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An analysis of Production Credit Association borrowers in Middle Tennessee

Clark David Garland

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To the Graduate Council:

I am submitting herewith a thesis written by Clark David Garland entitled "An analysis of Production Credit Association borrowers in Middle Tennessee." I have examined the final electronic copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Agricultural Economics.

Luther H. Keller, Major Professor

We have read this thesis and recommend its acceptance:

Larry Boone, Joe A. Martin

Accepted for the Council:

Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

March 2, 1967

To the Graduate Council:

I am submitting herewith a thesis written by Clark David Garland entitled "An Analysis of Production Credit Association Borrowers in Middle Tennessee." I recommend that it be accepted for nine quarter hours of credit in partial fulfillment of the requirements for the degree of Master of Science, with a major in Agricultural Economics.

Luther H. Keller
Major Professor

We have read this thesis and
recommend its acceptance:

Larry M. Boone

Joe A. Martin

Accepted for the Council:

Hilton A. Smith
Vice President for
Graduate Studies and Research

AN ANALYSIS OF PRODUCTION CREDIT ASSOCIATION
BORROWERS IN MIDDLE TENNESSEE

A Thesis
Presented to
the Graduate Council
The University of Tennessee

In Partial Fulfillment
of the Requirements for the Degree
Master of Science

by
Clark David Garland

March 1967

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CHAPTER I

NATURE OF THE STUDY

I. INTRODUCTION

Agriculture in the United States has made tremendous achievements in the midst of a technological revolution, but capital is required to make these advances. Capital may be acquired from sources other than credit, but often the marginal additions of capital in the form of credit account for the crucial difference in the proper combination of productive assets. Total assets employed in agriculture increased from \$131.6 billion in 1950 to \$255 billion on January 1, 1966. However, since total liabilities increased from \$12.4 billion to \$41.6 billion, the equity percentage decreased from 90.6 percent in 1950 to 83.7 percent in 1966.¹ During 1964 total indebtedness increased from \$33 billion to \$36 billion and farm assets increased from \$228.9 billion to \$237.6 billion.² Total farm indebtedness has been increasing more rapidly than total assets and the projections for 1967 indicate a continuation of this trend (Figure 1).

¹Economic Research Service, United States Department of Agriculture, The Balance Sheet of Agriculture 1964, Bulletin No. 290 (Washington: Government Printing Office, October, 1964), p. 1; and Economic Research Service, United States Department of Agriculture, 1967 Agricultural Finance Outlook, Bulletin No. AFO-6 (Washington: Government Printing Office, November, 1966), p. 5.

²Farm Credit Administration, 32d Annual Report, Farm Credit Administration, 1964-65 (Washington: Government Printing Office, 1965), p. 10.

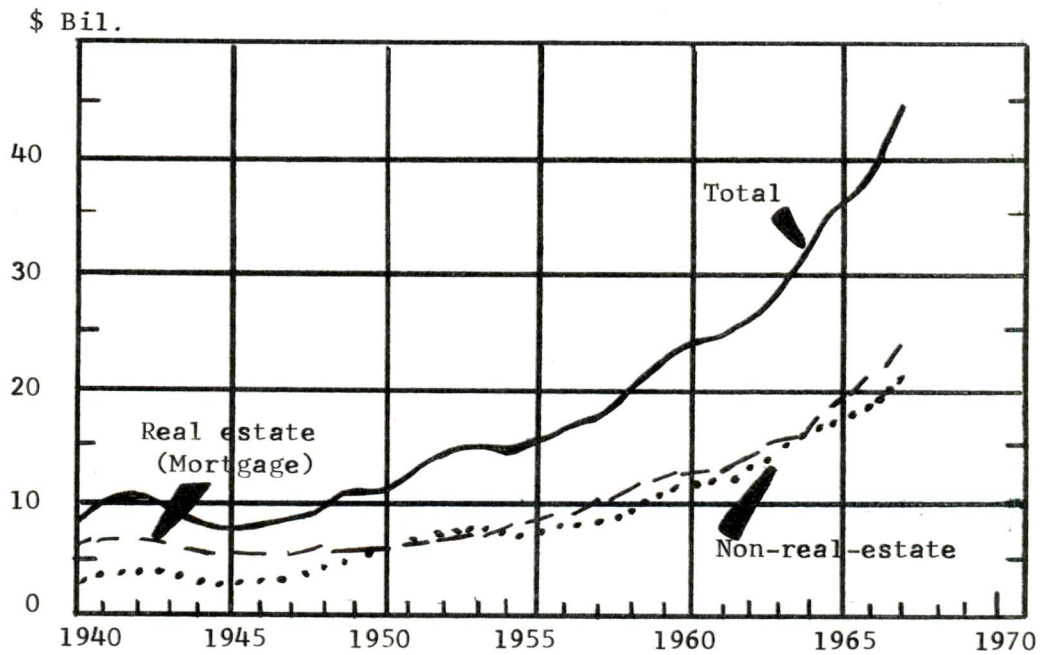


Figure 1. Farm debt in the United States from 1940-1967.

Source: Economic Research Service, United States Department of Agriculture, 1967 Agricultural Finance Outlook, Bulletin No. AFO-6 (Washington: Government Printing Office, November, 1966), p. 1.

Farm indebtedness in Tennessee follows the debt pattern for the nation. From 1965 to 1966 an increase of approximately 10 percent occurred in both farm mortgage recordings and non-real-estate farm loans in Tennessee.³

Production Credit Associations provide a considerable share of the agricultural credit necessary to make the capital additions and adjustments in agricultural production. As of January 1, 1966 Production Credit Associations had outstanding \$2.6 billion of non-real-estate loans in the United States while commercial banks reported about \$7.7 billion of this type of credit. In Tennessee Production Credit Associations reported \$98.6 million of outstanding credit for non-real-estate loans as compared to \$89.8 million of such loans by commercial banks.⁴

Production Credit plays a prominent role in financing Tennessee agriculture, especially for the short and intermediate term operating and working asset expenditures. A study of loans made by this farmer-owned credit cooperative should indicate the nature of credit utilization for farmers in Middle Tennessee.

II. THE PROBLEM

Production Credit Association loans are examined and classified by notations of "AB," "C," "VC," and "D" performance groups.⁵ To

³1967 Agricultural Finance Outlook, op. cit., p. 16.

⁴Agricultural Committee, American Bankers Association, Agricultural Credit and Related Data 1966 (New York: Agricultural Committee, American Bankers Association, 1966), pp. 26-27.

⁵PCA loans are classified by the Federal Intermediate Credit Bank examiners. The factors considered in classifying a loan are presented in Appendix A.

facilitate terminology simplicity throughout the remainder of this study the performance groups will be referred to as AB, C, VC, and D loan groups. An AB classification denotes loans ranging from those of the highest quality to those having no more than moderate credit weaknesses but requiring no special supervision for orderly liquidation. The C classification denotes loans having major credit weaknesses which ordinarily require special supervision and careful handling but believed to be collectible in full.⁶ "Special attention" sheets are prepared on most of these loans pointing out the existing credit weaknesses and the examiners' recommendations.⁷ A detailed description of the four loan classes is presented in Appendix B.

C loans do not necessarily indicate poor credit policies and mismanagement. Credit plays a vital role in obtaining adequate capital for efficient and profitable agricultural production. To meet the broad range of credit needs of farmers, C loans are made but an excess of C loans could seriously weaken the associations' financial strength through losses and higher operating expenses.⁸ The problem is to consider the characteristics of C borrowers in an attempt to detect definite characteristics and/or patterns common to C borrowers. This information could

⁶Federal Intermediate Credit Bank of Louisville, "Thirty-Second Annual Report" (Louisville: Federal Intermediate Credit Bank of Louisville, 1965), p. 18.

⁷Ibid., p. 19.

⁸Risk Problems of Production Credit Associations, Bulletin CR-5 (Washington: Farm Credit Administration, 1952), p. 24.

prove helpful to all lenders in considering loan applications for the welfare of the borrower, the community, and lending institutions.

III. OBJECTIVES

The objectives of this study were:

1. To compare the farm and borrower characteristics for AB and C loan groups. Farm characteristics to be considered included type of enterprises and size of operation. Characteristics of the borrower to be considered included an analysis of age, tenure status, type of operator, participation in credit life insurance program, number of children, years farming, and the number of years residing on the present farm.

2. To compare factors which influence risk-bearing ability of AB borrowers and C borrowers, such as: loan purpose, amount of loan, type of security, amount of security, financial condition, and other sources of credit.

3. To examine the C borrowers over a period of time with emphasis on the capital growth and changing risk status of this group of loans.

In essence the first two objectives were concerned with patterns and/or characteristics common to C borrowers as compared to AB borrowers. Objective three was concerned only with C borrowers with no comparison to AB borrowers. No comparison was made due to the assumption that AB borrowers are "typical," i.e., make capital progress; whereas a "grey" area exists concerning the progress and/or what happens to C borrowers.

Authorities within the field indicate a lack of agreement concerning the role of C loans in farm lending.

IV. METHODOLOGY

Data for objective one and two were selected from the four Production Credit Association central offices serving all Middle Tennessee counties. Individual borrowers were selected from the listing sheets of the 1965 Credit Examination with 33.3 percent of the C loans and 5.9 percent of the AB loans chosen at random in each association to constitute the sample (Table I).

For each association the sampling procedure consisted of selecting a starting point from a random digit table. Thereafter every third C loan and every seventeenth AB loan were included in the sample. For each borrower a photographic reproduction was made of the following records: (1) loan application, (2) additional advances,⁹ and (3) field report. The outstanding balance was copied from the credit examination listing sheets.

The sample of loans for the analysis of objective three was obtained from one of the Middle Tennessee associations. The 1963 C loans of the Cookeville PCA which met certain qualifications constituted the population. Eligibility of a borrower to be selected depended on the following factors:

⁹The additional advance form is used for credit advanced after the loan application but before loan maturity.

TABLE I

DISTRIBUTION OF AB AND C LOAN PCA BORROWERS AND STUDY SAMPLE IN
MIDDLE TENNESSEE, 1965

| PCA Associations | Total Number of Borrowers | | Number Borrowers in Sample | |
|---------------------|---------------------------|---------|----------------------------|---------|
| | AB Loans | C Loans | AB Loans | C Loans |
| Cookeville | 1909 | 253 | 112 | 84 |
| Springfield | 1675 | 171 | 99 | 57 |
| Columbia | 380 | 54 | 22 | 18 |
| Murfreesboro | 706 | 58 | 42 | 19 |
| Totals | 4670 | 536 | 275 | 178 |

Source: Federal Intermediate Credit Bank of Louisville, "Thirty-Second Annual Report," (Louisville: Federal Intermediate Credit Bank of Louisville, 1965), schedule no. 7.

1. Loan must have been designated a C loan for the 1963 credit examination but no restraint was placed on classification thereafter.

2. Borrower was required to have annual loans for 1963 through 1965 credit examinations.

A total of 223 borrowers met these criteria and of this number 55 members or 24.7 percent were chosen at random. A starting point was selected with the aid of a random digit table and every fourth eligible loan was chosen. A similar procedure of photographic reproduction of records was followed for objective three as for objective one and two. All loan applications, additional advances, and field reports were reproduced for the three-year period. Outstanding balance and loan classification were taken from the appropriate Credit Examination.

V. EVALUATION AND EXPLANATION OF DATA LIMITATIONS AND ANALYSIS

Incomplete records appeared on a portion of the originally selected borrowers, but provisions were made for lost or incomplete records on these members. When records were not available for a borrower, the next appropriate borrower was selected. However when possible, the procedure followed to obtain adequate records was to update previous records, i.e., age and number of years farming experience.

