—find investment in such agriculture relatively unattractive. Counties that rank high in ratio of land value to total assets and ratio of cropland to total acreage may exhibit a low creditor interest for a different reason. Their agriculture may be so attractive to equity investment by nonoperators that less credit is needed in relation to total assets.

One hypothesis suggested by these data is that low creditor interest may be found both in the best agriculture—viewed from the standpoint of equity investment by nonoperators—and in the poorest—viewed from the standpoint of both creditor and equity

investment by nonoperators. A second is that high creditor interest may occur in agriculture that does not meet all of the requirements of maximum equity investment by nonoperators but provides adequate security to creditors.

Influences other than those mentioned above doubtless are present in the determination of the creditor interest in different kinds of agriculture. Both the ability and the desire of owner operators to invest equity funds in farming must be related to the need for outside capital. Furthermore, creditors include lenders who react differently to different cost and risk situations; and needs for different kinds of credit vary with the nature of farming operations. The creditor interest thus may reflect such diverse elements, both of "capital supply" and of "capital need," that only a very general analysis of its relation to the economic nature of agriculture is warranted. This problem will be treated further when we come to consider real estate and non-real-estate credit and the importance of different sources of credit.

Creditor Interest in Relation to Total Outside Interest in Farm Physical Assets

It has already been suggested that differences among counties in the extent to which the outside interest in assets is represented by debt may be related to the economic characteristics of their agriculture.[4] In order to examine this hypothesis more closely, we have grouped the 108 counties first according to the ratio of outside interests to total physical assets. The 36 counties that are "high," and the 36 that are "low," are then divided into two groups of 18 each according to the ratio of creditor to total outside interest in physical assets. It thus becomes possible to contrast counties that are roughly alike as regards the percentage of outside interest in assets, but differ significantly in the extent to which this interest is held by creditors.

Among the counties with the greatest outside (or nonoperator) interest in farm assets, those that make the most extensive use of credit are characterized by relatively lower assets per farm, less emphasis on crops and livestock as a source of income, greater emphasis on dairying, greater use of products in home consumption, and more off-farm work. Differences between the two groups with respect to average asset composition are minor.

As asset size of farm for the high 18 counties in this comparison

[4] Outside interest is defined as all interests in assets except that of the operator.

is only slightly greater than for the 108-county sample as a whole, it will be instructive to compare this subgroup of 18 counties with the entire sample. Selected comparisons are set forth below:

	108 Counties	*18-County Subgroup*
Interests in physical assets of:		
Operators	48%	37%
Landlords	29	33
Creditors	23	30
Physical assets per farm	$8,300	$8,900
Physical assets in:		
Land	52%	60%
Buildings	23	17
Non-real-estate assets	25	23
Cropland/total acreage[a]	40	45
Dwellings/farm real estate	16	13
Farm product value, 1939		
Crops and livestock	63	69
Dairy products	13	10
Poultry and prod. and misc.	6	4
Used by farm household	18	17
Off-farm work in days, 1939[b]	35	30

[a] Cropland excludes plowable pasture.
[b] Per farm operator.

The 18-county subgroup employs a higher percentage of both landlord and creditor funds than the total of 108 counties, but the difference is greater for the creditor interests. Somewhat larger-than-average asset size of farm would be expected to effect a greater reliance on nonoperator sources of funds, but it would not explain the substantially heavier use of debt funds. An examination of the above comparisons does, however, suggest a partial explanation. In terms of the relationships of landlord interest to the economic characteristics of agriculture, the 18-county subgroup would appear to be somewhat more attractive to landlord investment than the average county in the entire sample. But it is possible that an agriculture is satisfactory for substantially greater-than-average use of credit even when it has characteristics that discourage outright equity investment by landlords. The terms of the loan contract can be adapted to permit higher loan ratios on real estate, whereas such adaptations are not possible in the case of outright ownership by nonoperators as a method of investment. The 18-county subgroup reveals also a higher proportion of farms under mortgage as well as a greater use of non-real-estate credit, as compared with the 108-county

sample. The data do not, however, indicate why farmers and farm owners in the 18-county subgroup have a greater propensity to borrow. They merely help to corroborate the hypothesis, presented earlier in this chapter, that high credit use may be characteristic of an intermediate type of agriculture which is adequate as security for substantial amounts of loans but which, for particular reasons, may not be especially attractive to landlord investment.

It will be noted in Table 22 that in the comparison based on ratio of creditor to outside interests, the low group of 18 counties contains agriculture that would appear to be attractive as security for loans. Yet creditor interest in this group is the same as for the 108-county sample as a whole. The additional capital from outside sources needed to finance this agriculture apparently can be obtained to a considerable extent from nonoperators as equity investors; this may explain why creditors in this group account for no more funds than do creditors in the average county of the entire sample.

Among the 36 counties with the least outside interest in assets, those that make the most extensive use of credit are counties whose farms are characterized by (1) a low land component of assets, (2) a comparatively high percentage of non-real-estate assets, and (3) a high percentage of income from sales of dairy products. These data suggest again that debt funds are relatively important in agriculture that provides adequate security for credit but lacks those characteristics that attract appreciable landlord investment. The asset and product pattern of this agriculture may also be such that farm operators would prefer to own their properties, even though their equity funds must be supplemented by substantial amounts of debt capital, than to occupy a tenant status with moderate debts. Greater emphasis on dairy production and greater importance of buildings and non-real-estate assets may well require more freedom to make detailed day-to-day managerial decisions than is called for in the sort of agriculture where operations are more standardized and assets consist largely of land. The principles on which these managerial decisions are to be made may be much more difficult to incorporate into a lease than in the case of agriculture that emphasizes staple crop production.

From Table 22 we learn also that of the 36 counties least dependent on outside funds, the 18 that relied most on debt funds obtained 42 per cent of their mortgage credit from individuals

and miscellaneous lenders, as compared with 31 per cent for the other 18 counties in this group. This finding may shed some light on differences in agriculture that account for varying proportions of creditor and landlord interests. In the counties with the higher creditor ratios, individual investors may have required mortgage security to protect their investments, whereas in the counties with the higher landlord interests they may have been willing to invest through outright ownership. The difference in financial organization of these two groups of counties may be more in the legal basis of investment of particular groups than in the groups providing capital for agriculture.

A further analysis of farm credit use is possible when, after dividing the 108-county sample into asset-deflation quartiles, we array each group of 27 counties independently according to the credit ratios of farms. In each asset-deflation quartile the nine counties having the highest creditor component of total outside interests in physical assets are singled out for comparison with the average of all 27 counties in that quartile. From these comparisons, which ignore the level of total outside financing, it appears that a high credit component of total outside interests is associated with smaller-than-average farms in which the land component of total assets is low and dairy and general farming are more important than in the average for the quartile. In this kind of agriculture, owner operators are usually responsible, either directly or indirectly, for providing a larger-than-average proportion of total capital. The high ratio of creditor to outside interest, therefore, reflects both an absolutely low contribution by landlords and a need on the part of owner operators to borrow to supplement their own funds.

Although the comparisons of the findings presented in Table 22 suggest some of the reasons why total creditor interest may be high or low in relation to total outside interests, the arrangement of the counties still groups together those with quite different patterns of credit and equity capital use. A county will appear in the high-credit-use classification regardless of which kind of creditor interest is large. Counties with very high real estate debt but low non-real-estate debt, others with moderately high debt levels of both kinds, and still others with low real estate debt but very high non-real-estate debt, all fall into the subgroup with a high ratio of credit to total outside interests. Further analysis is required, therefore, to discover what economic characteristics of farming are associated with different types of credit financing.

TABLE 22

ECONOMIC AND FINANCIAL CHARACTERISTICS IN RELATION TO:

Ratio of Creditor to Outside Interest in Physical Assets, 72 Counties

(dollar figures in thousands)

	COUNTIES GROUPED BY OUTSIDE INTEREST IN PHYSICAL ASSETS			
	High 36 Counties[a]		*Low 36 Counties*[a]	
	High 18 by Creditor/ Outside Interest	*Low 18 by Creditor/ Outside Interest*	*High 18 by Creditor/ Outside Interest*	*Low 18 by Creditor/ Outside Interest*
Creditor interest/outside interest in physical assets	47%	35%	60%	45%
Economic Characteristics				
Physical assets per farm	$8.9	$11.8	$6.7	$6.0
Physical assets in:				
Land	60%	61%	39%	46%
Buildings	17	15	33	30
Non-real-estate	23	24	28	24
Cropland/total acreage[b]	45	47	35	36
Dwellings/farm real estate, 1930	13	11	23	20
Farm product value, 1939:				
Crops and livestock	69	83	44	51
Dairy products	10	4	28	18
Poultry and prod. and misc.	4	3	10	9
Used by farm household	17	11	18	22
Off-farm work in days, 1939[c]	30	26	49	49
Change in phys. asset value, 1930-1940[d]	−23%	−23%	−22%	−21%
Financial Characteristics				
Interest in physical assets of:				
Operators	37%	34%	65%	61%
Landlords	33	43	14	22
Creditors	30	23	21	17
Mtgd. farms/all farms	50	43	45	38
Mtg. debt/value of mtgd. farms	43	39	42	40
Mtg. debt/value of all farms	22	20	19	16
Farm mtg. debt held by:				
FLB's and FFMC	54	50	41	45
Ins. and mtg. investment companies	13	21	5	12
Commercial and savings banks	7	5	12	12
Individuals and miscellaneous	26	25	42	31
Non-real-estate loans, as % of total non-real-estate farm assets, of:				
Banks and PCA's	22	13	10	8
FSA and ECFL Division of FCA	15	7	4	3

(footnotes on next page)

Footnotes to Table 22

[a] Each 36-county group is stratified by asset change in the 1930's when divided into eighteen-county groups.