Establishing the time period covered by the study was complicated by the various dates of the credit examination. Examination dates for

the Cookeville, Springfield, Columbia, and Murfreesboro Associations were September 12, September 23, May 19, and January 26, 1965, respectively. Considered only by months, 79.2 percent of the C loans were examined in September, 10.0 percent in May, and 10.8 percent in January. Percentages for AB loans by the month of credit examination were 76.7 percent for September, 8.0 percent in May, and 15.3 percent for January, 1965.

Loan examination dates indicate only when the loan classification was made but do not pinpoint the date of the "financial snapshot" for the borrower. However, the largest proportion of the applications were taken in 1964. Consequently, loan classification was designated in 1965 with the "financial snapshots" usually taken in 1964.

Caution should be exercised in examining the number of credit sources and the amount of credit from other sources. Due to purpose mixture and the activity of the borrower after the application date, no adequate adjustment according to refinancing purpose could be made concerning the amount and frequency of other credit sources.

Throughout the study the chi-square test was used to test for the independence of the variable factors considered.¹⁰ It involved a comparison of the computed frequencies with the observed frequencies to determine if the discrepancy is or is not greater than might be expected

¹⁰ Chi-square is computed from the general formula $\chi^2 \sum = \frac{(f-fc)^2}{fc}$ where f is the observed frequency and fc the computed frequency.

to occur by chance.¹¹ If the chi-square value is greater than the table value for a given probability level, indications are that the variables are associated.

¹¹Frederich E. Croxton and Dudley J. Cowden, Practical Business Statistics (New York: Prentice-Hall, Inc., 1948), pp. 346-347.

CHAPTER II

DESCRIPTION OF THE STUDY AREA

The four Production Credit Associations under consideration in this study are located entirely within the geographic division known as Middle Tennessee. These 41 counties occupy all of the Southern and Eastern Highland Rim, Central Basin, and two counties located on the Southern portion of the Cumberland Plateau (Figure 2). Middle Tennessee is bounded by Kentucky on the north and Alabama on the south.

Middle Tennessee is diversified in many respects. Distribution of the population ranges from predominantly rural areas to metropolitan centers. Likewise counties vary from predominantly farming areas to industrial centers. Soil, climate, topography, and land use characteristics are highly diversified among regions and areas within the region.

I. HUMAN RESOURCES

The total population for Middle Tennessee was 1,125,175 or approximately 31.5 percent of the State's population. For Middle Tennessee the 1960 Census of Population classified 31.5 percent of the population as rural-nonfarm and 19.6 percent rural farm as compared to 31.3 percent and 16.4 percent, respectively, for Tennessee.¹

¹United States Bureau of Census, United States Census of the Population: 1960, Population, Vol. I, Part 44 (Washington: Government Printing Office, 1961), pp. 206-213, 255-262.

II. CLIMATE

The growing season for the study area ranges from 180 to 200 days in length with an approximate average annual temperature of 60 degrees Fahrenheit, ranging from 38-40 in January to 74-78 in July. Average annual precipitation ranges from 50 inches in the western portion of Middle Tennessee to 56 inches in the eastern section.²

III. SOIL DESCRIPTION

Soils in the study area lie in parts of ten major soil associations. These are the Cumberland-Waynesboro-Decatur, Muskigum-Hartsells, Hartsells-Muskigum, Sango-Bodine, Baxter-Dellrose-Mimosa, Maury-Mimosa-Stony Land, Talbott-Hagerstown-Stony Land, Dickson-Mountview-Bodine, Bewleyville-Baxter-Crider, Guin-Atwood-Savannah associations. Types of Farming in Tennessee contains a general description and location of each of these soil associations.³ These soils range from low to moderately high in productivity with topography varying from level to steep; thus, the variety in soil associations lends to differences in enterprise selection and credit utilization.

²Joe A. Martin and B. H. Luebke, Types of Farming in Tennessee, Bulletin 311 (Knoxville: The University of Tennessee Agricultural Experiment Station, March, 1960), pp. 20-21.

³Ibid., p. 16.

IV. LAND USE

Forty-three percent of the Tennessee land area lies within the bounds of Middle Tennessee. Of the 11,378,560 acres, 61.9 percent is in farm land. Middle Tennessee includes 40.6 percent of all Tennessee farms of which the average size is 128.2 acres per farm.⁴ The combination of climatic and soil characteristics lend to considerable diversification in the types of farming in the area.

According to the 1964 Preliminary Census of Agriculture, livestock and livestock products provided \$115,055,164 total sales accounting for more than 60 percent of the total sales of farm products in the study area.⁵ Principal types of livestock are beef, dairy, and poultry.

Crop production accounted for \$70,558,303 total sales for the farmers in the study area.⁶ Cotton is relatively important in the southern portion of the area while vegetable, tobacco, hay, and corn is prominent in the eastern section. In the Central Basin a variety of crops are produced but consisting chiefly of pasture, corn, hay, and tobacco.

⁴United States Bureau of Census, 1964 United States Census of Agriculture (Washington: Government Printing Office, June, 1966).

⁵Ibid.

⁶Ibid.

V. INDUSTRY

Industry was common to all regions of the study area but it was more concentrated in the vicinity of the greater population centers. In 1960 seven cities in Middle Tennessee had a population of 10,000 or greater with the largest concentration of people, 399,743, located in the Nashville metropolitan area.⁷

In 1963 Middle Tennessee had a total of 1,255 manufacturing firms with an average monthly employment of 102,768 accounting for \$421,410,000 in total annual wages.⁸ Prominent among the industrial types are apparel, food, chemical, machinery, lumber, and metal firms.

Throughout the counties and adjacent areas off farm employment is available for the farm operators and their families. Within commuting distance of some farm families are the large industrial centers of Huntsville, Alabama and Chattanooga, Tennessee which offer potential employment opportunities.

⁷United States Bureau of Census, United States Census of the Population: 1960, Population, Vol. I, Part 44 (Washington: Government Printing Office, 1961), pp. 11-12.

⁸Allen H. Keally, "Tennessee Manufacturing Structure, Employment, Wages 1960-63," Tennessee Survey of Business, Volume I, No. 1 (Knoxville: The Bureau of Business and Economic Research, September, 1965), pp. 2-6.

CHAPTER III

FARM AND BORROWER CHARACTERISTICS OF AB AND C LOAN GROUPS

I. INTRODUCTION

Numerous factors must be considered in the advancement of credit by the lender and the utilization of credit by the farmer. Among the factors that deserve consideration are type and size of operation, borrower's age, tenure status, type of operator, and various other factors. Many of these characteristics influence the type and amount of credit needed by the farmer, thus influencing the choice of lender and the feasibility of the loan. These factors and many more should be considered either directly or indirectly in the process of loan acquisition and use. An elaboration of selected characteristics should indicate the characteristics and/or patterns common to C borrowers as opposed to the AB borrowers.

II. FARM CHARACTERISTICS

Farm Type

The farm type was determined on the basis of gross sales from a particular product or group of products. The farms were classified into six different categories: livestock, dairy, poultry, tobacco, general, and other. To qualify for a particular farm type 50 percent or more of the farm sales must be derived from a particular product or

group of products. The classification of "general" includes those farmers that did not derive 50 percent of their sales from a particular product of group of products. The "other" classification includes producers of specialized enterprises such as cash grains and vegetables.

Livestock farming was the most prominent type of operation in the study area and for both AB and C borrowers. It constituted 40 percent of the farm types for the AB borrowers and 38 percent of the C borrowers. The general classification accounted for 26 percent of the AB borrower farms and 24 percent of the C borrowers. Slight variations in the percentage of farms by type appeared between the loan groups, but the order of relative rank remained consistent between the AB and C loan groups (Table II).

Acreage Characteristics

Farm acreage is only a rough indicator of the scale of operation conducted by the farmer due to variations in the quality of land and the amount of open land. Since reliable estimates of cropland and open land acreages were not available, total acreage was used as a measure of size.

A significant difference existed between the farm size distribution of all Middle Tennessee farmers and AB and C borrowers. Slightly more than 31 percent of all Middle Tennessee farms were less than 50 acres in size. Equal percentages of C borrowers were in the less than 50 and 50 to 99 acre ranges; whereas, a higher percentage of AB borrowers were in the 100 to 179 acre category (Table III). Fifty-seven percent of the

TABLE II

TYPE OF FARM OF 453 PCA BORROWERS BY LOAN GROUP,
MIDDLE TENNESSEE, 1965

| Type of Farm | Loan Group ^{a, b} | | | |
|--------------|----------------------------|---------------------|--------------------|---------------------|
| | AB | | C | |
| | Number of Farms | Percent of Farms | Number of Farms | Percent of Farms |
| Livestock | 110 | 40.0 | 67 | 37.7 |
| Dairy | 29 | 10.5 | 21 | 11.8 |
| Poultry | 4 | 1.5 | 9 | 5.0 |
| Tobacco | 35 | 12.7 | 22 | 12.4 |
| General | 72 | 26.2 | 42 | 23.6 |
| Other | 25 | 9.1 | 17 | 9.5 |
| Total | 275 | 100.0 | 178 | 100.0 |

^aThe chi square value for the relationship between the type of farm and AB and C loan groups was not significant at the .30 level.

^bCredit examination dates for the four associations ranged from January to September, 1965. The majority of the loan applications were taken in 1964, but the applications could have been taken before 1964 and up to September, 1965. For clarity throughout the remainder of this study the data was dated 1965, unless stated otherwise.

TABLE III

FARM SIZE DISTRIBUTION OF MIDDLE TENNESSEE FARMS AND FARMS OF 453
PCA BORROWERS BY LOAN GROUP, MIDDLE TENNESSEE, 1965

| Size of Farms (acres) | Middle Tennessee ^{a,b} | Loan Group ^a | |
|--------------------------|---------------------------------|-------------------------|--------------|
| | Farms Percent | AB Percent | C Percent |
| Less than 50 | 31.3 | 14.5 | 22.5 |
| 50 to 99 | 25.7 | 18.2 | 22.5 |
| 100 to 179 | 22.7 | 23.6 | 21.9 |
| 180 to 259 | 9.5 | 17.8 | 13.5 |
| 260 to 499 | 7.9 | 17.5 | 12.3 |
| 500 and over | 2.9 | 8.4 | 7.3 |

^aThe chi square value for the relationship between acreage distribution for Middle Tennessee farms and AB and C loan groups was significant at the .05 level.

^bSource: United States Bureau of Census, 1964 United States Census of Agriculture (Washington: Government Printing Office, June, 1966).

Middle Tennessee farms were 99 acres or less while 33 percent of the AB borrowers and 45 percent of the C borrowers were in this size range. Approximately 20 percent of all Middle Tennessee farmers operated farms in the range of 180 to 499 acres as compared to 35 percent and 26 percent for AB and C borrowers, respectively.

Farms for the sample of borrowers averaged larger than all farms in Middle Tennessee, as shown in Figure 3. The average size farm for AB borrowers was 267.3 acres as compared to 184.6 acres for the C borrowers; in contrast, all Middle Tennessee farms averaged 128.2 acres per farm.

The farm size comparison between AB and C borrowers was extended through cross classification of the borrowers by tenure and operator type. Full-time and part-time AB borrowers consistently operated larger acreage units, for all tenure classes combined, but variations occurred when the borrowers were classified by individual tenure types (Table IV).

All individual tenure classes of full-time AB borrowers operated a larger acreage than the full-time C borrowers. Full owner AB borrowers operated an acreage unit of 376.6 acres as compared to 195.6 acres for full-time, full owner C borrowers. For part-time farmers who were also full owners farm size averaged 210.8 acres per farm for the AB borrowers as compared to 167.1 acres for C borrowers. Contrary to the above pattern, part-time, part owner, and tenant C borrowers operated a larger acreage unit than the part-time, part owner, and tenant AB borrowers. Part-time, part owner AB borrowers averaged 187.5 acres as compared to

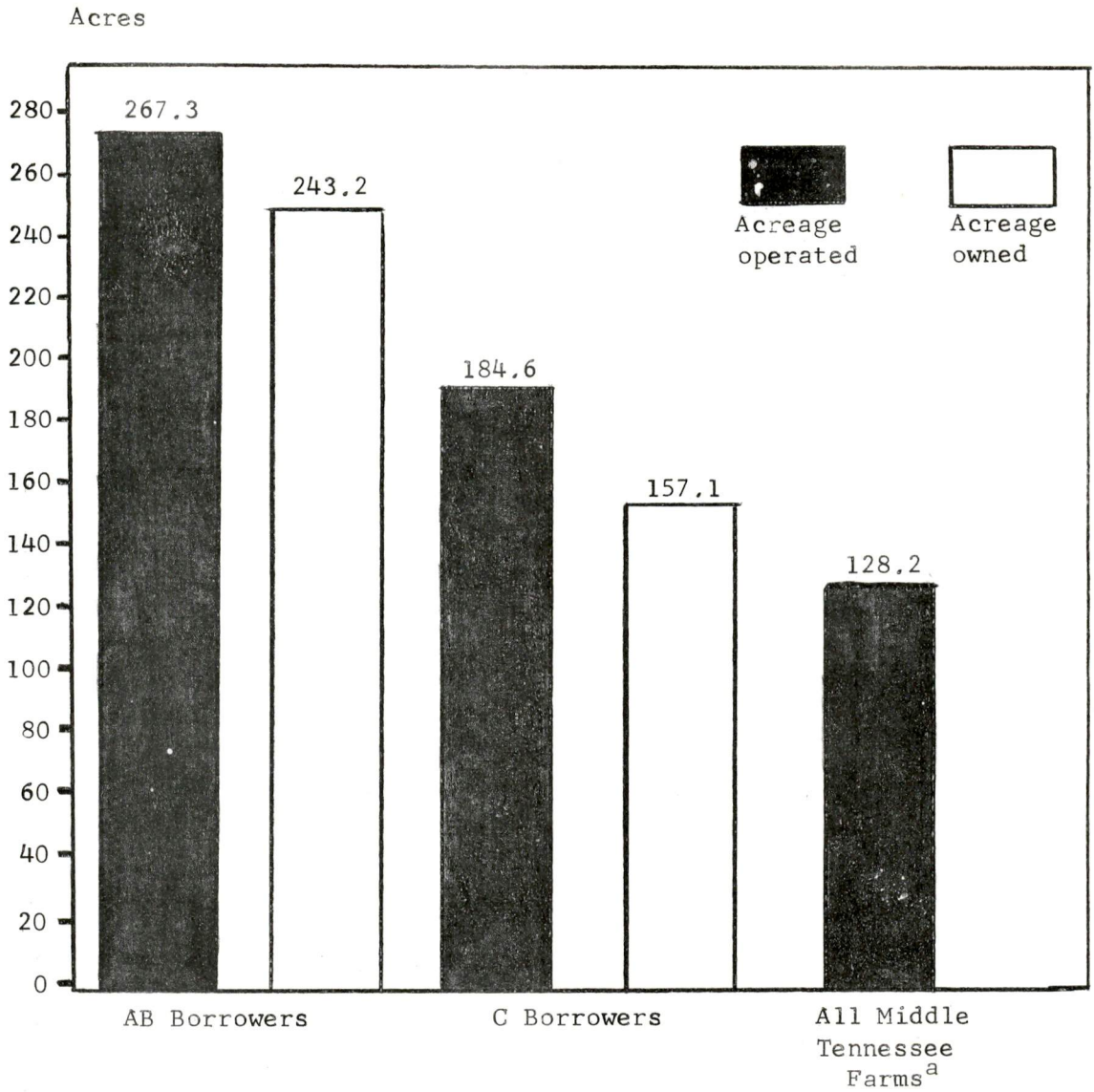


Figure 3. Average size of Middle Tennessee farms and farms of 453 PCA borrowers by loan group, Middle Tennessee, 1965.

^aSource: United States Bureau of Census, 1964 United States Census of Agriculture (Washington: Government Printing Office, June, 1966).

TABLE IV

AVERAGE ACREAGE OPERATED, OWNED, AND RENTED BY TYPE OF OPERATOR, TENURE CLASS, AND LOAN GROUP, 453 PCA BORROWERS, MIDDLE TENNESSEE, 1965

| Type of Operator and Tenure Classes | Average Acreage Operated | | Loan Group Average Acreage Owned | | Average Acreage Rented | |
|---|-----------------------------|-------|--|-------|---------------------------|-------|
| | AB | C | AB | C | AB | C |
| <u>Full-Time</u> | | | | | | |
| Full Owner | 376.6 | 195.6 | 376.6 | 195.6 | ----- | ----- |
| Part Owner | 347.8 | 317.4 | 184.9 | 148.9 | 162.9 | 168.5 |
| Tenant | 216.4 | 169.5 | ----- | ----- | 216.4 | 169.5 |
| All Tenure Classes | 361.0 | 208.7 | 323.0 | 158.7 | 38.0 | 50.0 |
| <u>Part-Time</u> | | | | | | |
| Full Owner | 210.8 | 167.1 | 210.8 | 167.1 | ----- | ----- |
| Part Owner | 187.5 | 201.0 | 80.5 | 127.7 | 107.0 | 73.3 |
| Tenant | 79.8 | 138.6 | ----- | ----- | 79.8 | 138.6 |
| All Tenure Classes | 204.8 | 168.6 | 189.9 | 156.0 | 14.9 | 12.6 |

201 acres for the C borrowers of the same classification. Part-time farmers who were also classified as tenants had farms averaging 79.8 acres as compared to 138.6 acres for the C borrowers of this classification.

In summary, ignoring type of tenure and operator classes AB borrowers rented 24.1 acres and owned 243.2 acres for a total operating unit of 267.3 acres; whereas, C borrowers rented 27.5 acres and owned 157.1 acres for 184.6 total average acreage. Average acreage for AB borrowers exceeded the C borrowers except in the part-time tenant and part-time part owner classification.

Economic Classification

Another indicator of farm size is the economic classification which is based on gross sales of farm products. Variations occurred in the economic classification distribution for Middle Tennessee farms and AB and C borrower's farms, but the difference was not as direct as the farm acreage distribution.

As shown by Table V the prominent class of Middle Tennessee farms as well as AB and C borrowers are in Economic Class VI. This means that 37 percent of all Middle Tennessee farms, 29 percent of the AB borrowers, and 33 percent of the C borrowers had farm sales of \$2,499 or less in 1965.¹

¹Class I farms consist of those selling \$40,000 and over of farm products per year; Class II from \$20,000 to \$39,999; Class III from \$10,000 to \$19,999; Class IV from \$5,000 to \$9,999; Class V from \$2,500 to \$4,999; and Class VI \$50 to \$2,499.

TABLE V

DISTRIBUTION OF MIDDLE TENNESSEE FARMS AND FARMS OF 453 PCA BORROWERS
BY ECONOMIC CLASS AND LOAN GROUP, 1965

| Economic Class | Middle Tennessee Farms ^{a,b} | | Loan Group ^a | | | |
|----------------|---------------------------------------|---------|-------------------------|---------|-------------|---------|
| | Number | Percent | AB Number | Percent | C Number | Percent |
| I | 303 | 1.0 | 7 | 2.5 | 4 | 2.2 |
| II | 864 | 2.9 | 11 | 4.0 | 8 | 4.5 |
| III | 2364 | 8.0 | 37 | 13.5 | 12 | 6.7 |
| IV | 5556 | 18.7 | 72 | 26.2 | 40 | 22.5 |
| V | 9469 | 32.0 | 69 | 25.1 | 56 | 31.5 |
| VI | 11094 | 37.4 | 79 | 28.7 | 58 | 32.6 |

^aThe chi square value for the relationship between the economic classification for Middle Tennessee farms and AB and C loan groups was not significant at the .05 level.

^bSource: United States Bureau of Census, 1964 United States Census of Agriculture (Washington: Government Printing Office, June, 1966).

About 54 percent of the AB borrowers reported sales of less than \$5,000 as compared to 64 percent of the C borrowers and 69 percent of all Middle Tennessee farmers. In contrast, about 20 percent of the AB borrowers reported sales of \$10,000 and above as compared to 13 percent for C borrowers and 12 percent for all Middle Tennessee farmers.

III. BORROWER CHARACTERISTICS

Age of Borrowers

The average age of AB borrowers was 45.6 years as compared to 42.2 years for C borrowers and 52.9 years for Middle Tennessee farmers.² A significant difference existed in the age distribution of the AB and C borrowers. As shown by Figure 4, approximately 33 percent of the AB borrowers were in the 45 to 54 year range while nearly 34 percent of the C borrowers were in the 35 to 44 age range. Approximately 46 percent of the AB borrowers were under 44 years of age as compared to approximately 61 percent of the C borrowers.

Type of Tenure

Full owners constituted the major tenure type among the Middle Tennessee farmers and both loan groups.³ Over 70 percent of the Middle

²United States Bureau of Census, 1964 United States Census of Agriculture (Washington: Government Printing Office, June, 1966).

³Farm operators were classified into three tenure types. Full owners are those who operated only the land they owned; part owners are those who operated both land they owned and land they rented from others; and tenants are those who rented from others, or worked on shares for others, all of the land they operated.

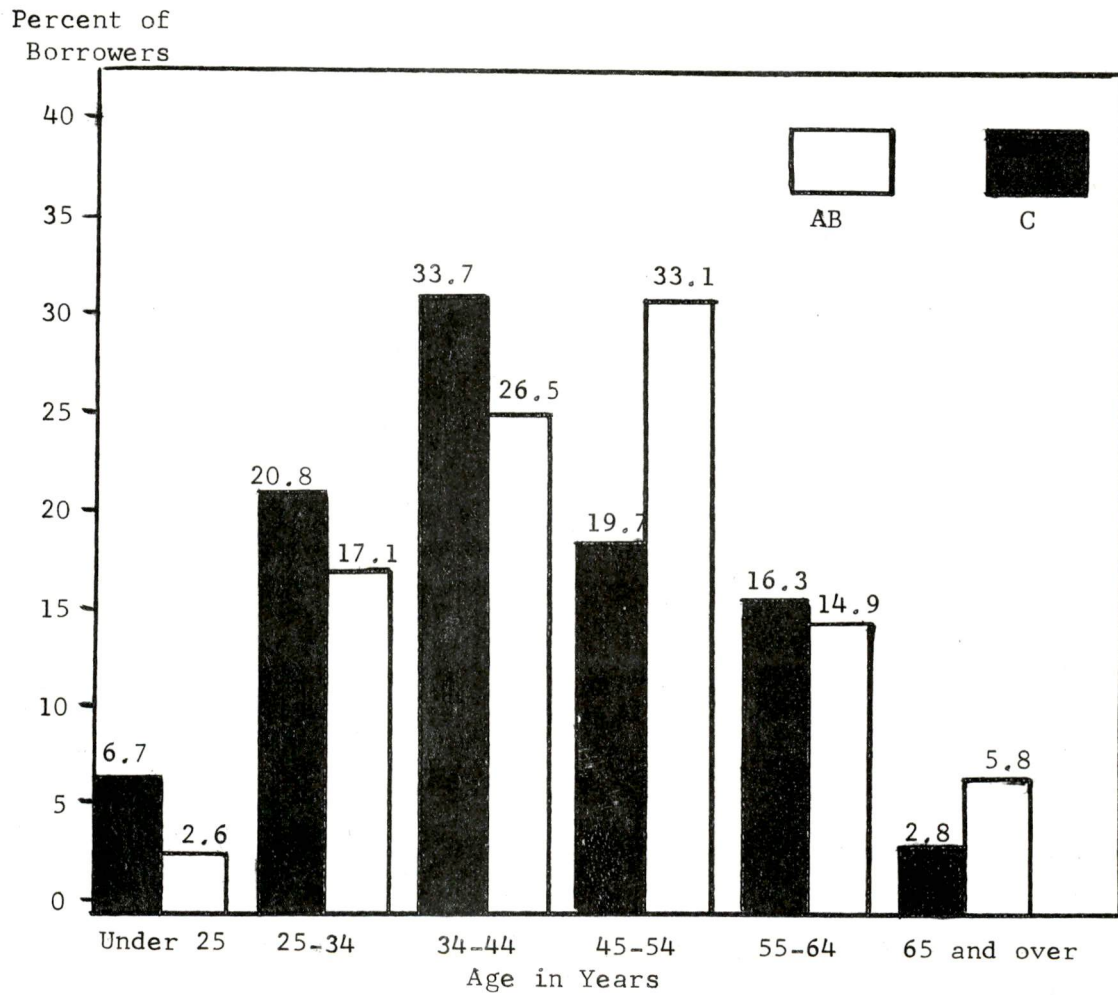


Figure 4. Percent of 453 PCA borrowers in specified age ranges by loan group, Middle Tennessee, 1965.^a

^aThe chi square value for the relationship between the age of AB and C borrowers was significant at the .05 level.