[b] Cropland excludes plowable pasture.

[c] Per farm operator.

[d] Data on outside interest and asset change, 1930-1940, based on a straight array of the counties, are shown below:

	High	*Middle*	*Low*
Outside interest in physical assets	67%	52%	36%
Change in physical assets, 1930-1940	—31	—14	—21

Mortgage Holders' Interests in Farm Real Estate Assets

In Table 23 the sample has been broken down into three groups ranked as "high," "middle," and "low," in terms of the ratio of real estate loans to total real estate assets. From these data it appears that the counties with the highest ratios have relatively large farms with a comparatively high percentage of cropland, and are characterized also by low consumption of farm products and a relatively low incidence of off-farm work. These characteristics are certainly typical of an agriculture into which outside investment would be expected to flow rather more readily. But they fail to indicate why a greater-than-average proportion of this outside investment should take the form of real estate credit rather than of additional equity investment on the part of landlords.

With assets per farm in the high real-estate-debt counties more than $2,000 above the average for the entire sample, one might expect the proportion of capital furnished by the operators to be somewhat lower than average. The percentage is moderately lower than that for the sample as a whole, but in this group operators actually contributed about $4,600 on the average, as compared with about $4,000 for operators in all 108 counties. Although landlords in the high real-estate-debt counties contributed about the same proportion of total funds as landlords averaged in the entire sample—around 29 per cent—and although this again was larger in dollar amount than average landlord investment for all 108 counties, it was not enough larger to compensate for the disproportionately lower level of operator investment. Real estate credit appears to have made up for the deficiency in equity capital supply for this group of counties: both the proportion of farms under mortgage and the ratio of debt to value of mortgaged farms were well above the average.[5] A part

[5] High real estate credit may, of course, represent borrowing on real estate rather than on non-real-estate security. But in this case there appears to be

TABLE 23

ECONOMIC AND FINANCIAL CHARACTERISTICS IN RELATION TO:

Ratio of Mortgage Debt to Real Estate Assets, 108 Counties

(*dollar figures in thousands*)

	COUNTIES GROUPED BY RATIO OF MORTGAGE DEBT TO REAL ESTATE ASSETS			
	Counties			RATIO (%) OF HIGH 36 COUNTIES TO ALL COUNTIES
	High 36	*Middle 36*	*Low 36*	
Creditor interest in real estate assets	24%	18%	14%	126%
Economic Characteristics				
Physical assets per farm	$10.3	$7.4	$7.0	124%
Physical assets in:				
Land	51%	51%	55%	98%
Buildings	24	24	21	104
Non-real-estate	25	25	24	100
Cropland/total acreage[a]	49	42	29	122
Dwellings/farm real estate, 1930	16	18	15	100
Farm product value, 1939:				
Crops and livestock	66	60	63	105
Dairy products	16	13	10	123
Poultry and prod. and misc.	6	7	6	100
Used by farm household	12	19	21	67
Off-farm work in days, 1939[b]	27	36	43	77
Change in phys. asset value, 1930-1940[c]	−22%	−23%	−21%	100%
Financial Characteristics				
Interest in physical assets of:				
Operators	45%	49%	52%	94%
Landlords	29	28	29	100
Creditors	26	23	19	113
Mtgd. farms/all farms	51	43	34	119
Mtg. debt/value of mtgd. farms	44	41	35	110
Mtg. debt/value of all farms	24	18	14	126
Farm mtg. debt held by:				
FLB's and FFMC	45	51	44	96
Ins. and mtg. investment companies	16	10	9	133
Commercial and savings banks	8	12	10	80
Individuals and misc.	31	27	37	100
Non-real-estate loans, as % of total non-real-estate farm assets, of:				
Banks and PCA's	14	14	11	108
FSA and ECFL Division of FCA	6	10	8	75

(footnotes on next page)

Footnotes to Table 23

[a] Cropland excludes plowable pasture.

[b] Per farm operator.

[c] Data showing the ratio of mortgage debt to the value of all farm real estate and the change in value of physical farm assets, 1930-1940, based on a straight array of the counties, are shown below:

	High	*Middle*	*Low*
Mortgage debt/value of all farm real estate	25%	18%	13%
Change in value of physical assets, 1930-1940	—33	—17	—16

of the explanation for this high real estate debt doubtless can be found in the agricultural characteristics of the farms in these counties. What conditions permitted substantial real estate credit but discouraged landlord investment from compensating for the relatively low operator investment?

To find an answer to this question it is necessary to look for a combination of the following conditions: (1) capital requirements per farm high enough to require a substantial amount of outside capital, (2) circumstances tending either to discourage landlord investment or to require landlords to borrow extensively, and (3) an appropriate collateral basis for the extension of greater-than-average amounts of real estate credit.[6] The first condition is based on the assumption that in most counties with very small farms, only a moderate number of owners will need to borrow against their real estate, and the amount that they require, or will be able to obtain, will tend to be moderate in relation to the value of their real estate. The second two conditions might well be present among counties with a wide range of farm sizes. In most small-farm counties landlords would be reluctant to invest, whereas they would tend to borrow heavily in large-farm counties. As the third condition depends on lender standards, one might expect to find agriculture of widely different character meeting the collateral requirements of one or another type of lender on farm real estate. It would be unreasonable, therefore, to expect to find high real estate credit associated with any one particular economic characteristic of agriculture. Indeed one might expect to encounter real estate credit where several influences combine to work in that direction. These influences may be compounded out of many and diverse elements.

little difference between the "high" and "low" groups in the use of non-real-estate credit.

[6] The mortgage contract with an owner operator may shift enough of the risk of the farm business to the operator to permit capital to flow to types of agriculture that do not attract landlord investment.

Since summary tabulations like Table 23 fail to reveal clear-cut differences between the agriculture that makes extensive use of real estate credit and that which uses such credit relatively little, we have found it necessary to undertake a more detailed examination of the available data. A separate analysis of each of the three groups of 36 counties in Table 23 would be fraught with difficulties, as these have been especially arranged to reduce the influence on group comparisons of differential financial experience in the 1930's. For this reason our comparisons are confined to the "high" and "low" groups, in which contrasts are likely to be sufficiently sharp.

The following tabulation supports the hypothesis that relatively few of the small-farm counties are likely to have high real estate debt. The two small-farm counties shown in the high group—they are in Alabama—are near the bottom of an array of the high 36 counties.[7] The twelve counties with assets per farm less than $4,000 that fall in the low group are located in widely distributed areas—for example, northern Wisconsin and northern Minnesota; eastern Texas; low land-value counties in Arkansas, Mississippi, and Louisiana; southern Indiana and Kentucky; and Florida and Virginia.

ASSET SIZE OF FARM	NUMBER OF COUNTIES IN COUNTY GROUPS BY RATIO OF REAL ESTATE DEBT TO REAL ESTATE ASSETS	
	High 36	*Low 36*
Under $4,000	2	12
4,000 - 7,999	11	10
8,000 - 13,999	16	8
14,000 - 19,999	2	3
20,000 and over	5	3
Total	36	36

From an examination of the agriculture of these areas it is not difficult to fit most of these counties into a classification of agriculture which is not very attractive either as security for real estate loans or for outright investment by a nonoperator.

In the $4,000-to-$7,999 size-of-farm class the number in the high 36 counties differs very little from the number in the low 36. The following tabulation, however, which is based on the

[7] Their inclusion in the high group results from the regrouping of counties to equalize average asset change, 1930-1940, for the three groups of counties.

11 counties in this size group with high real estate debt and the 10 counties in the same size group with low real estate debt, suggests possible reasons for the difference.

	High 11 Counties	*Low 10 Counties*
Real estate debt/real estate assets	24%	14%
Change in value of farm assets, 1930-1940	—20	—29
Land value/total physical assets	41	55
Cropland/total acreage[a]	44	32
Farm product value, 1939:		
Crops and livestock	51	64
Dairy products	24	8

[a] Cropland excludes plowable pasture.

The explanation of the difference cannot be found in variations in financial experience in the 1930's, as the "low 10" counties had the more severe asset deflation. However, nonoperators would be less interested in owning the farms in the "high 11" counties than in acquiring property in the "low 10" counties. A higher proportion of the assets in the low counties was in the form of buildings and non-real-estate assets, and here also dairy farming was much more important. These same factors, particularly the necessity for larger investment in dairy herds and dairy equipment, might well give rise also to greater need for farm owner-operators to borrow on real estate security to finance these assets. Moreover, the larger cropland base in the "high 11" counties might well provide a more acceptable basis for real estate loans. The reasons for higher real estate debt in this case, therefore, may be found in differences in asset and product composition of the agriculture.

In the size group $8,000 to $13,999, which includes counties with larger average size than obtains in the sample as a whole, there were more counties in the "high real estate" group than in the "low" group. Furthermore, those in the "high" group had farms with average size of $10,800 compared with $9,090 in the "low" group. This finding supports the hypothesis that use of real estate credit is related to size of farm. Other comparisons are presented at the top of the next page.

Although dairy production is somewhat more important in the "high" than in the "low" group, the principal difference is in the greater proportion of acreage in cropland. Higher asset size in the high-credit-use group would work in the direction of greater need for outside funds, and a high cropland component of acreage

would tend to provide the basis for more loans. The available data do not permit a separate evaluation of the relative strength of the "demand" and the "supply" influences suggested by these comparisons.

	High 16 Counties	*Low 8 Counties*
Real estate debt/real estate assets	23%	14%
Change in value of farm assets, 1930-1940	—25	—24
Land value/total physical assets	55	57
Cropland/total acreage[a]	54	27
Farm product value, 1939:		
Crops and livestock	70	69
Dairy products	14	12

[a] Cropland excludes plowable pasture.