Tennessee farmers, 83 percent of the AB borrowers, and 80 percent of the C borrowers were full owners (Table VI). The tenant classification accounted for 9 percent of the C borrowers as compared to 4 percent for AB borrowers and 11 percent of the Middle Tennessee farmers.

Even though a larger number of the AB borrowers were represented in the full owner and part owner category, no significant difference existed between the AB and C borrowers' tenure type.

Type of Operator

In considering the type of operator, the major emphasis was placed on the possible influence of off-farm income on loan classification. A study conducted in Tennessee by J. Thomas Romans concluded that the percent of farmers' incomes received from off-farm sources had little association with the amounts which farmers borrowed or with their attitudes, deliberation, or knowledge about credit.⁴

Consistent with Romans' conclusions, no association was found between whether the operator was full-time or part-time and AB and C loan classification. Part-time farmers were the principal PCA borrowers among the AB and C loan groups. About 60 percent of the AB and C borrowers were part-time farmers and approximately 40 percent of them were full-time farmers (Table VII).

⁴J. Thomas Romans, "Knowledge and Attitudes of Tennessee Farmers Concerning Credit Practices and Some Effects on Credit Management and Credit Cost" (unpublished Master's Thesis, The University of Tennessee, Knoxville, 1957), p. 150.

TABLE VI
 PERCENTAGE OF MIDDLE TENNESSEE FARMERS AND 453 PCA BORROWERS BY TYPE
 OF TENURE AND LOAN GROUP, 1965.

| Type of Tenure | Middle Tennessee ^{a,b} | Loan Group ^a | |
|----------------|---------------------------------|-------------------------|--------------|
| | Farmers Percent | AB Percent | C Percent |
| Full Owner | 70.4 | 82.9 | 80.3 |
| Part Owner | 18.2 | 12.7 | 10.7 |
| Tenant | 11.4 | 4.4 | 9.0 |

^aThe chi square value for the relationship between the tenure type of Middle Tennessee farmers and AB and C borrowers was not significant at the .05 level.

^bSource: United States Bureau of Census, 1964 United States Census of Agriculture (Washington: Government Printing Office, June, 1966).

TABLE VII
 NUMBER AND PERCENT OF 453 PCA BORROWERS BY TYPE OF OPERATOR AND
 LOAN GROUP, MIDDLE TENNESSEE, 1965

| Type of Operator | Loan Group ^a | | | |
|------------------------|-------------------------|---------|--------|---------|
| | AB | | C | |
| | Number | Percent | Number | Percent |
| Full Time | 110 | 40.0 | 71 | 39.9 |
| Part Time ^b | 165 | 60.0 | 107 | 60.1 |

^aThe chi square value for the relationship between the type of operator and AB and C loan groups was not significant at the .05 level.

^bPart-time operator either works off the farm 100 or more days or the income he and the members of his household received from sources other than the farm operated was greater than the total value of farm products sold.

Number of Children

The average number of children among the AB and C borrowers was 1.70 and 1.78 children, respectively. Thirty-six percent of the AB borrowers had two to three children; whereas, for the C borrowers 30 percent had no children (Table VIII). Considering those with larger families, 12 percent of the AB borrowers had four children or over as compared to 20 percent of the C borrowers.

A significant difference occurred in the number of children among the loan groups, but the higher average number of children in the C borrower families may be explained by a larger proportion of the C borrowers in the younger age groups. The number of children was determined on the basis of dependent children and not the number reared.

Participation in PCA Credit Life Insurance Program

There was a significant difference in the rate of participation in the credit life insurance program as shown by 75 percent participation for AB borrowers and 87 percent by the C borrowers (Table IX). Credit life insurance is supposedly not a credit factor; therefore no adequate explanation was available for these results.

One possible explanation would be that younger borrowers, a characteristic of C borrowers, have a lower base rate for premium payment. Consequently, the average C borrower had to pay less for credit life insurance than the average AB borrower.

TABLE VIII
 NUMBER AND PERCENTAGE OF 453 PCA BORROWERS WITH A SPECIFIED
 NUMBER OF CHILDREN BY LOAN GROUP, MIDDLE
 TENNESSEE, 1965

| Number of Children | Loan Group ^a | | | |
|--------------------|-------------------------|---------|--------|---------|
| | AB | | C | |
| | Number | Percent | Number | Percent |
| 0 | 84 | 30.6 | 54 | 30.3 |
| 1 | 58 | 21.1 | 39 | 21.9 |
| 2-3 | 99 | 36.0 | 50 | 28.1 |
| 4-5 | 29 | 10.5 | 32 | 18.0 |
| 6 and over | 5 | 1.8 | 3 | 1.7 |

^aThe chi-square value for the relationship between the number of children and AB and C borrowers was significant at the .05 level.

TABLE IX

PARTICIPATION IN CREDIT LIFE INSURANCE PROGRAM BY LOAN GROUP,
453 PCA BORROWERS, MIDDLE TENNESSEE, 1965

| Participation..... | Loan Group ^a | | | |
|--------------------|-------------------------|---------|--------|---------|
| | AB | | C | |
| | Number | Percent | Number | Percent |
| Yes | 207 | 75.3 | 154 | 86.5 |
| No | 68 | 24.7 | 24 | 13.5 |

^aThe chi square value for the relationship between participation in the credit life insurance program and AB and C borrowers was significant at the .05 level.

Number of Years on the Present Farm

The importance attached to the number of years on the present operation may be justified on the basis of establishment cost for a farming operation and familiarity of the farmer with the capabilities of the farm.

Approximately 13 percent of the AB borrowers and 25 percent of the C borrowers had operated all or part of the present unit for four years or less (Table X). Forty-one percent of the C borrowers and 25 percent of the AB borrowers had operated the present farm for nine years or less. Approximately 42 percent of the AB borrowers and 28 percent of the C borrowers had resided on and/or operated all or part of the present unit for their life time.

AB borrowers, on the average, had operated the same or part of the same unit for a significantly longer period of time, but the difference in age undoubtedly was an influence on the number of years on their present farm.

Years of Farming Experience

According to Production Credit Association policy all members are engaged in farming and/or have farming experience at application time. As shown by Table XI, 96 percent of the AB borrowers and 92 percent of the C borrowers had 20 years or over farming experience.

No significant difference existed between AB and C borrowers, but 2 percent of the AB borrowers had 9 years or less farming experience as compared to 3 percent of the C borrowers.

TABLE X

NUMBER AND PERCENTAGE OF 453 PCA BORROWERS BY LOAN GROUP AND
THE NUMBER OF YEARS ON PRESENT FARM, MIDDLE TENNESSEE, 1965

| Years On Present Farm | Loan Group ^a | | C | |
|-----------------------|-------------------------|---------|--------|---------|
| | AB Number | Percent | Number | Percent |
| Less than 5 | 36 | 13.1 | 44 | 24.7 |
| 5-9 | 32 | 11.6 | 29 | 16.3 |
| 10-14 | 18 | 6.5 | 26 | 14.6 |
| 15-19 | 25 | 9.1 | 10 | 5.6 |
| 20-24 | 12 | 4.4 | 11 | 6.2 |
| 25-29 | 12 | 4.4 | 2 | 1.1 |
| 30 and over | 16 | 5.8 | 4 | 2.3 |
| Life | 116 | 42.2 | 49 | 27.5 |
| Unknown | 8 | 2.9 | 3 | 1.7 |

^aThe chi square value for the relationship between the number of years on the present farm and AB and C loan groups was significant at the .05 level.

TABLE XI
YEARS OF FARMING EXPERIENCE OF 453 PCA BORROWERS BY LOAN GROUP,
MIDDLE TENNESSEE, 1965

| Years Farming Experience | Loan Group ^a | | | |
|--------------------------|-------------------------|---------|--------|---------|
| | AB | | C | |
| | Number | Percent | Number | Percent |
| Less than 10 | 5 | 1.8 | 6 | 3.4 |
| 10-19 | 5 | 1.8 | 9 | 5.0 |
| 20 and over ^b | 263 | 95.6 | 163 | 91.6 |
| Unknown | 2 | .8 | --- | --- |

^aThe chi square value for the relationship between the number of years farming experience and AB and C borrowers was not significant at the .05 level.

^bThe classification of 20 years and over farming experience includes the borrowers who had farming experience for their life time.

CHAPTER IV

COMPARISON OF FACTORS WHICH INFLUENCE BORROWERS

RISK-BEARING ABILITY

I. INTRODUCTION

Risk-bearing ability denotes the ability to continue successfully in farming when unexpected low income and unpredictable losses and expenses occur. A combination of numerous factors interact to constitute the risk-bearing ability of an individual farmer. The factors considered in this study were loan purpose, amount of loan, type and amount of security, and financial condition. The importance attached to risk-bearing ability may be justified on the basis of the high degree of uncertainty which exists in the "real world". It is needed to compensate for errors in judgment regarding returns and repayment capacity in the use of credit. When a promising venture proves to be unprofitable, risk-bearing ability must shoulder the load; thus, it is often referred to as the "last line of defense."¹

II. LOAN PURPOSE

Production Credit Associations provide funds for any agricultural purpose, including the financing of operating expenses and capital requirements connected with crop and livestock production, living

¹William G. Murray and Aaron G. Nelson, Agricultural Finance (Ames, Iowa: Iowa State University Press, 1960), pp. 112-115.

expenses and family needs, and refinancing of debts.² As related to risk-bearing ability loans may be divided into self-liquidating and non-self-liquidating. Self-liquidating loans are those that are "used up" in the production process and can be repaid from gross income; whereas, non-self-liquidating loans must be paid from net income and do not depreciate out, i.e., real estate purchases.

Another aspect of loan purpose as related to risk-bearing ability is whether the loan is asset-creating or non-asset-creating. Examples of asset-creating loans are those disbursed for livestock, machinery and equipment, real estate, and improvements to land and buildings. Non-asset-creating loans include general operating expenses and debt refinancing purposes.³

Loan Purposes for Cash Advanced

Loan purpose was analyzed in terms of the number of advances, percent of total amount advanced, and the average amount advanced for designated purposes. Although there were some differences in the distribution of AB and C loans according to purpose these differences were not statistically significant at the .05 level. Approximately 16 percent of the AB borrowers stated operating expenses for the purpose as compared

²PCA Members and Their Loans, Bulletin CR-8 (Washington: Farm Credit Administration, 1957), p. 5.

³C. B. Baker and G. D. Irwin, Effects of Borrowing from Commercial Lenders on Farm Organization, Bulletin 671 (Urbana, Illinois: University of Illinois Agricultural Experiment Station, April, 1961), pp. 21-22.

to 22 percent of the C borrowers (Table XII). Debt refinancing was the most frequently stated loan purpose for both AB and C borrowers. AB borrowers stated refinancing indebtedness, livestock, machinery and equipment, and improvement of land and buildings as the purpose for most of their advances. C borrowers stated real estate purchases and operating expenses to a larger extent.

Greater differences between AB and C borrowers appeared in the dollar value of advances than in the number of advances for various loan purposes. AB borrowers obtained 11 percent of the cash advanced for real estate purchases as compared to 22 percent for C borrowers. Advances for real estate averaged \$6,456 for AB borrowers as compared to \$8,672 per C borrower. The majority of such advances were to buy small tracts of land and/or to supplement the purchase of larger acreages. Joint financing by Federal Land Bank and Production Credit was not uncommon.

Comparison of the average amount and percentage of amount borrowed for designated purposes illustrated the proportion of financing for asset-creating expenditures. The amount borrowed by AB borrowers was larger for the asset-creating purposes of livestock, machinery and equipment, and improvement to land and buildings. The amount advanced to C borrowers was more usually for non-asset-creating expenditures such as debt refinancing and operating expenses.

TABLE XII

DISTRIBUTION OF LOANS AND CASH ADVANCED BY LOAN PURPOSES AND LOAN GROUPS,
453 PCA BORROWERS, MIDDLE TENNESSEE, 1965

| Loan Purpose | Loan Group | | | | Average Amount of Loan | Percent of Amount Loaned | Percent of Loans | Average Amount of Loan | Percent of Amount Loaned | Percent of Loans | Average Amount of Loan |
|-----------------------------------|------------|------|---------|------|------------------------------|-----------------------------|---------------------|------------------------------|-----------------------------|---------------------|------------------------------|
| | AB | | C | | | | | | | | |
| Real Estate Purchase | 6.8 | 11.1 | \$6,456 | 9.4 | 21.7 | \$8,672 | | | | | |
| Refinance Indebtedness | 26.0 | 31.4 | 4,758 | 25.0 | 34.0 | 5,150 | | | | | |
| Purchase Livestock | 14.9 | 16.4 | 4,344 | 12.2 | 6.4 | 1,985 | | | | | |
| Machinery and Equipment | 17.2 | 15.6 | 3,561 | 15.5 | 12.5 | 3,050 | | | | | |
| Improvement Land and Buildings | 16.9 | 16.6 | 3,871 | 12.2 | 9.3 | 2,903 | | | | | |
| Operating Expenses | 15.9 | 8.0 | 1,995 | 22.3 | 14.7 | 2,487 | | | | | |
| Other | 2.3 | .9 | 1,616 | 3.4 | 1.4 | 1,526 | | | | | |

Renewal Loan Purpose

Considering loan renewals, the amount of the advance was indeterminate due to purpose mixture and loan repayment. The purpose for 21 percent of the renewals to AB borrowers were for machinery and equipment while about 12 percent of the renewals to C borrowers were for this purpose (Table XIII). For the C loan group 21 percent of the renewals were for real estate; whereas only 15 percent of the AB borrowers stated this purpose.

C borrowers stated real estate, operating expenses, and livestock purposes to a greater extent than the AB borrowers. Differences occurred in the number of renewals for various purposes, but the results were undoubtedly affected by the relatively high percentage of unknown renewal purposes for both AB and C borrowers.

III. OUTSTANDING BALANCE

Significant differences occurred in the distribution of outstanding balances for AB and C borrowers. The outstanding balance was taken from the 1965 Credit Examination listing sheets and was as of the cut-off date for the credit examination. Average outstanding balance for AB and C borrowers was \$7,221 and \$9,615, respectively. About 68 percent of the AB borrowers and 50 percent of the C borrowers had an outstanding balance of less than \$6,000 (Table XIV). Approximately 14 percent of the AB borrowers were indebted to PCA for \$12,000 and over as compared to 24 percent of the C borrowers.

TABLE XIII

DISTRIBUTION OF LOAN RENEWALS BY LOAN PURPOSE AND LOAN GROUP,
453 PCA BORROWERS, MIDDLE TENNESSEE, 1965

| Loan Purpose | Loan Group ^a | |
|--------------------------------|------------------------------|-----------------------------|
| | AB Percent of Renewals | C Percent of Renewals |
| Real Estate Purchase | 15.3 | 21.0 |
| Refinance Indebtedness | 12.2 | 8.2 |
| Purchase Livestock | 13.1 | 15.9 |
| Machinery and Equipment | 21.4 | 12.3 |
| Improvement Land and Buildings | 13.5 | 12.8 |
| Operating Expenses | 5.7 | 8.7 |
| Other | 2.6 | 2.6 |
| Unknown | 16.2 | 18.5 |

^aThe chi square value for the relationship between renewal purpose for AB and C borrowers was not significant at the .05 level.

TABLE XIV
 DISTRIBUTION OF AB AND C LOANS BY AMOUNT OF OUTSTANDING
 BALANCE, 453 PCA BORROWERS, MIDDLE TENNESSEE, 1965

| Outstanding Balance | Loan Group ^a | | | |
|---------------------|-------------------------|---------|--------|---------|
| | AB | | C | |
| | Number | Percent | Number | Percent |
| Less than \$6,000 | 187 | 68.0 | 89 | 50.0 |
| \$6,000-11,999 | 49 | 17.8 | 47 | 26.4 |
| \$12,000 and over | 39 | 14.2 | 39 | 23.6 |

^aThe chi square value for the relationship between the outstanding balance and AB and C loan groups was significant at the .05 level.

IV. SECURITY

Security is required on a number of loans to enable the lending institutions to remain a dependable source of credit at reasonable interest rates. Without security the lending institutions would be handicapped by excessive losses which would require termination of credit services or they would be forced to charge an extremely high interest rate.

A fairly common practice among lenders is to require security in terms of a fixed ratio or percentage of the amount loaned, but any fixed proportion will likely be too liberal during prosperous high price periods and too conservative during depressed low price periods. One alternative is for lenders to require less equity in low price periods and more in high price periods. This alternative benefits the borrower by allowing him to expand during depressed price periods and curtail his expansion during high price periods.⁴

Security is not a specific factor in the risk-bearing ability of the borrower, but it does facilitate the development of the ability to borrow. Nearly 32 percent of the AB loans and 26 percent of the cash advanced was secured by a chattel mortgage only (Table XV). For the C loan group about 32 percent of the loans and 30 percent of the cash advanced was secured by chattel plus first real estate mortgages.

⁴William G. Murray and Aaron G. Nelson, Agricultural Finance (Ames, Iowa: Iowa State University Press, 1960), pp. 253-254.

TABLE XV

DISTRIBUTION OF LOANS AND VALUE OF CASH ADVANCED BY TYPE OF SECURITY AND LOAN GROUP,
453 PCA BORROWERS, MIDDLE TENNESSEE, 1965

| Type of Security | Loan Group ^a | | | |
|--|-------------------------|-----------------------------|---------------------|-----------------------------|
| | AB | | C | |
| | Percent of Loans | Percent of Cash Advanced | Percent of Loans | Percent of Cash Advanced |
| Chattel Mortgage Only | 31.6 | 25.5 | 18.0 | 9.8 |
| Chattel Mortgage Plus First Real Estate | 12.4 | 13.8 | 31.5 | 29.8 |
| Chattel Mortgage Plus Junior Real Estate Mortgage | 10.6 | 23.8 | 25.8 | 39.2 |
| First Real Estate Mortgage Only | 23.6 | 21.8 | 16.3 | 15.7 |
| Junior Real Estate Mortgage Only | 1.8 | 1.6 | 5.6 | 3.7 |
| Unsecured | 18.9 | 13.2 | 1.7 | 1.4 |
| Other | 1.1 | .3 | 1.1 | .4 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 |

^aThe chi square value for the relationship between the number of types of security for AB and C loan groups was significant at .05 level.

Approximately 39 percent of the cash advanced to C borrowers was secured by chattel plus junior real estate mortgages.⁵

Chattel plus real estate mortgages accounted for 23 percent of the number of loans and 38 percent of the amount of cash advanced to AB borrowers as compared to 57 percent of the number and 69 percent of the amount of credit advanced to C borrowers. Approximately 19 percent of the number and 13 percent of the amount of cash advanced to AB borrowers was on an unsecured basis; whereas, for C borrowers only 2 percent of the number and 1 percent of the amount was disbursed with no security required. On the basis of average security per dollar advanced the AB loans were secured by \$1.53 per dollar advanced as compared to \$1.84 for C loans. C loans were secured to a greater extent, but these results were undoubtedly influenced by the higher percentage of unsecured loans among the AB borrowers.

Further elaboration on security entails an analysis of the distribution of the amount of security by security type. Of secured loans the most important type of security for both loan groups was a chattel mortgage plus a junior real estate mortgage which accounted for 33 percent of the total value of security for AB borrowers and 39 percent for the C borrowers (Table XVI). Chattel mortgages only comprised 20 percent of the amount of security for AB borrowers and 7 percent for C borrowers.

⁵Junior real estate mortgage was any real estate mortgage other than a first mortgage.

TABLE XVI

DISTRIBUTION OF THE TOTAL VALUE OF SECURITY BY TYPE OF SECURITY
AND LOAN GROUP, 453 PCA BORROWERS, MIDDLE TENNESSEE, 1965

| Type of Security | Loan Group | |
|--|------------------------------------|-----------------------------------|
| | AB Percent of Security Value | C Percent of Security Value |
| Chattel Mortgage Only | 19.6 | 6.8 |
| Chattel Mortgage plus First Real Estate Mortgage | 16.6 | 34.3 |
| Chattel Mortgage Plus Junior Real Estate Mortgage | 32.5 | 39.4 |
| First Real Estate Mortgage Only | 27.9 | 15.4 |
| Junior Real Estate Mortgage Only | 3.4 | 3.9 |
| Unsecured ^a | ---- | ---- |
| Other | ---- | .2 |

^aNo dollar amount of security given.

The maximum amount of security supposedly consisted of combined chattel and real estate mortgages. This security combination accounted for 49 percent of the total value of security for the AB loans as compared to 74 percent for the C loans. The distribution of security by loan group and security type indicated that the C loan group possessed certain credit weaknesses; thus, a greater amount of security was required on the C loan group.

V. FINANCIAL CONDITION

The financial condition of a farmer may be analyzed through various methods, but it must be borne in mind that all methods are a "financial snapshot" of the farmer's position on a certain date. The most common measurement is the financial statement, but normally other methods prove to be more meaningful.⁶ The financial condition of the borrower affects risk-bearing ability through the influence exerted upon repayment capacity, loan terms, and numerous other factors.

Distribution of Assets and Liabilities

To continue in the farming industry farmers must be capable of meeting their short and long run indebtedness. The distribution of assets and liabilities provides the means for an evaluation of the borrowers financial condition.

⁶Financial statement refers to an inventory of assets and liabilities.

As shown in Table XVII average total assets for AB borrowers were \$62,601 as compared to \$46,597 for C borrowers. In contrast, total liabilities for AB and C borrowers were \$13,664 and \$18,594, respectively. AB borrowers total assets averaged \$16,004 greater, and their total liabilities averaged \$4,930 less than the C borrowers.

Real estate indebtedness accounted for a relatively large proportion of the total liabilities. Real estate liabilities were based on all sources of credit and the classification was according to purpose. Normally this type of indebtedness is on an intermediate or long term basis, but yearly installments are required. No farm real estate debt was reported by 48 percent of the AB borrowers; whereas, only 29 percent of the C borrowers reported no liabilities on farm real estate (Table XVIII).