Turning next to the two largest size groups, with assets per farm of $14,000 and over, we find seven counties in the high-real-estate-credit-use group and six counties in the low group, and average assets per farm somewhat larger in the high than in the low group—$23,000 as compared with about $20,000. Comparisons on other points are shown below:

	High 7 Counties	*Low 6 Counties*
Real estate debt/real estate assets	27%	15%
Change in value of farm assets, 1930-1940	—27	—19
Land value/total physical assets	57	64
Cropland/total acreage[a]	49	44
Farm product value, 1939:		
Crops and livestock	78	81
Dairy products	12	10

[a] Cropland excludes plowable pasture.

A part of the explanation of higher real estate debt in the seven-county group may be found in the larger asset size of farms and the greater farm asset deflation in the 1930's. A larger proportion of cropland also would improve the basis for real estate credit, whereas greater non-real-estate assets and somewhat more emphasis on dairying might further a greater use of real estate credit to finance non-real-estate assets. Although these comparative data indicate that the conditions set forth earlier for high real estate credit use are present in the seven-county group, the contrasts are not so sharp as in the case of the other size groups.

Another method of testing our multiple-factor hypothesis re-

garding the use of real estate credit is developed in the following tabulation, in which the nine counties that are "high" in respect to the ratio of real estate debt to total real estate assets have been selected from each asset-deflation quartile and their ratios compared with the average for the 27-county quartile as a whole.

ECONOMIC AND FINANCIAL CHARACTERISTICS	NINE COUNTIES WITH HIGHEST RATIOS OF REAL ESTATE DEBT TO TOTAL REAL ESTATE ASSETS[a] (AVERAGE FOR RESPECTIVE QUARTILE GROUP = 100)				AVERAGE OF QUARTILES
	Asset-Deflation Quartiles				
	1st	*2nd*	*3rd*	*4th*	
Real estate debt/total real estate assets	122	137	122	131	128
Physical assets per farm	131	120	123	132	127
Land as % of total assets	101	85	104	100	98
Cropland as % of total acreage[b]	127	131	98	140	124
Farm product value, 1939:					
Crops and livestock	105	92	107	115	105
Dairy products	101	164	109	94	117
Off-farm work in days, 1939[c]	72	74	97	64	77

[a] Data are for 1940 except where otherwise indicated.
[b] Cropland excludes plowable pasture.
[c] Per farm operator.

It appears from these comparisons that, even when counties are segregated according to their financial experience in the 1930's, larger-than-average farms are found in all four subclasses. This fact in itself warrants a presumption that a higher-than-average proportion of the funds invested in farm real estate would come from outside sources. But the reasons why these additional funds are supplied more heavily in the form of real estate credit, rather than landlord investment, must be sought in characteristics of the agriculture that tend to discourage investment by landlords but to encourage debt financing.

A factor that might help to explain the apparent reluctance of landlords to invest in farms in these nine counties may be that here the land component of total assets and the crop and livestock component of total product are relatively low in view of the larger-than-average size of the farms involved. Moreover, in three of the four county groups the proportion of cropland to total acreage is higher than average, thus providing a basis for greater use of real estate credit. Dairy product sales tend to

be more important in total product value than is the case with farms of average size, which might explain the heavier reliance on real estate as security for loans. Although the combination of characteristics is somewhat different in each quartile, the high level of real estate credit appears to be in conformity with the explanation offered earlier in this chapter.

As for low real estate debt in relation to the value of all real estate assets, this phenomenon cannot be consistently identified with a uniform pattern of farm economic characteristics, as we learn from the following tabulation. However, it is possible partially to explain a low percentage of real estate debt on the basis of limited need for outside capital or of conditions that would be more likely to encourage landlord investment, namely low average asset size and a relatively high proportion of assets in land in relation to size of farm. But since the third quartile does not exhibit the limiting factor of low cropland, it is necessary to seek out other characteristics of the agriculture that are not fully revealed by the data. For example, four of the nine counties fit reasonably well the concept of small-scale agriculture that would not be well suited to serve as security for large amounts of real estate credit; three others are located near large cities in the East where urban influences may have an effect; and two include agriculture that may be so attractive to landlord investment that little real estate credit is needed. Average ratios for small groups of counties do not show up these divergent limiting factors.

ECONOMIC AND FINANCIAL CHARACTERISTICS	NINE COUNTIES WITH LOWEST RATIOS OF REAL ESTATE DEBT TO TOTAL REAL ESTATE ASSETS[a] (AVERAGE FOR RESPECTIVE QUARTILE GROUP = 100)				AVERAGE OF QUARTILES
	Asset-Deflation Quartiles				
	1st	*2nd*	*3rd*	*4th*	
Real estate debt/total real estate assets	75	72	77	70	74
Physical assets per farm	71	95	101	67	84
Land as % of total assets	98	114	106	100	105
Cropland as % of total acreage[b]	65	64	96	67	73
Farm product value, 1939:					
Crops and livestock	97	112	97	91	99
Dairy products	93	55	82	99	82
Off-farm work in days, 1939[c]	124	133	92	145	124

[a] Data are for 1940 except where otherwise indicated.
[b] Cropland excludes plowable pasture. [c] Per farm operator.

In order to illustrate further how a relatively high ratio of mortgage debt to value of real estate may result from different combinations of conditions that leave a gap in equity capital supply, we present in Table 24 a grouping of counties according to (1) the percentage of farms under mortgage, and (2) the ratio of mortgage debt to value of mortgaged farms. Each basis of classification results in groups of counties that differ substantially in respect to ratio of real estate debt to value of all farm real estate.

These two groupings illustrate a different combination of influences that appears to result in relatively high mortgage debt. The counties in which frequency of mortgage debt is highest tend to have large-scale farms, although the counties with larger-than-average assets per farm tend to differ little with respect to most of the indexes of asset and product composition. They are high, however, with respect to the cropland component of acreage. These observations appear to support the hypothesis that if relatively heavy capital requirements from outsiders are unaccompanied by conditions that will attract landlord investment, a gap in equity capital is left that will be filled by mortgage credit if the security is adequate.

Almost two thirds of the mortgage funds employed in these counties that have a high frequency of mortgage debt were supplied by centralized lenders—federal farm land banks, the Federal Farm Mortgage Corporation, and insurance companies —compared with about one half in the counties with a low frequency of such debt. Apparently, agriculture that tends to have high frequency of mortgage debt tends to attract more of its mortgage funds from a relatively broad capital market.

In the second case, where intensity of use of mortgage credit is the criterion, the two groups of counties do not differ much in average farm size; but asset and product characteristics seem to favor landlord investment less where the volume of mortgage debt is heavy in relation to real estate assets than where debt frequency is high. Although outside capital requirements appear to be smaller per farm than in the first case, mortgage credit demand remains strong as a result of a somewhat different set of conditions—a low land component of assets and a high non-crop and livestock component of farm product throw-off—that tend to discourage landlord investment. The relatively high cropland component of acreage in the high debt-to-value counties is favorable to extensive borrowing on real estate security. In-

TABLE 24

ECONOMIC AND FINANCIAL CHARACTERISTICS IN RELATION TO:

Percentage of Farms under Mortgage and Ratio of Mortgage Debt to Value of Mortgaged Farms

(*dollar figures in thousands*)

	COUNTIES GROUPED BY PER CENT OF FARMS UNDER MORTGAGE[a]		COUNTIES GROUPED BY RATIO (%) OF MORTGAGE DEBT TO VALUE OF MORTGAGED FARMS[b]	
	High 36	*Low 36*	*High 36*	*Low 36*
Economic Characteristics				
Physical assets per farm	$11.1	$5.3	$8.9	$8.4
Physical assets in:				
Land	55%	52%	45%	60%
Buildings	22	22	27	19
Non-real-estate	23	26	28	21
Cropland/total acreage[c]	49	28	47	33
Dwellings/farm real estate, 1930	14	17	18	14
Farm product value, 1939:				
Crops and livestock	69	60	59	67
Dairy products	14	10	20	8
Poultry and prod. and misc.	6	6	7	6
Used by farm household	11	24	14	19
Off-farm work in days, 1939[d]	32	39	26	45
Change in phys. asset value, 1930-1940	−21%	−22%	−26%	−20%
Financial Characteristics				
Interest in physical assets of:				
Operators	45%	53%	47%	49%
Landlords	30	28	27	32
Creditors	25	19	26	19
Mtgd. farms/all farms	54	31	46	40
Mtg. debt/value of mtgd. farms	41	37	48	32
Mtg. debt/value of all farms	22	14	22	15
Farm mtg. debt held by:				
FLB's and FFMC	49	43	47	49
Ins. and mtg. investment companies	17	8	11	13
Commercial and savings banks	6	11	8	8
Individuals and miscellaneous	28	38	34	30
Non-real-estate loans, as % of total non-real-estate farm assets, of:				
Banks and PCA's	15	11	12	12
FSA and ECFL Division of FCA	7	9	9	7

(footnotes on next page)

Footnotes to Table 24

[a] Comparative data before regrouping of counties:

	High	*Middle*	*Low*
Mtgd. farm/total farms	54%	45%	31%
Change in physical asset value, 1930-1940	—26	—21	—19

[b] Comparative data before regrouping of counties.

	High	*Middle*	*Low*
Mtg. debt/value of mtgd. farms	50%	39%	31%
Change in phys. asset value, 1930-1940	—37	—20	—9

[c] Cropland excludes plowable pasture.

[d] Per farm operator.

surance companies provide a smaller percentage of the real estate loans, and banks and other local lenders a larger part, than in the counties in which debt frequency is highest.