Asset and Liability Relationships

Current assets accounted for 34.4 percent of the AB borrowers total assets as compared to 39 percent for the C borrowers (Table XIX). Only slight differences occurred in the liability distribution among AB and C borrowers. Current liabilities comprised 43.2 percent of the indebtedness for AB borrowers and 46.8 percent of the indebtedness for C borrowers.

The ratio of current liabilities to current assets was considered to be a good measure of short run repayment prospects. AB borrowers maintained a more desirable position with a percentage of 27.4 compared to 47.9 for the C loan group. This percentage indicates that C borrowers

TABLE XVII

DISTRIBUTION OF ASSETS AND LIABILITIES BY LOAN GROUP, 453 PCA
BORROWERS, MIDDLE TENNESSEE, 1965

| Item | <u>Loan Group</u> | |
|---------------------|---------------------|--------------------|
| | <u>AB</u> Amount | <u>C</u> Amount |
| Assets: | | |
| Current | \$21,539 | \$18,187 |
| Nonfarm Real Estate | 9,138 | 4,172 |
| Farm Real Estate | 31,924 | 24,238 |
| Total Assets | 62,601 | 46,597 |
| Liabilities: | | |
| Current | 5,903 | 8,709 |
| Nonfarm Real Estate | 1,332 | 1,227 |
| Farm Real Estate | 6,429 | 8,658 |
| Total Liabilities | 13,664 | 18,594 |
| Net Worth | 48,937 | 28,003 |

TABLE XVIII

FARM REAL ESTATE INDEBTEDNESS BY LOAN GROUP, 453 PCA
BORROWERS, MIDDLE TENNESSEE, 1965

| Loan Group ^a | No Farm Real Estate Indebtedness | | Farm Real Estate Indebtedness | |
|-------------------------|-------------------------------------|---------|----------------------------------|---------|
| | Number | Percent | Number | Percent |
| AB | 131 | 47.6 | 144 | 52.4 |
| C | 52 | 29.2 | 126 | 70.8 |

^aThe chi square value for the relationship between real estate indebtedness and AB and C loan groups was significant at .05 level.

TABLE XIX

ASSET AND LIABILITY RELATIONSHIPS OF 453 PCA BORROWERS BY
LOAN GROUP, MIDDLE TENNESSEE, 1965

| Item | Loan Group | | | |
|--|------------|---------|----------|---------|
| | AB | | C | |
| | Dollars | Percent | Dollars | Percent |
| <u>Current Assets</u> | \$21,539 | 34.4 | \$18,187 | 39.0 |
| Total Assets | 62,601 | | 46,597 | |
| <u>Nonfarm Real Estate Assets</u> | 9,138 | 14.6 | 4,172 | 9.0 |
| Total Assets | 62,601 | | 46,597 | |
| <u>Farm Real Estate Assets</u> | 31,924 | 51.0 | 24,238 | 52.0 |
| Total Assets | 62,601 | | 46,597 | |
| <u>Current Liabilities</u> | 5,903 | | 8,709 | |
| Total Liabilities | 13,664 | 43.2 | 18,594 | 46.8 |
| <u>Nonfarm Real Estate Liabilities</u> | 1,332 | 9.7 | 1,227 | 6.6 |
| Total Liabilities | 13,664 | | 18,594 | |
| <u>Farm Real Estate Liabilities</u> | 6,429 | 47.1 | 8,658 | 46.6 |
| Total Liabilities | 13,664 | | 18,594 | |
| <u>Current Liabilities</u> | 5,903 | | 8,709 | |
| Current Assets | 21,539 | 27.4 | 18,187 | 47.9 |
| <u>Current Liabilities</u> | 5,903 | 9.4 | 8,709 | 18.7 |
| Total Assets | 62,601 | | 46,597 | |
| <u>Nonfarm Real Estate Liabilities</u> | 1,332 | 14.6 | 1,227 | 29.4 |
| Nonfarm Real Estate Assets | 9,138 | | 4,172 | |
| <u>Nonfarm Real Estate Liabilities</u> | 1,332 | 2.1 | 1,227 | 2.6 |
| Total Assets | 62,601 | | 46,597 | |
| <u>Farm Real Estate Liabilities</u> | 6,429 | 20.1 | 8,658 | 35.7 |
| Farm Real Estate Assets | 31,924 | | 24,238 | |
| <u>Farm Real Estate Liabilities</u> | 6,429 | 10.3 | 8,658 | 18.6 |
| Total Assets | 62,601 | | 46,597 | |
| <u>Net Worth</u> | 48,937 | 78.2 | 28,003 | 60.1 |
| Total Assets | 62,601 | | 46,597 | |

were indebted an additional 20.5¢ per dollar of current assets. The percentage of current liabilities to total assets was 9.4 percent and 18.7 percent for AB and C borrowers, respectively. This 9.3¢ difference may be interpreted as the less favorable long run position held by the C loan group.

The relationship of nonfarm real estate liabilities to nonfarm real estate assets for AB and C borrowers was 14.6 percent and 29.4 percent, respectively; therefore, the nonfarm real estate indebtedness for C borrowers was 14.8¢ greater per dollar of nonfarm real estate assets controlled.

Financial analysis of the farm real estate liabilities to farm real estate assets further implies the less favorable position held by the C borrowers. AB borrowers maintained a percentage of 20.1 compared to 35.7 percent for C borrowers indicating that C borrowers indebtedness for farm real estate was 15.6¢ greater per dollar of farm real estate assets held.

Comparison of the asset and liability relationships between AB and C loan groups indicated greater total assets, smaller liabilities, and a higher net worth held by the AB group. Consequently, AB borrowers maintained a more favorable equity percentage of 78.2 as contrasted to 60.1 for C borrowers, or a difference of 18.1¢ per dollar of assets held. The 18.1¢ may be accounted for by a difference of 9.3¢ in current liabilities, .5¢ in nonfarm real estate, and 8.3¢ for farm real estate liabilities.

Net Worth

Net worth, or owner equity, forms the "backbone" of risk-bearing ability. A particular expenditure may be profitable from an economic standpoint, but the farmer may not have sufficient risk-bearing ability to undertake this particular project. As owner equity decreases the tendency is for both the borrower's and lender's risk to increase.⁶

Apparent differences occurred in the net worth distribution of AB and C loan groups. Average net worths were \$48,937 and \$28,003 for AB and C borrowers, respectively.⁷ Thirty-seven percent of the AB borrowers and nearly 62 percent of the C borrowers had net worths of less than \$20,000 (Figure 5). The net worth range of \$20,000 to \$40,000 included about 16 percent of the C borrowers and 29 percent of the AB borrowers. Consistent with their lower average net worth, only about 4 percent of the C borrowers as compared to 12 percent of the AB borrowers were in the net worth range of \$100,000 and over.

Analysis of Credit Sources

Borrowers are justified in utilizing various sources of credit tailored to their farming and credit needs, but the "spread" of credit types by time and purpose may be distributed in a manner that handicaps the borrower in obtaining adequate credit and meeting repayment schedules.

⁶William G. Murray and Aaron G. Nelson, Agricultural Finance (Ames, Iowa: Iowa State University Press, 1960), p. 120.

⁷The average net worth for AB and C borrowers was highly influenced by extreme values. The largest net worth for an AB borrower was \$486,462 and 10 borrowers had a net worth of \$200,000 and over. Seven C borrowers had a net worth of \$100,000 and over. The highest net worth for a C borrower was \$197,813.

Percent of Borrowers

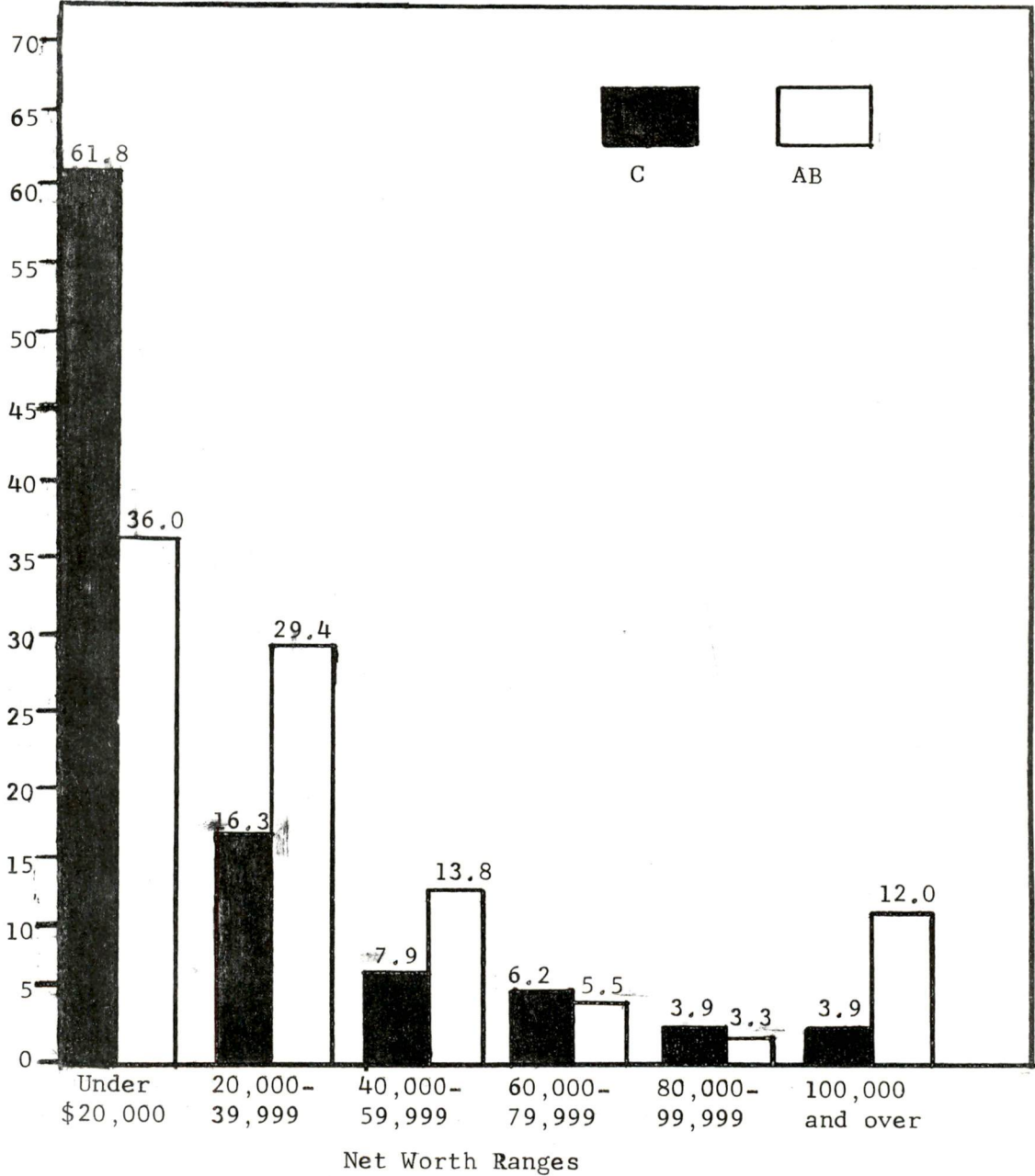


Figure 5. Percentage of borrowers having a specified range of net worth by loan group, 453 PCA borrowers, Middle Tennessee, 1965.^a

^aThe chi square value for the relationship between net worth and AB and C loan groups was significant at the .05 level.

A "split line" of credit normally has a stigma attached, but the borrower is often unjustly criticized. The importance attached by both the lender and borrower to the type and number of credit sources may be justified on the basis of its relationship to the risk-bearing ability of the borrower.

The analysis of credit sources was a measure of the number of credit avenues that the borrowers utilized, i.e., if the borrower borrowed from two separate banks, the frequency was two. This was an indicator of how often and to what degree a "split line" of credit was used.