Because average asset size of farm differs very little between the 36 counties with the highest, and the 36 with the lowest, ratios of mortgage debt to value of mortgaged farms, a further breakdown of these groups by size classes is presented below:

ASSET SIZE OF FARM	COUNTIES GROUPED BY RATIO OF MORTGAGE DEBT TO VALUE OF MORTGAGED FARMS	
	High 36	*Low 36*
Under $4,000	3	10
4,000 - 7,999	16	9
8,000 - 13,999	13	8
14,000 - 19,999	1	4
20,000 and over	3	5
Total	36	36

Whereas 29 of the counties in the "high" group fall within the range of $4,000 to $13,999, only 17 in the low group come within this range. The average asset size in the "low 36" group reflects the offsetting influence of 10 counties with asset size of farms less than $4,000 and 9 counties with asset size of $14,000 and over. Most of the 10 small-farm counties are in the poorer land areas of the South. The 9 large-farm counties are predominantly range livestock counties and cash grain counties. Some of the former may not provide adequate security for a large volume of conventional real estate credit, whereas others of the latter type would appear to be so attractive to landlord investment that less-than-average amounts of real estate credit would be used.

Differences with respect to importance of credit sources between the "high 36" counties in each of the two classifications in Table 24 suggests that real estate credit may still be too broad a category for the most fruitful analysis of credit use by agriculture. In both groups real estate debt amounts to 22 per cent of all real estate assets, but where the criterion is high debt-frequency, more of the debt is held by centralized lenders such as insurance companies and land banks than when the criterion is high debt-to-value ratios. Differences in sources of credit suggest that the function performed by real estate credit in the one case may be different from that in the other. It seems probable that more of the credit in the "high 36" counties grouped by debt frequency performs the function of financing real estate ownership than in the "high 36" counties based on debt-to-value ratios. In the latter counties the use of funds probably is less closely related to the security on which credit is obtained. This difference in the nature of the real estate credit may explain in part the fact that extensive use of such credit is found in rather divergent types of agriculture.

While the foregoing examination of the 108 counties identifies a number of factors which appear to influence the extent to which real estate credit is used to finance agriculture, the available evidence does not indicate the relative strength of these several influences. It does, however, suggest strongly that the extent to which agriculture is financed with real estate credit is related systematically to its economic characteristics and the reactions of capital users and suppliers to these characteristics.

More adequate data would doubtless enable us to identify still other relationships between real estate credit and type of agriculture. For example, it has not been possible to take account of the relationship of variability of crop yields to use of real estate credit, because no satisfactory basis could be found for a comparison of different kinds of agriculture. Since the method employed to make county groups comparable with respect to financial experience in the 1930's may not take full account of differences among the Great Plains counties in yield variability, any separate influence of this factor on use of real estate credit becomes obscured in group comparisons. However, limited evidence obtained by enlarging the sample of wheat counties in a separate study did not indicate any marked difference in use of real estate credit between county groups classified on the basis

of extent of crop abandonment.[8] It is likely that yield variability may have more influence on the source from which real estate credit is drawn than on the total use of such credit in relation to real estate assets.

Despite the shortcomings of the present analysis, it is believed that it points to the direction in which a more complete explanation of variations in real estate credit use may be found. The major part of the capital that is applied to the financing of farm real estate comes from owner operators and landlords. High real estate debt, moreover, cannot be explained solely by the attitudes of lender groups toward particular kinds of agriculture. In fact, the evidence presented here suggests that agriculture that would appear to be most attractive as security for real estate loans may draw upon only moderate amounts of such credit. On the other hand, heavy real estate debt often occurs in agriculture that does not measure up to the highest standards of security for real estate loans, perhaps reflecting reluctance of equity investors to extend financing. A full explanation of variations in the use of real estate credit, therefore, must take into account the important part that demand for this form of credit plays in determining the extent of its use.

Non-Real-Estate Loans in Relation to Non-Real-Estate Assets

Certain deficiencies in the data make it more difficult to establish differences in the use of non-real-estate credit than in the use of mortgage credit. With regard to the former, data are available only for the four major lending agencies. Moreover, since this is predominantly short-term and seasonal credit, data taken at a given point in time do not necessarily reveal the average amount of credit in use over an extended period. A further difficulty arises with respect to the data for commercial and savings banks, which are tabulated on the basis of the location of the bank making the loan rather than the location of the farm on which the loan is extended. Thus some county data may include loans made on farms in adjoining counties. In view of the foregoing considerations, small differences that may be noted between county groups are unlikely to be of much significance.

It is impossible to determine on the basis of present information how accurately variations among counties in the importance of

[8] Donald C. Horton, "Adaptation of the Farm Capital Structure to Uncertainty," *Journal of Farm Economics*, February 1949, pp. 76-100.

non-real-estate loans of the four agencies reflect variations in total use of non-real-estate credit.[9] It appears unlikely that variations among counties in the importance of bank and PCA loans alone would be revelatory in this respect, as both types of lenders are limited in their ability to extend credit to many of the farmers who tend to rely heavily on credit from local merchants and other nonfinancial lenders. Inclusion of the loans of the two special purpose lenders tends to take account of credit use in some areas that would not be reflected in the bank and PCA loans, but it also introduces other complications. By 1940, Farm Security Administration or emergency crop-and-feed loans had accumulated to such high levels in some counties that the amounts held by these lenders overemphasized the extent of total credit use. This latter difficulty is partially overcome when county groups are balanced to include about the same frequency distribution of counties by financial experience in the 1930's, but this adjustment probably is far from a perfect correction for the accumulation of past-due loans by these emergency credit agencies. Despite these heavy handicaps, it is believed that the data on non-real-estate loans of the four lender groups have value for the present analysis.

[9] Because the volume of non-real-estate loans held by lenders other than the four for which data are shown could be estimated only on an approximate basis which involved considerable judgment, it was decided not to base the analysis on estimated total non-real-estate debt. However, these separate estimates may have some analytical value. The percentage ratios below, computed from a classification of counties in which the high and the low 36 are selected on the basis of the percentage of total physical assets represented by non-real-estate farm assets, throw some light on the extent to which the ratio of non-real-estate debt to total debt varies with the importance of non-real-estate assets in total assets.

	High 36	*Low 36*
Non-real-estate assets/total physical assets	32%	18%
Real estate assets/total physical assets	68	82
Non-real-estate debt/total debt	44	30
Real estate debt/total debt	56	70
Non-real-estate debt/non-real-estate assets	32	36
Real estate debt/real estate assets	19	18

These computations suggest that the proportions of total debt represented by real estate and non-real-estate debt vary with the proportion of total assets in the two categories. But the ratio of non-real-estate debt to non-real-estate assets is lower when non-real-estate assets are a relatively high, than when they are a relatively low, proportion of total assets. It is probable that real estate debt is used to finance non-real-estate assets to a greater extent when such assets constitute a high proportion of the total.

Some light is thrown on the question of the kinds of agriculture in which non-real-estate farm loans tend to be high in relation to total non-real-estate farm assets by the tabulation on page 116, which uses alternative bases for classification of the 108 counties.

From this summary it is found that the combined credit ratio for the four agencies is relatively high under the following conditions: (1) low average assets per farm, (2) a high land component of assets, (3) a high crop and livestock component of total product, (4) a low dairy product component of total product, (5) low off-farm work per farm operator, and (6) low operator and high landlord interest in physical assets. Little difference is observed as between the high 36 and the low 36 when the 108 counties are grouped according to cropland component of acreage and home consumption of farm products. Nor are the differences very marked when the non-real-estate component of assets or the real estate credit ratios are employed as bases of classification.

It will be noted that whereas earlier tabulations indicate that high average size of farm and high land component of physical assets tend to go together, in the summary breakdown the high average size group shows the lower non-real-estate credit ratio and the high land component of assets the higher ratio. It will be noted also that the level of the non-real-estate credit ratio tends to be associated with differences in the relative importance of operator and landlord interests in physical assets. These relationships suggest that a further subclassification of certain of the major three-group tabulations might bring out more fully patterns of association between economic characteristics of agriculture and the non-real-estate credit ratio.

When the 36 large-size farm counties are divided into those with a "high" and those with a "low" land component of assets, it is apparent that non-real-estate credit is used more heavily in the former (Table 25). This can be explained, perhaps, in terms of certain economic characteristics of the agriculture that tend to attract investment by landlords and by insurance and mortgage companies. Since landlord ownership is more prevalent in these "high" counties, it is to be expected that the loans to the operator should be secured more frequently by non-real-estate assets or made on an unsecured basis. On the other hand large-farm counties, in which the land component of assets is low, have asset and product characteristics usually associated with high operator investment. There is reason to believe that in these counties real

BASIS FOR CLASSIFICATION OF 108 COUNTIES INTO THREE HIGH, MIDDLE, AND LOW COUNTY GROUPS	NON-REAL-ESTATE FARM LOANS, AS % OF TOTAL NON-REAL-ESTATE FARM ASSETS		
	Banks & PCA's	*FSA and ECFL Office of FCA*	*Total, Four Lenders*
Physical assets per farm			
High 36	14	4	18
Low 36	13	12	25
Land value/total physical assets			
High 36	16	7	23
Low 36	10	6	16
Cropland/total acreage[a]			
High 36	13	7	20
Low 36	13	7	20
Non-real-estate assets/total physical assets[a]			
High 36	9	9	18
Low 36	16	5	21
Sales of crops and livestock/value of product			
High 36	17	6	23
Low 36	9	6	15
Sales of dairy products/value of product			
High 36	9	6	15
Low 36	15	8	23
Home consumption/value of product			
High 36	12	9	21
Low 36	15	6	21
Off-farm work per operator			
High 36	11	5	16
Low 36	15	7	22
Operators interest in physical assets			
High 36	9	4	13
Low 36	18	11	29
Landlord interest in physical assets[a]			
High 36	16	7	23
Low 36	10	5	15
Mortgaged farms/all farms			
High 36	15	7	22
Low 36	11	9	20
Mortgage debt/value of mortgaged farms			
High 36	12	9	21
Low 36	12	7	19
Mortgage debt/value of all real estate			
High 36	14	6	20
Low 36	11	7	18

[a] Not shown separately elsewhere.

TABLE 25

ECONOMIC AND FINANCIAL CHARACTERISTICS IN RELATION TO:

Farm Asset Size, and Percentage of Assets in Land, 108 Counties

(*dollar figures in thousands*)

	HIGH 36 COUNTIES BY ASSET SIZE GROUPED BY % OF ASSETS IN LAND		MIDDLE 36 COUNTIES BY ASSET SIZE GROUPED BY % OF ASSETS IN LAND		LOW 36 COUNTIES BY ASSET SIZE GROUPED BY % OF ASSETS IN LAND	
	High 18	*Low 18*	*High 18*	*Low 18*	*High 18*	*Low 18*
Economic Characteristics						
Physical assets per farm	$17.5	$14.2	$7.3	$7.3	$4.0	$4.2
Physical assets in:						
Land	68%	47%	61%	38%	57%	42%
Buildings	13	24	17	35	20	29
Non-real-estate	19	29	22	27	23	29
Cropland/total acreage[a]	48	42	37	46	34	32
Dwellings/farm real estate, 1930	9	14	12	23	16	23
Farm product value, 1939:						
Crops and livestock	84	66	70	51	61	47
Dairy products	5	19	7	23	6	19
Poultry and prod. and misc.	3	5	6	11	5	7
Used by farm household	8	10	17	15	28	27
Off-farm work in days, 1939[b]	29	30	34	42	34	43
Change in phys. asset value, 1930-1940	−18%	−23%	−27%	−20%	−20%	−24%

(concluded on next page)

TABLE 25 (concluded)

	HIGH 36 COUNTIES BY ASSET SIZE GROUPED BY % OF ASSETS IN LAND		MIDDLE 36 COUNTIES BY ASSET SIZE GROUPED BY % OF ASSETS IN LAND		LOW 36 COUNTIES BY ASSET SIZE GROUPED BY % OF ASSETS IN LAND	
	High 18	*Low 18*	*High 18*	*Low 18*	*High 18*	*Low 18*
Financial Characteristics						
Interest in physical assets of:						
Operators	37%	50%	42%	58%	45%	59%
Landlords	40	27	33	22	32	18
Creditors	23	23	25	20	23	23
Mtgd. farms/all farms	51	45	44	43	35	39
Mtg. debt/value of mtgd. farms	35	42	42	43	37	40
Mtg. debt/value of all farms	20	21	19	19	16	16
Farm mtg. debt held by:						
FLB's and FFMC	51	40	50	39	54	49
Ins. and mtg. investment companies	24	12	15	7	8	4
Commercial and savings banks	5	10	6	15	12	12
Individuals and miscellaneous	20	38	29	39	26	35
Non-real-estate loans, as % of total non-real-estate farm assets, of:						
Banks and PCA's	18	11	16	9	14	11
FSA and ECFL Division of FCA	5	3	11	4	12	12

[a] Cropland excludes plowable pasture.
[b] Per farm operator.

estate is used more frequently as collateral for loans to provide short- and intermediate-term funds for operating purposes.[10]

Much the same pattern of relationships between the economic characteristics of farming and the use of non-real-estate credit is found among the middle-sized farm counties; but among the small-farm counties differences in the use of non-real-estate credit are less evident as between counties that are "high" and "low" in land component of assets. This latter finding may be attributable to the smaller margin of difference in the land component of assets in these counties, or to the contrast in their previous financial experience; there was, for example, a large volume of FSA and ECF loans in the low land component groups. It seems probable, however, that small-farm counties exhibit less differentiation between the use of mortgage and non-real-estate credit than do large-farm counties.[11]

In the foregoing analysis we have treated real estate and non-real-estate credit as if each were a homogeneous type of financing. In the next chapter the two forms of credit are broken down according to the character of the lending agency, so that we may try to determine whether there is any evidence that lenders tend to specialize among different types of agriculture.

[10] As can be seen from Table 25, much the same patterns of relationships would be found if the three sets of counties grouped according to asset size of farms had been subclassified according to the importance of crop and livestock sales in total value of product. Similarly, the interest of either operators or landlords in total assets could be used. The land component of total assets is employed because it brings into view contrasting characteristics of agriculture which appear to be associated with differences in the use of non-real-estate credit.

[11] Relationships of non-real-estate credit to nature of the agriculture are considered further in Chapter 6 in connection with an analysis by major lender groups.

CHAPTER 6

CREDIT SOURCES IN RELATION TO ECONOMIC CHARACTERISTICS OF THE AGRICULTURE

THE principal farm lending agencies differ significantly in organization, in the character of the funds they invest, and in basic objectives. It is not surprising, therefore, that they should differ also with respect to the kinds of agriculture they finance. One would not expect commercial banks, for instance, to lend heavily on the types of farm real estate toward which insurance companies direct the greater part of their mortgage lending; nor would one expect private credit institutions to operate in the field served primarily by federal or federally sponsored agencies.

The object of the present chapter is to present the available evidence concerning functional specialization among lenders in the farm capital market. It must be recognized, however, that the distribution of total loans by different lender groups in 1940 was influenced by the experience of the 1930's, and that similar information for a later date might show a somewhat different pattern of specialization, particularly with regard to governmental credit agencies.

Mortgage Lending Agencies

The percentage of farm mortgage loans held by particular lender groups varies from one set of counties to another, indicating that there is some degree of functional specialization among lenders. The character of this specialization is revealed in Tables 26 and 27, which have been assembled from data presented earlier.

It is evident at once that banks and insurance companies tend to play complementary roles. Banks appear to hold a higher-than-average proportion of total outstanding mortgage loans in counties where (1) farms are of moderate size, (2) land is of less-than-average importance as a component of total assets, (3) dairy and miscellaneous products are of more-, and crops and livestock are of less-, than-average importance in total farm output, and (4) farm-home consumption of farm products and off-farm work are relatively high. Insurance companies, on the other hand, tend to hold high percentages of total outstanding loans where (1) farms are large, (2) a high proportion of farm assets is in

land, and cropland constitutes a relatively large proportion of total acreage, (3) crop and livestock sales are greater than average in relation to sales of dairy and miscellaneous products, and (4) both home consumption of farm products and incidence of off-farm work are low.

As regards the financial characteristics of counties in which banks and insurance companies tend to specialize, the highest percentages of outstanding farm mortgage loans appear to be held by banks in counties where operator interest is high and landlord interest is low. But banks hold a relatively low percentage of the total loans where the per cent of farms under mortgage is high. As for the insurance companies, they hold large percentages of all outstanding loans where landlord investment is high and operator interest is low, and where the percentage of mortgaged farms is high. No evidence of specialization by either lender group is found in areas of high or low debt-to-value ratios for mortgaged farms.

The tendency of banks and insurance companies to concentrate their mortgage lending according to certain economic characteristics of the agriculture served is often presented as regional specialization. Thus, banks lend more in the Northeast and insurance companies in the Corn Belt. An examination of the data for separate regions indicates similar patterns of specialization also within broad regions. For example, when the 26 counties of the sample that are located in the East South Central and South Atlantic states are classified according to the importance of land as a component of assets, the following results are obtained:

LAND AS A PER CENT OF TOTAL ASSETS	NUMBER OF COUNTIES	PER CENT OF FARM MORTGAGE DEBT HELD BY:	
		Insurance Companies	*Banks*
55 - 69%	8	21%	9%
48 - 54	10	7	17
35 - 47	8	4	25

In other regions, however, the ratio of land to total assets does not classify counties into groups with the same pattern of lender specialization as that shown for the entire 108 counties. For example, the ratio of cropland to total acreage classifies county groups in the West South Central states by importance of insurance company loans whereas the land-to-asset ratio does not. This

TABLE 26

Percentage of Total Farm Mortgage Debt in 1940 Held by Designated Lender Groups, 108 Counties Classified into High, Middle, and Low Thirds According to Selected Economic Characteristics

BASIS FOR CLASSIFICATION INTO COUNTY GROUPS	PERCENTAGE OF FARM MORTGAGE DEBT HELD BY:[a]											
	Commercial and Savings Banks in:			*Individuals and Miscellaneous in:*			*FLB's and FFMC in:*			*Insurance and Mtg. Investment Companies in:*		
	High 36	*Middle 36*	*Low 36*	*High 36*	*Middle 36*	*Low 36*	*High 36*	*Middle 36*	*Low 36*	*High 36*	*Middle 36*	*Low 36*
Physical assets per farm	7%	10%	12%	29%	34%	31%	45%	45%	51%	19%	11%	6%
Land/physical assets[b]	5	11	13	24	31	38	50	47	43	21	11	6
Cropland/total acreage[c]	8	12	9	26	31	37	46	46	48	20	11	6
Farm product value, 1939:												
Crops and livestock	6	9	14	27	26	40	48	55	38	19	10	8
Dairy products	12	9	7	37	30	25	44	50	48	7	11	20
Used by farm household	12	10	7	31	34	29	48	44	47	9	12	17
Off-farm work in days, 1939[d]	12	11	7	38	29	27	43	50	46	7	10	20

[a] In order to prevent differential financial experience in the 1930's from affecting the analysis, high, middle, and low groups of counties each contain about the same distribution of counties according to previous financial experience.

[b] Excluding buildings.

[c] Cropland excludes plowable pasture.

[d] Per farm operator.