About 33 per cent of the AB borrowers and 30 percent of the C borrowers utilized one source of credit other than PCA (Table XX). Only 2 percent of the AB borrowers utilized five or more credit sources as compared to 8 percent for C borrowers. About 19 percent of the AB borrowers and 30 percent of the C borrowers utilized three or more sources of credit other than PCA.

Most users of credit sources other than PCA, 42 percent of the AB borrowers and 50 percent of the C borrowers, borrowed from a commercial bank (Table XXI). The greatest difference in the use of other credit sources, 19 percent of the AB borrowers and 43 percent of the C borrowers, appeared in the use of merchant and dealer credit. C borrowers were the most frequent borrowers from all sources except private individuals, insurance companies, and the Farmers Home Administration.

The average indebtedness of AB and C borrowers to various sources of credit is shown in Figure 6. The PCA estimate was taken from the

TABLE XX

NUMBER OF CREDIT SOURCES OTHER THAN PCA FOR 453 PCA BORROWERS
BY LOAN GROUP, MIDDLE TENNESSEE, 1965

| Number of Sources | Loan Group | | | |
|----------------------|------------------------|-------------------------|------------------------|-------------------------|
| | AB | | C | |
| | Number of Borrowers | Percent of Borrowers | Number of Borrowers | Percent of Borrowers |
| 0 | 67 | 24.4 | 24 | 13.5 |
| 1 | 90 | 32.7 | 54 | 30.3 |
| 2 | 65 | 23.6 | 46 | 25.8 |
| 3 | 33 | 12.0 | 30 | 16.9 |
| 4 | 14 | 5.1 | 9 | 5.1 |
| 5 or more | 6 | 2.2 | 15 | 8.4 |

TABLE XXI

TYPE OF CREDIT SOURCES AT TIME OF 1965 EXAMINATION APPLICATION FOR PCA BORROWERS
WHO PARTICIPATED IN OTHER SOURCES OF CREDIT, MIDDLE TENNESSEE

| Source of Credit ^b | Loan Group ^a | | | |
|-------------------------------|-------------------------|-------------------------|-------------------------|-------|
| | AB | C | | |
| | Number of Borrowers | Percent of Borrowers | Number of Borrowers | |
| | | | Percent of Borrowers | |
| Commercial Bank | 114 | 41.5 | 89 | 50.0 |
| Federal Land Bank | 47 | 17.1 | 38 | 21.3 |
| Farmers Home Administration | 28 | 10.2 | 12 | 6.7 |
| Private Individual | 65 | 23.6 | 28 | 15.7 |
| Insurance Company | 15 | 5.5 | 4 | 2.2 |
| Merchants and Dealers | 53 | 19.3 | 77 | 43.3 |
| Other Financial institutions | 44 | 16.0 | 37 | 20.8 |
| Total | 366 | 133.2 | 285 | 160.0 |

^aThe chi square value for the relationship between the type of credit sources and AB and C loan groups was significant at .05 level.

^bTotal percentage exceeded 100 due to several borrowers having more than one source of credit.

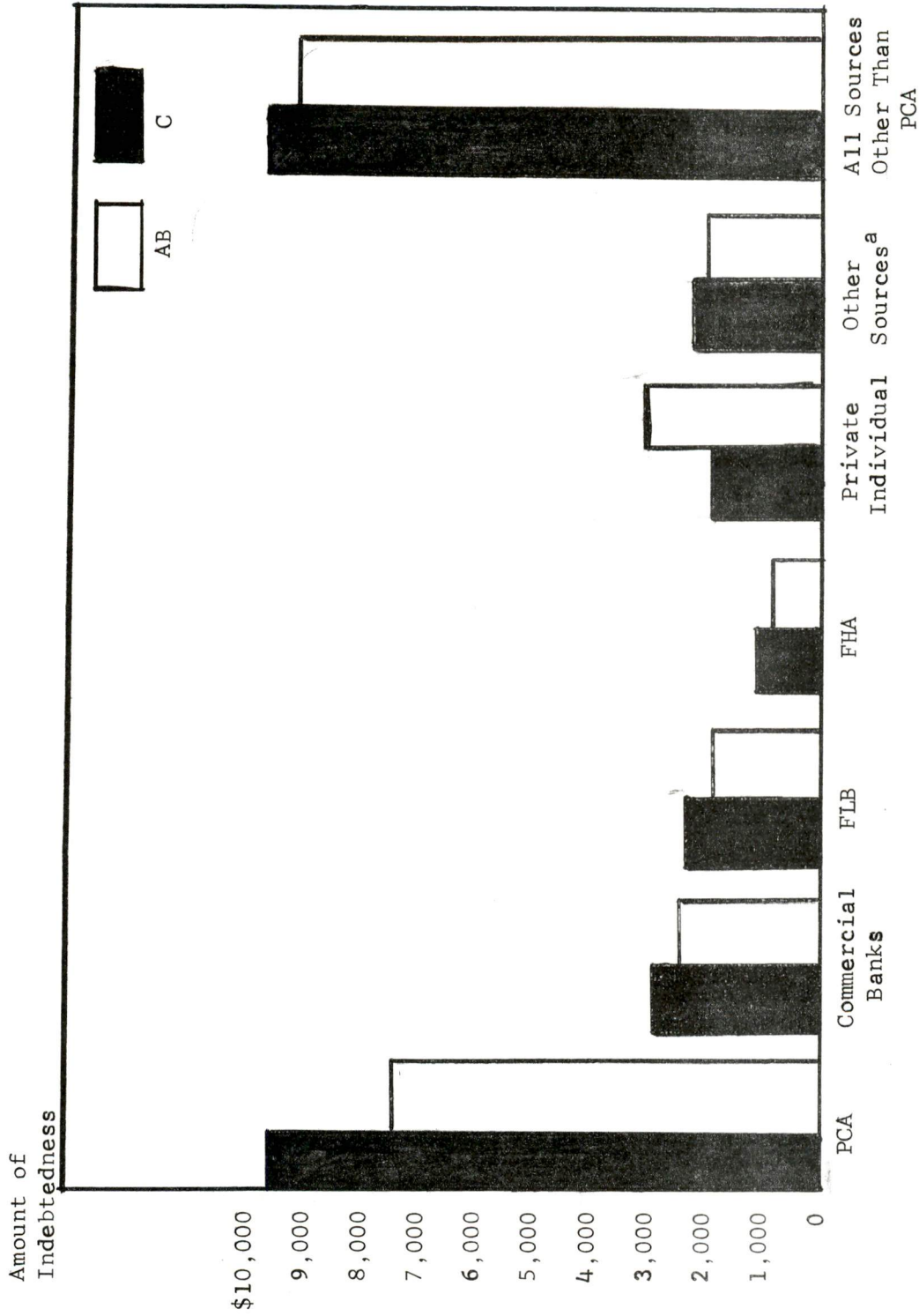


Figure 6. Average indebtedness of 453 PCA borrowers by sources of credit, Middle Tennessee, 1965.

^aOther sources included merchants and dealers, insurance companies, and miscellaneous loan companies.

1965 Credit Examination listing sheets, and the indebtedness to other sources was taken from the 1965 Credit Examination application. Average indebtedness to all sources other than PCA was \$8,663 for AB borrowers and \$9,322 for C borrowers. C borrowers reported larger average indebtedness to commercial banks, Federal Land Bank, Farmers Home Administration, merchants and dealers, and other financial institutions. Average indebtedness was less for the AB borrowers except for loans held by private individuals and insurance companies. AB borrowers indebtedness to private individuals was highly influenced by one borrower having a total indebtedness of \$157,200 to private individuals. After exclusion of this extreme case the average indebtedness to private individuals was \$2,126 for AB borrowers and \$1,514 for C borrowers.

CHAPTER V

EXAMINATION OF C BORROWERS OVER A THREE-YEAR PERIOD

I. INTRODUCTION

The objective of this part of the study was to examine C borrowers over a period of time with emphasis on the capital growth of the borrowers. As indicated earlier in the study, a "grey" area exists concerning the progress and/or what happens to C borrowers.

The study area for this objective included only the Cookeville Production Credit Association. The area consisted of the following twelve Middle Tennessee counties: Cumberland, Fentress, Pickett, Overton, Putnam, White, Van Buren, Warren, DeKalb, Jackson, Clay, and Smith. These twelve counties are located on portions of the Central Basin, Highland Rim, and Cumberland Plateau. A separate sample of C borrowers was selected for the analysis for this objective.

The topic of capital growth may be approached from several viewpoints, but the method chosen in this study was to consider the changing loan classification, distribution of assets and liabilities, asset and liability relationships, and other characteristics underlying capital growth.

II. CHANGING STATUS

Loan Classification

One of the factors considered in loan classification is the financial growth of the individual borrower; therefore, a change in classification is an indication of the borrower's progress. Sample requirements stipulated that the borrowers be designated C loans in the 1963 examination; therefore, all loans were of the C classification initially. From 1963 to 1964 54 percent of the 55 borrowers had made sufficient progress to be reclassified from C to AB loans. The remaining 46 percent were again classified as C loans in 1964 (Table XXII). From the 1964 to 1965 credit examination five additional borrowers graduated from the C to AB classification. However one 1964 AB borrower declined to the C category and one 1964 examination C loan had declined to the D classification. Classification in 1965 placed 62 percent of the borrowers in an AB category, 36 percent in the C group, and 2 percent in the D classification.

It was evident that 1963 C borrowers did change classification over time and the inference may be made that progress was prevalent among the classified loans. The D loan was not considered fully uncollectable, but deterioration of credit factors was evident.

Acreage Characteristics

The comparison of farm acreage adjustments from 1963 to 1965 according to type of tenure is shown in Figure 7. Average acreage for

TABLE XXII

CHANGES IN LOAN CLASSIFICATION OF 55 PCA BORROWERS, 1963-1964-1965, COOKEVILLE ASSOCIATION

| Loan Classification | 1963 | | Year 1964 | | 1965 | |
|---------------------|---------------------|----------------------|---------------------|----------------------|---------------------|----------------------|
| | Number of Borrowers | Percent of Borrowers | Number of Borrowers | Percent of Borrowers | Number of Borrowers | Percent of Borrowers |
| AB | -- | --- | 30 | 54.5 | 34 | 61.8 |
| C | 55 | 100 | 25 | 45.5 | 20 | 36.4 |
| D | -- | --- | -- | ---- | 1 | 1.8 |