TABLE 27

Percentage of Total Farm Mortgage Debt in 1940 Held by Designated Lender Groups, 108 Counties Classified into High, Middle, and Low Thirds According to Selected Financial Characteristics

BASIS FOR CLASSIFICATION INTO COUNTY GROUPS	PERCENTAGE OF FARM MORTGAGE DEBT HELD BY:[a]											
	Commercial and Savings Banks in:			*Individuals and Miscellaneous in:*			*FLB's and FFMC in:*			*Insurance and Mtg. Investment Companies in:*		
	High 36	*Middle 36*	*Low 36*	*High 36*	*Middle 36*	*Low 36*	*High 36*	*Middle 36*	*Low 36*	*High 36*	*Middle 36*	*Low 36*
Interest in physical assets of:												
Operators	12%	11%	6%	37%	32%	25%	43%	44%	52%	8%	13%	17%
Landlords	6	10	14	28	27	38	46	53	41	20	10	7
Creditors	8	11	10	28	32	34	54	41	44	10	16	12
Creditor interest/total outside interests[b]	11	9	9	36	27	30	48	47	43	5	17	18
Real estate debt/total outside interests in real estate	9	11	8	36	26	31	45	51	45	10	12	16
Per cent of farms mtgd.	6	12	11	28	28	38	49	47	43	17	13	8
Mtg. debt/value of mtgd. farms	8	12	8	34	29	30	47	44	49	11	15	13
Mtg. debt/value of all farms	8	12	10	31	27	37	45	51	44	16	10	9

[a] In order to prevent differential financial experience in the 1930's from affecting the analysis, high, middle, and low groups of counties each contain about the same distribution of counties according to previous financial experience.

[b] Outside interests are the combined interests of creditors and nonoperating owners.

is explained mainly by the fact that the county group with the highest land-to-asset ratios includes a number of Texas range livestock and high-risk wheat counties in which insurance companies lend very little. The land-to-asset ratio, however, distinguishes clearly between county groups in this region according to importance of bank mortgage loans.

The federal and federally sponsored lending agencies show less tendency to specialization of the foregoing type than do banks and insurance companies, but a few points may be noted. Like banks, these agencies tend to be relatively more important as lenders in counties with farms of smaller-than-average size. But with respect to the importance of land in total assets, crop and livestock sales, and off-farm work, their behavior resembles that of the insurance companies. Like the insurance companies, also, these lenders held a higher proportion of the farm mortgage debt in counties in which operator interest in assets was low in 1940; and again like the insurance companies, they held relatively more mortgage loans in counties where the frequency of mortgage debt was highest. But because these lenders' mortgage holdings in 1940 reflect the refinancing operations of the 1930's, such evidence of specialization by type of agriculture and financial characteristics of farms may not apply to other periods.

Individual and miscellaneous lenders likewise appear to specialize less than banks and insurance companies, although such specialization as is found appears to be more like that of banks than that of insurance companies. However, if the data could be broken down to show separately loans by local and absentee individuals, the former would probably be found to invest most extensively in counties like those in which banks take the lead, while the latter would probably tend to specialize in counties with agricultural patterns similar to those which attract insurance company investment.

Unlike the three other classes of lenders, individuals and miscellaneous lenders appear to invest most heavily in areas where the cropland component is low. When the counties are grouped into thirds according to the ratio of cropland to total acreage, it is found that this lender group holds the highest percentage of total mortgages in the 36 counties in which the cropland ratio is low, whereas banks hold the highest percentage in the middle third of the counties in this array. An examination of the low-cropland counties reveals that most of them possess characteristics of agriculture that might discourage bank lending on real estate.

Included in these are the range livestock counties, most of those in the poorer land areas of the East and South, a number of high-risk wheat counties, and others in which bank failures in the 1920's and 1930's were numerous. Although the evidence is not clear in all cases, it appears that individual lenders provide mortgage credit in a number of situations where banks are unwilling or unsuited to supply the kind of loan sought.

Because specialization of lenders in 1940 was related also to financial experience in the 1930's, selected comparisons are presented in Table 28 by major asset-deflation classes. From the 27 counties with greatest asset deflation in the 1930's (first quartile), the nine that were highest in percentage of mortgage debt held by banks are first selected and any distinctive economic characteristics of these nine counties are then indicated by relatives based on the entire 27 counties as 100.

Within the first quartile (greatest assets deflation), the nine counties in which banks stand out as sources of mortgage credit differ most sharply from those in which insurance companies stand out with respect to the importance of sales of dairy products. The bank counties had larger average asset-size farms than the insurance company counties in this quartile, though the difference between them in respect of crop and livestock sales is small. That the land bank and Federal Farm Mortgage Corporation counties ranked higher than the insurance company counties with respect to asset size, importance of land in total assets, and importance of cropland and of crop and livestock sales probably reflects the shifting of insurance company mortgages to the federal agencies in the 1930's.[1]

Turning next to the 27-county group that experienced the least asset deflation in the 1930's, we note that the counties in which banks were most important as lenders differed from those in which insurance companies predominated more in respect of size of farm than in importance of dairy products. In this grouping, sale of dairy products is more effective in identifying the counties in which individuals and miscellaneous lenders are outstanding.

As can be seen from the average of the relatives for the four quartiles, there appears to be a tendency for individuals and

[1] It probably reflects also the fact that insurance companies have never been important sources of mortgage credit in some of the counties with large livestock farms and in other large-crop farm counties characterized by high production risks growing out of wide variations in rainfall.

TABLE 28

Nine Counties with Highest Ratios of Mortgage Debt of a Specified Type of Lender to Total Real Estate Debt Compared with Quartile Groups of Counties Ranked by Asset Deflation

ECONOMIC CHARACTERISTICS AND LENDER GROUP	NINE COUNTIES WITH HIGHEST RATIOS OF MORTGAGE LOANS OF SPECIFIED TYPE OF LENDER TO TOTAL REAL ESTATE DEBT (AVG. FOR RESPECTIVE QUARTILE GROUP = 100)				
	Asset-Deflation Quartiles[a]				*Average of Quartiles*
	1st	*2nd*	*3rd*	*4th*	
Physical assets per farm					
Commercial and savings banks	118	69	108	47	85
Individuals and miscellaneous	75	126	81	101	95
FLB's and FFMC	113	89	72	117	97
Ins. and mtg. investment companies	98	120	108	115	110
Land in % of total physical assets					
Commercial and savings banks	90	94	83	89	89
Individuals and miscellaneous	88	92	85	104	92
FLB's and FFMC	110	120	119	100	110
Ins. and mtg. investment companies	105	112	120	108	111
Cropland in % of total acreage					
Commercial and savings banks	99	104	97	71	93
Individuals and miscellaneous	66	74	92	79	78
FLB's and FFMC	127	83	87	149	111
Ins. and mtg. investment companies	121	130	122	135	127
Sales of crops and livestock in % of total value of product					
Commercial and savings banks	90	91	89	87	89
Individuals and miscellaneous	89	97	69	101	89
FLB's and FFMC	116	112	119	100	112
Ins. and mtg. investment companies	96	109	122	111	109
Sales of dairy products in % of total value of product					
Commercial and savings banks	160	116	130	82	122
Individuals and miscellaneous	123	140	166	131	140
FLB's and FFMC	74	48	42	110	69
Ins. and mtg. investment companies	83	71	51	64	57

[a] The 108 counties were arrayed by degree of asset deflation in the 1930's, from greatest to least, and divided into quartiles. For each quartile the nine counties that were highest with respect to the ratios of mortgage loans of the specified type of lender to total real estate debt are compared with the average for the quartile group as a whole in this respect.

miscellaneous lenders to specialize in somewhat the same kinds of agriculture as those in which banks specialize. Federal land banks and the Federal Farm Mortgage Corporation, on the other hand, tended to concentrate their loans in the kinds of agriculture in which insurance companies lend most heavily. These averages, however, should be interpreted in the light of the fact that considerable variation is found among the quartiles in the relation of agricultural characteristics to particular lender groups. For example, on an average basis, banks appear to have held relatively more mortgages in the smaller-farm counties (as shown also in Table 26), but by quartiles the average size of farms in the bank counties ranged from 47 to 118 per cent of that for all counties in the quartile. This supplemental tabulation indicates that broad generalizations with respect to specialization of lenders by size of farm are likely to be subject to more qualifications when applied to regions than are generalizations with respect to specialization by other economic characteristics of agriculture.

The quartile comparisons in Table 28 also suggest the probability that functional specialization tends to be most evident when certain combinations of farm characteristics are made the basis of comparison. This is illustrated by the kinds of agriculture in the second and third quartiles in which individuals and miscellaneous lenders rank highest as sources of mortgage loans. In the second quartile the counties in which these lenders rank highest include a combination of large range livestock and large dairy farms, whereas in the third quartile the farms are smaller than average but dairy products are a relatively more important source of income. It is to be expected that this residual lender group would rank high as a source of mortgage loans in a wide range of situations where, for a variety of reasons, farm real estate is not well adapted to serve as security for loans by either local or centralized lending institutions.

Regional factors that are associated mainly with nonagricultural factors, such as greater availability of local funds for investment in farm mortgages in the older and more industrialized areas, doubtless exert some influence on the pattern of specialization in farm lending. Then there are differences among kinds of farming with respect to production and price risks; these factors have an important bearing on financing, though they could not be brought directly into the analysis by means of specific indicators.[2]

[2] For an attempt to evaluate these factors, see Donald C. Horton, "Adaptation of the Farm Capital Structure to Uncertainty," *Journal of Farm Economics*, February 1949, pp. 76-100.

Ratio of Lender Groups' Mortgage Holdings to Value of Real Estate

We may carry the analysis of specialization still further by dividing our sample of 108 counties into groups of 36 according to which of the four types of lender had the highest ratio of mortgage loans to total value of real estate, and by comparing the characteristics of the agriculture among the counties so grouped. In some respects comparisons based on classifications in which lenders' mortgage holdings are related to total value of real estate are more meaningful than those based on percentages of total mortgage debt held by different lender groups. On the latter basis, for example, a county would be placed in the "high" group whenever loans by a particular type of lender constituted a large part of the total debt, even though this debt might be relatively small in relation to total real estate assets. Classified on the former basis, the "high" group comprises only those counties in which the particular lender is a relatively important source of total capital invested in farm real estate. The data for such a comparison of mortgage holdings are given in Table 29.

The chances are fairly good that observable differences in farm asset and product characteristics between counties in which mortgage loans of banks and insurance companies rank high signify real functional specialization in farm mortgage lending; but the average of asset and product percentages in counties shown for the other two lender groups fall so close to those for the entire sample that the evidence of specialization is less clear-cut.

As compared with the counties in which farm real estate loans held by insurance and mortgage investment companies are highest in relation to real estate assets, those counties in which bank loan percentages are highest give evidence of having farms whose buildings and non-real-estate assets are relatively important, whose receipts from dairy product sales are higher, comparatively, and in which the number of days of off-farm work is also relatively high.

The fact that the 36 counties in which federal agency loan ratios are highest exhibit characteristics of agriculture that fall near the average for the 108-county sample appears to reflect the multiple functions of these lending institutions. It should be noted also that conditions prevailing in the 1930's brought them mortgages on all types of farm businesses. A higher-than-average

TABLE 29

ECONOMIC AND FINANCIAL CHARACTERISTICS:

Four Groups of 36 Counties in Which Real Estate Loans of a Specified Type of Lender Were Highest in Relation to Total Real Estate Assets

(dollar figures in thousands)

	Commercial & Savings Banks	*Individuals and Miscellaneous*	*FLB's and FFMC*	*Insurance & Mtg. Investment Companies*
Real estate loans of lenders as % of:				
Total real estate assets[a]	3.4%	9.6%	13.1%	5.6%
Total real estate loans	19	46	61	27
Economic Characteristics				
Physical assets per farm	$8.7	$8.0	$8.5	$10.3
Physical assets in:				
Land	44%	48%	53%	59%
Buildings	29	26	22	20
Non-real-estate	27	26	25	21
Cropland/total acreage[b]	40	37	45	51
Dwellings/farm real estate, 1930	21	17	15	13
Farm product value, 1939:				
Crops and livestock	54	58	67	72
Dairy products	20	21	12	8
Poultry and prod. and misc.	7	7	4	6
Used by farm household	19	14	17	14
Off-farm work in days, 1939[c]	40	39	30	28
Change in phys. asset value, 1930-1940[d]	−21%	−22%	−23%	−22%
Financial Characteristics				
Interest in physical assets of:				
Operators	54%	52%	43%	42%
Landlords	24	27	30	35
Creditors	22	21	26	23
Mtgd. farms/all farms	42	44	47	48
Mtg. debt/value of mtgd. farms	41	41	43	40
Mtg. debt/value of all farms	19	21	22	21
Non-real-estate loans, as % of total non-real-estate farm assets, of:				
Banks and PCA's	14	11	14	15
FSA and ECFL Division of FCA	6	4	11	5

(footnotes on next page)

Footnotes to Table 29

[a] Counties were selected so that each group had, on the average, about the same degree of asset deflation in the 1930's.

[b] Cropland excludes plowable pasture.

[c] Per farm operator.

[d] Comparable data on the ratio of real estate loans of designated lenders to total real estate assets, based on a straight array of the counties, are shown below:

	Commercial & Savings Banks	*Individuals and Miscellaneous*	*FLB's and FFMC*	*Insurance & Mtg. Investment Companies*
Change in physical asset value, 1930-1940	—19%	—26%	—30%	—21%
Real estate loans/real estate assets	3.4	9.7	13.8	5.8

percentage of refinanced mortgages came from areas in the Middle West where farms had previously drawn heavily on insurance company loans, and when these were added to the loans the agencies already held—which had been made with the primary objective of providing credit in areas not usually served by the private institutional lenders—the result was a general coverage of all types of farms.

Finally, we note that counties whose ratios of individual and miscellaneous lenders' loans to total real estate assets are highest tend to show percentages approximating averages for the entire sample. This tendency is probably best explained by the diversity of investors included in this general category.

Table 30, which is constructed in the same manner as Table 28, permits further analysis of functional specialization among counties within the four asset-deflation classes. Here we find, for example, that when a high ratio of loans held by a specific lender group is made the basis for the selection of nine-county groups, farms in the bank counties are consistently smaller in asset size than those in the insurance company counties. Apparently, to combine the high nine counties of each 27-county quartile into a single 36-county group as we did in Table 29 does not seriously distort the comparisons.[3]

As the first and second quartiles are weighted heavily with counties in the central portion of the country, some of the differences between the kinds of agriculture in which banks and in-

[3] Averaging the relatives rather than the absolute data produces some differences in relationships as a result of different weighting, but the general pattern remains the same. This is seen most clearly in the case of the relatives for asset size of farm for the bank group.

TABLE 30

ECONOMIC CHARACTERISTICS:

Nine Counties with Highest Ratio of Mortgage Loans of a Specified Type of Lender to Total Real Estate Assets Compared with Quartile Groups of Counties Ranked by Asset Deflation

ECONOMIC CHARACTERISTICS AND LENDER GROUP	NINE COUNTIES WITH HIGHEST RATIOS OF MORTGAGE LOANS OF SPECIFIED TYPE OF LENDER TO TOTAL REAL ESTATE ASSETS (AVG. FOR RESPECTIVE QUARTILE GROUP = 100)				
	Asset-Deflation Quartiles[a]				*Average of*
	1st	*2nd*	*3rd*	*4th*	*Quartiles*
Physical assets per farm					
Commercial and savings banks	112	99	107	47	92
Individuals and miscellaneous	101	117	88	120	106
FLB's and FFMC	115	121	72	93	100
Ins. and mtg. investment companies	124	120	117	144	126
Land in % of total physical assets					
Commercial and savings banks	93	84	73	88	85
Individuals and miscellaneous	92	86	76	110	91
FLB's and FFMC	109	94	118	88	102
Ins. and mtg. investment companies	107	114	121	112	113
Cropland in % of total acreage					
Commercial and savings banks	115	123	91	71	100
Individuals and miscellaneous	78	101	94	94	92
FLB's and FFMC	126	124	86	113	112
Ins. and mtg. investment companies	115	130	120	146	128
Sales of crops and livestock in % of total value of product					
Commercial and savings banks	89	84	81	87	85
Individuals and miscellaneous	104	88	70	109	93
FLB's and FFMC	126	124	86	113	112
Ins. and mtg. investment companies	104	107	126	120	114
Sales of dairy products in % of total value of product					
Commercial and savings banks	157	160	157	82	139
Individuals and miscellaneous	129	169	185	101	146
FLB's and FFMC	83	127	46	146	100
Ins. and mtg. investment companies	78	67	50	42	59

[a] The 108 counties were arrayed by degree of asset deflation in the 1930's, from greatest to least, and divided into quartiles. For each quartile the nine counties with the highest ratio of mortgage loans of specified type of lender to total real estate assets are compared with the average for the quartile group as a whole in this respect.

surance company loans are high in relation to real estate value have a different meaning than those found in the third and fourth quartiles, which are more heavily weighted with southern and eastern states. For example, in the first and second quartiles the cropland ratio is higher than average for both bank and insurance company counties. But bank and insurance companies differ sharply with respect to the relative importance of dairy as compared with crop and livestock farming. In the third and fourth quartiles, however, bank and insurance company groupings differ sharply from one another with respect to both criteria. It is probable that individuals finance relatively more of the low-cropland agriculture in the Central states than in the older sections of the East and South.

Despite the roughness of some of the data from which the foregoing comparisons have been drawn, they do indicate that sources of credit are related to characteristics of agriculture. These characteristics, in turn, appear to influence the distribution of operator and landlord interests in agricultural assets. Counties in which investment by banks and individuals is heaviest are characterized also by high operator interests, and those in which land bank and insurance company investment is greatest, by high landlord interests. Contrasts are most clear, in this respect, between the bank and the insurance company counties. The bank counties appear to include those where specialization in capital provision as such is rather limited. The farm operator provides most of the equity capital, and local lenders, who are likely to participate also in general managerial decisions, provide debt capital. On the other hand, the insurance company group includes counties in which the two functions—capital provision and responsibility taking—frequently are performed by separate investors. Here absentee landlords are likely to be the principal sources of equity capital, while debt capital tends to come largely from centralized lenders who participate little in general managerial decisions.

Four Non-Real-Estate Lenders

Four major credit agencies extended non-real-estate credit to agriculture in 1940. These were commercial banks, Production Credit Associations, the Farm Security Administration, and the Emergency Crop and Feed Loan Division of the Farm Credit Administration, and their objectives were so different that one would expect them to have served fairly distinct credit markets. Their functional specialization may be revealed if we select from

the 108 counties, separately for each of the lender groups, the 36 in which the ratio of non-real-estate bank loans to total non-real-estate assets was highest, and then compare the four resulting sets of counties to determine differences in economic and financial characteristics (Table 31).

It may be observed that all four groups of counties in Table 31 have common characteristics. As compared with the sample as a whole, all had moderately high land-to-asset ratios and were somewhat more heavily engaged in crop and livestock production. None of the four groups was intensively engaged in dairy production. On the financial side, all four were characterized by higher-than-average creditor interests and lower-than-average operator interests. But with the exception of the bank counties, their farms were smaller than average.

Among the groups we find greater similarity than might be expected, probably because each group contains counties with quite diverse characteristics. For example, the PCA counties include small-farm counties of the Southeast and large livestock farm counties of the West. Similarly, among the counties characterized by heavy Emergency Crop and Feed loans there are small-farm counties of the Southeast and large grain farms of the Great Plains. It is likely, moreover, that the economic indicators used in this study are not particularly well adapted to an analysis of functional specialization among short-term credit agencies. More marked differences among the four groups of counties might well emerge if it were possible to compare yield variations attributable to natural hazards.[4]

To test the significance of the financial experience factor, Table 32 presents a separate analysis by asset-deflation classes. In general, the pattern of farm asset size relationship shown in Table 31 holds also within asset-deflation classes. The nine counties in which bank loans are highest in relation to non-real-estate assets are characterized by larger farms than the counties in which PCA loans are highest, whereas the FSA counties are characterized by lower farm asset size than either the bank or the PCA counties. The higher-than-average level of farm asset size in ECFL counties in the first quartile (most severe asset defla-

[4] Other possible explanations of the lack of differentiation are: (1) While the extent of credit requirements is influenced by the economic characteristics of agriculture, the sources from which the credit is drawn are determined by other considerations. (2) Federal agencies do actually serve a broad credit market; they made loans both to farms for which credit was not available from private credit institutions and to farms which had been financed earlier by private agencies but were now in distress.

TABLE 31

ECONOMIC AND FINANCIAL CHARACTERISTICS:

Four Groups of 36 Counties in Which Non-Real-Estate Loans of a Specified Type Were Highest in Relation to Total Non-Real-Estate Assets

(dollar figures in thousands)

	Banks	*PCA's*	*FSA*	*ECFL Division of FCA*	*108 Counties*
Ratio of non-real-estate loans of lender group to total non-real-estate assets[a]	19%	6%	10%	8%	....
Economic Characteristics					
Physical assets per farm	$9.8	$6.7	$5.2	$6.5	$8.3
Physical assets in:					
Land	59%	56%	54%	56%	52%
Buildings	19	20	21	20	23
Non-real-estate	22	24	25	24	25
Cropland/total acreage[b]	44	34	35	40	40
Dwellings/farm real estate, 1930	15	15	17	16	16
Farm product value, 1939:					
Crops and livestock	70	71	64	69	63
Dairy products	8	6	9	7	13
Poultry and prod. and misc.	5	5	5	4	6
Used by farm household	17	18	22	20	18
Off-farm work in days, 1939[c]	29	34	32	30	35
Change in phys. asset value, 1930-1940[d]	−23%	−22%	−24%	−24%	−22%
Financial Characteristics					
Interest in physical assets of:					
Operators	42%	44%	45%	43%	48%
Landlords	32	32	28	31	29
Creditors	26	24	27	26	23
Mtgd. farms/all farms	45	43	42	44	43
Mtg. debt/value of mtgd. farms	39	37	40	40	40
Mtg. debt/value of all farms	19	18	18	18	19
Farm mtg. debt held by:					
FLB's and FFMC	49	48	54	59	47
Ins. and mtg. investment companies	19	14	11	8	12
Commercial and savings banks	9	9	8	8	10
Individuals and miscellaneous	23	29	27	25	31
Non-real-estate loans of four lender groups as % of total non-real-estate farm assets	31	24	34	32	21

(footnotes on next page)

Footnotes to Table 31

[a] Counties were selected so that each group had, on the average, about the same degree of asset deflation in the 1930's.

[b] Cropland excludes plowable pasture.

[c] Per farm operator.

[d] The four groups of counties are compared below with the respective groups based on a straight array of counties without regard to asset deflation.

	Banks	*PCA's*	*FSA*	*ECFL Division of FCA*
Change in physical asset values, 1930-1940	—24%	—17%	—24%	—30%
Non-real-estate loans/non-real-estate assets	19	6	10	9

tion) is explained by the fact that this group includes a number of large cash grain counties in the Great Plains.

The tendency for land to run high as a percentage of total assets in all four groups of 36 counties in Table 31 is corroborated by the breakdown in Table 32. Of the 16 comparisons by this criterion only two show the land-assets ratio (98 and 94 respectively) to be below the average for the 27-county group with which the nine are compared.

Similar comparisons based on the ratio of cropland to total acreage bring out certain contrasts that are obscured in the averages shown for the 36-county groups in Table 31. The PCA and FSA counties in the first quartile (greatest asset deflation) are characterized by a low ratio of cropland to total acreage, which reflects the tendency of both credit agencies to lend to livestock farms in these areas. In the fourth quartile, however, which includes a large number of the smaller crop farms of the South, cropland is at least as important in the PCA and FSA counties as in the entire 27-county group. Furthermore, in both the first and fourth quartiles, the Emergency Crop and Feed Loan Division made most of its loans in counties that ranked high by cropland component acreage. Drought conditions accounted for many of these loans to farms in counties included in the first quartile, whereas in the fourth quartile ECFL financing represents more regular production loans to farmers who could not qualify for credit with other agencies. The separate breakdown by asset-deflation classes serves mainly to illustrate the tendency of these federally sponsored credit sources to lend to diverse kinds of agriculture.

In Table 33 (based on data from Tables 30 and 32) we may seek evidence of complementary relationships between banks

TABLE 32

ECONOMIC CHARACTERISTICS:

Nine Counties with Highest Ratio of Non-Real-Estate Loans of a Specified Type of Lender to Total Non-Real-Estate Assets Compared with Quartile Groups of Counties Ranked by Asset Deflation

ECONOMIC CHARACTERISTICS AND LENDER GROUP	NINE COUNTIES WITH HIGHEST RATIOS OF NON-REAL-ESTATE LOANS OF SPECIFIED TYPE OF LENDER TO TOTAL NON-REAL-ESTATE ASSETS (AVG. FOR RESPECTIVE QUARTILE GROUP = 100)				
	Asset-Deflation Quartiles[a]				*Average of Quartiles*
	1st	*2nd*	*3rd*	*4th*	
Physical assets per farm					
Banks	119	97	141	122	120
PCA's	114	67	77	91	87
FSA	95	53	68	50	67
ECFL Division of FCA	104	80	71	77	83
Land in % of total physical assets					
Banks	112	112	128	100	113
PCA's	110	98	113	103	106
FSA	108	106	111	94	105
ECFL Division of FCA	107	112	116	103	109
Cropland in % of total acreage					
Banks	96	116	109	103	106
PCA's	61	85	87	111	86
FSA	66	88	80	100	84
ECFL Division of FCA	119	85	78	116	100
Sales of crops and livestock in % of total value of product					
Banks	107	111	121	105	111
PCA's	120	99	118	113	112
FSA	111	102	100	92	101
ECFL Division of FCA	111	106	111	106	108
Sales of dairy products in % of total value of product					
Banks	66	48	65	77	64
PCA's	50	62	49	26	47
FSA	58	55	65	100	70
ECFL Division of FCA	66	62	43	38	52

[a] The 108 counties were arrayed by degree of asset deflation in the 1930's, from greatest to least, and divided into quartiles. For each quartile the nine counties with the highest ratios of non-real-estate loans of specified lender groups to total non-real-estate assets are compared with the average for the quartile group as a whole in this respect.

TABLE 33

ECONOMIC CHARACTERISTICS:

Nine Counties with the Highest Specified Credit Ratios Compared with Quartile Groups of Counties Ranked by Asset Deflation

FINANCIAL RATIO AND ECONOMIC CHARACTERISTICS	NINE COUNTIES WITH HIGHEST SPECIFIED CREDIT RATIOS (AVG. FOR RESPECTIVE QUARTILE GROUP = 100)				
	Asset-Deflation Quartiles[a]				*Average of Quartiles*
	1st	*2nd*	*3rd*	*4th*	
Mtg. loans of ins. and mtg. inv. cos./total farm real estate assets					
Physical assets per farm	124	120	117	144	126
Land in % of total physical assets	107	114	121	112	113
Cropland in % of total acreage	115	130	120	146	128
Sales of crops and livestock in % of total value of product, 1939	104	107	126	120	114
Sales of dairy products in % of total value of product, 1939	78	67	50	42	59
Non-real-estate loans of banks/total non-real-estate farm assets					
Physical assets per farm	119	97	141	122	120
Land in % of total physical assets	112	112	128	100	113
Cropland in % of total acreage	96	116	109	103	106
Sales of crops and livestock in % of total value of product, 1939	107	111	121	105	111
Sales of dairy products in % of total value of product, 1939	66	48	65	77	64
Mtg. loans of banks/total real estate farm assets					
Physical assets per farm	112	99	107	47	92
Land in % of total physical assets	93	84	73	88	85
Cropland in % of total acreage	115	123	91	71	100
Sales of crops and livestock in % of total value of product, 1939	89	84	81	87	85
Sales of dairy products in % of total value of product, 1939	157	160	157	82	139

[a] The 108 counties were arrayed by degree of asset deflation in the 1930's, from greatest to least, and divided into quartiles. For each quartile the nine counties that were highest with respect to specified credit ratios are compared with the average for the quartile group as a whole in this respect.

as sources of non-real-estate funds and insurance companies as sources of real estate funds. Here it is possible also to compare the kinds of agriculture in which banks' non-real-estate loans run highest in relation to non-real-estate assets with the kinds in which their real estate loans run highest in relation to real estate assets. High mortgage loan ratios of insurance companies and high non-real-estate loan ratios of banks are found to coexist in counties characterized by low sales of dairy products and high crop and livestock production, as well as by a high land component of total assets. But the parallels are less clear in comparisons based on asset size of farm and cropland component of acreage.

The contrasts between counties in which the non-real-estate loans of banks run high and those in which their real estate loans run high are fairly sharp. It is possible that the difference is due in part to the nature of the security required for loans rather than to the kinds of agriculture banks finance. For example, in agriculture with a strong representation of landlord investment and insurance company loans, real estate is less frequently available as security for intermediate-term loans. On the other hand, where the operator owns the real estate assets as well as the non-real-estate assets, banks may make loans more frequently for production purposes with the real estate as supplemental security.