Acreage

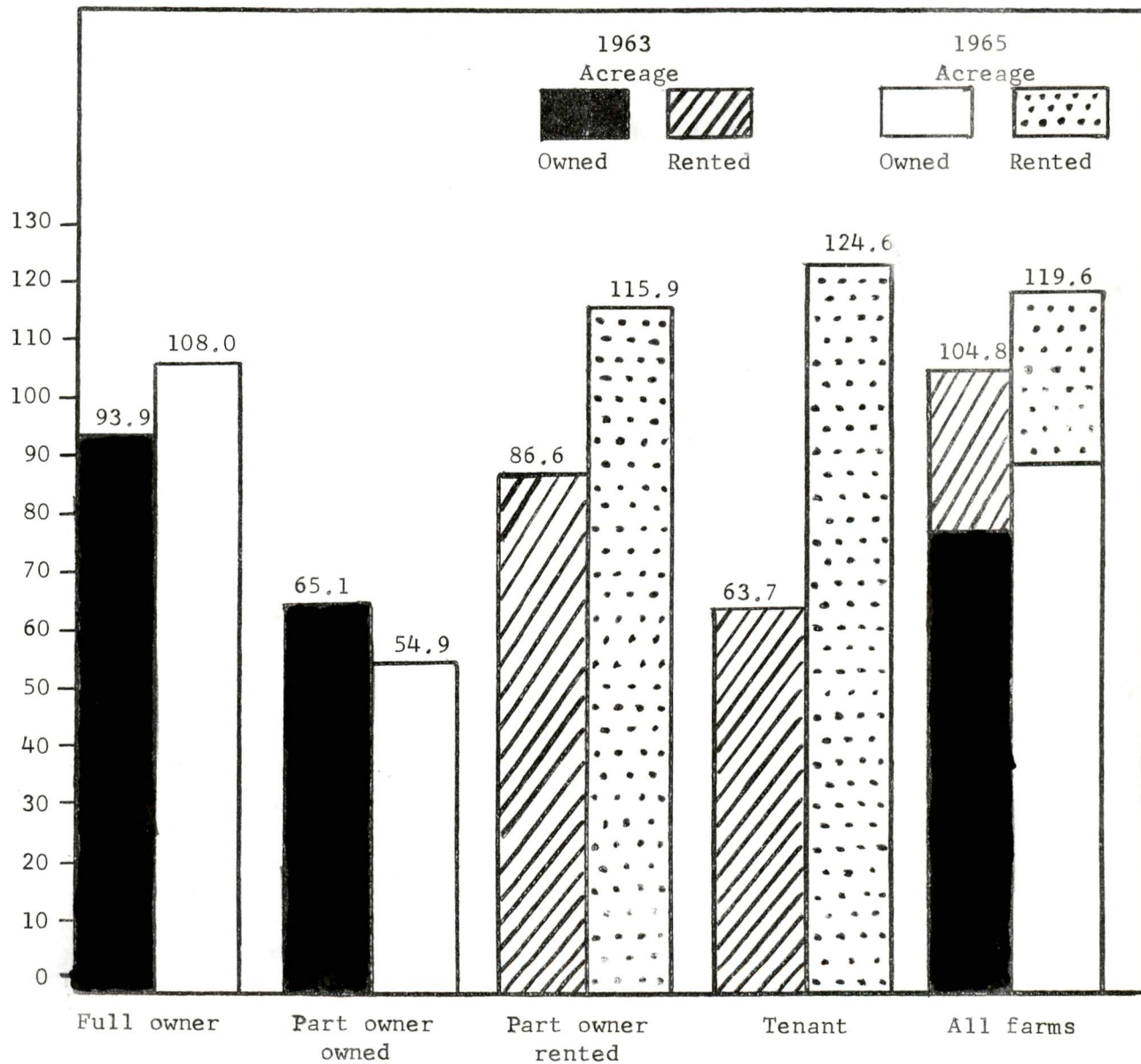


Figure 7. Changes in farm size by tenure, 1963-1965, 55 PCA borrowers, Cookeville PCA.

full owners increased 14.1 acres; however, the acreage owned by part owners decreased 10.2 acres. Rented acreage for part owners increased 29.3 acres as compared to an increase of 60.9 acres per tenant borrower. Tenants average acreage operated was highly influenced by one 1963 part owner changing to the tenant classification in 1965 and operating 500 acres. Considering only the original 1963 tenants, the average acreage operated in 1965 increased only 7.3 acres.

The total acreage operated, ignoring tenure type, increased 14.8 acres per borrower from 1963 to 1965, mostly because of an additional 10 acres owned and an increase of 4.8 acres rented per borrower.

Capital Growth

Analysis of changes in the distribution of assets and liabilities from 1963 to 1965 indicated an increase in total assets combined with a less than proportional increase in total liabilities. Current assets averaged \$10,430 in 1963 compared to \$11,326 and \$12,593 in 1964 and 1965, respectively (Table XXIII). The increase over the period of study amounted to about 9 percent from 1963 to 1964 and slightly over 11 percent from 1964 to 1965 for a total increase of about 21 percent. Current liabilities decreased 11 percent during the period. These changes resulted in an improvement in the short run repayment capacity of the borrowers.

Nonfarm real estate holdings decreased 52 percent from \$1,355 in 1963 to \$655 in 1965. Liabilities on this type of asset decreased 25 percent.

TABLE XXIII

CHANGES IN DISTRIBUTION OF ASSETS AND LIABILITIES, 55 PCA BORROWERS, 1963-1964-1965, COOKEVILLE PCA

| Item | Average Borrower | | Amount of Change Per Borrower | | | Percent Change | | | |
|---------------------|------------------|----------|-------------------------------|---------|---------|----------------|---------|-------|-------|
| | 1963 | 1964 | 1965 | 1963-64 | 1964-65 | 1963-64 | 1964-65 | | |
| Assets: | | | | | | | | | |
| Current | \$10,430 | \$11,326 | \$12,593 | \$ 896 | \$1,267 | \$2,163 | 8.6 | 11.2 | 20.7 |
| Nonfarm Real Estate | 1,355 | 1,172 | 655 | --183 | -517 | -700 | -13.5 | -44.1 | -51.7 |
| Farm Real Estate | 14,038 | 15,575 | 17,856 | 1,537 | 2,281 | 3,818 | 11.0 | 14.7 | 27.2 |
| Total Assets | 25,823 | 28,073 | 31,104 | 2,250 | 3,031 | 5,281 | 8.7 | 10.8 | 20.5 |
| Liabilities: | | | | | | | | | |
| Current | \$ 4,770 | \$ 4,468 | \$ 4,269 | \$ -302 | \$ -199 | \$ -501 | - 6.3 | - 4.5 | -10.5 |
| Nonfarm Real Estate | 538 | 704 | 402 | 166 | -302 | -136 | 30.9 | -42.9 | -25.3 |
| Farm Real Estate | 5,413 | 5,291 | 6,758 | -122 | 1,467 | 1,345 | - 2.3 | 27.7 | 24.9 |
| Total Liabilities | 10,721 | 10,463 | 11,429 | -258 | 966 | 708 | - 2.4 | 9.2 | 6.6 |
| Net Worth | 15,102 | 17,610 | 19,675 | 2,508 | 2,065 | 4,573 | 16.6 | 11.7 | 30.3 |

During the same period farm real estate assets increased \$3,818 as compared to an increase of \$1,345 in liabilities. From a percentage standpoint farm real estate assets increased 27 percent as compared to an increase of 25 percent in liabilities.

Real estate values had a direct bearing upon capital growth of the borrowers. While average total value of farm real estate increased \$3,818 per borrower, average acreage owned increased 10 acres. Average land value changed from \$188 per acre in 1963 to \$211 in 1965. This increase of \$23 in the value of land per acre accounted for \$1,946 of the \$3,818 increase in the value of farm real estate per borrower. It was not possible to determine to what extent the increase in land values was due to the rising land prices or to land and building improvements on the farm; however, for the last few years farm real estate values in the area have increased 5 to 7 percent per year.¹ Assuming a 6 percent annual increase in real estate values, \$1,776 of the \$1,946 increased value may be considered a "normal" increase in farm real estate values. Land and building improvements could account for the remaining \$170 increase in real estate values per farm. The remaining \$1,872 of increased holdings may be attributed to the 10 additional acres acquired during the study period using the conservative 1963 farm land value estimates.

¹Economic Research Service, United States Department of Agriculture, 1965 Agricultural Finance Outlook, Bulletin No. AFO-4 (Washington: Government Printing Office, November, 1964), p. 8.

Thus approximately one-half of the increased real estate value was due to increased land holdings and the remainder was due to a rise in the market value of land. On this basis approximately 38 percent of the increased net worth was due to "windfall" gains in the form of increased real estate valuation.

From the 1963 to 1965 credit examination total assets and total liabilities increased \$5,281 and \$708, respectively. The average net worth of the borrowers increased from \$15,102 in 1963 to \$19,675 in 1965.

Capital growth as viewed from the average financial statements of the sample of borrowers indicated progress through increased current and farm real estate assets combined with decreased nonfarm real estate holdings. Current and nonfarm real estate liabilities decreased, but farm real estate liabilities increased in an amount sufficient to increase total liabilities.

The borrowers capital growth from 1963 to 1965 was indicated in more detail by the various asset and liability relationships shown in Table XXIV. Only slight changes occurred in the distribution of various assets from 1963 to 1965, but changes in the distribution of liabilities indicated an improvement in the borrowers financial position. While current liabilities as a percentage of total liabilities decreased 7.1 percent, real estate liabilities increased by 7.1 percent. Real estate liabilities are normally on a longer term repayment schedule which facilitates repayment prospects.

TABLE XXIV

COMPARISON OF 1963 AND 1965 ASSET AND LIABILITY RELATIONSHIPS OF
55 PCA BORROWERS, COOKEVILLE PCA

| Item | 1963 | | 1965 | |
|--|----------|---------|----------|---------|
| | Dollars | Percent | Dollars | Percent |
| <u>Current Assets</u> | \$10,430 | 40.4 | \$12,593 | 40.5 |
| Total Assets | 25,823 | | 31,104 | |
| <u>Nonfarm Real Estate Assets</u> | 1,355 | 5.2 | 655 | 2.1 |
| Total Assets | 25,823 | | 31,104 | |
| <u>Farm Real Estate Assets</u> | 14,038 | 54.4 | 17,856 | 57.4 |
| Total Assets | 25,823 | | 31,104 | |
| <u>Current Liabilities</u> | 4,770 | 44. | 4,269 | 37.4 |
| Total Liabilities | 10,721 | | 11,429 | |
| <u>Nonfarm Real Estate Liabilities</u> | 538 | 5.0 | 402 | 3.5 |
| Total Liabilities | 10,721 | | 11,429 | |
| <u>Farm Real Estate Liabilities</u> | 5,413 | 50.5 | 6,758 | 59.1 |
| Total Liabilities | 10,721 | | 11,429 | |
| <u>Current Liabilities</u> | 4,770 | 45.7 | 4,269 | 33.9 |
| Current Assets | 10,430 | | 12,593 | |
| <u>Current Liabilities</u> | 4,770 | 18.5 | 4,269 | 13.7 |
| Total Assets | 25,823 | | 31,104 | |
| <u>Farm Real Estate Liabilities</u> | 5,413 | 38.6 | 6,758 | 37.8 |
| Farm Real Estate Assets | 14,038 | | 17,856 | |
| <u>Farm Real Estate Liabilities</u> | 5,413 | 21.0 | 6,758 | 21.7 |
| Total Assets | 25,823 | | 31,104 | |
| <u>Net Worth</u> | 15,102 | 58.5 | 19,675 | 63.3 |
| Total Assets | 25,823 | | 31,104 | |

Asset and liability distribution indicated an increased repayment ability for the sample of borrowers. Consequently, the ratio of current liabilities to current assets, an approximate measurement of short run repayment prospects, decreased from 45.7 to 33.9 percent. In other words, current liabilities decreased 11.8¢ per dollar of current assets held by the borrowers. The relationship of farm real estate liabilities to farm real estate assets changed only slightly during the study period.

Financial condition analysis spanning the three-year period indicated increased total assets combined with less than a proportional increase in total liabilities resulting in a higher net worth. Consequently, the 1963 C borrowers attained a more favorable equity percentage of 63.3 in 1965 as compared to 58.5 for 1963. This 4.8¢ increase in equity per dollar of assets includes a 4.8¢ decrease in current liabilities, .7¢ decrease for nonfarm real estate, and a .7¢ increase in farm real estate liabilities.

Tenure Type

The tenure classification of the borrowers from 1963 to 1965 is shown in Table XXV. The number of part owners decreased 11 percent with the majority becoming full owners. One borrower, 2 percent, changed from a part owner to tenant status. This borrower owned 69 acres and rented 70 acres in 1963, while in 1965 he had sold all of his land and rented 500 acres.

TABLE XXV

CHANGES IN TENURE TYPE OF 55 PCA BORROWERS FROM 1963 TO
1965, COOKEVILLE PCA

| Tenure Type | 1963 | | 1965 | |
|-------------|------------------------|-------------------------|------------------------|-------------------------|
| | Number of Borrowers | Percent of Borrowers | Number of Borrowers | Percent of Borrowers |
| Full Owner | 34 | 61.8 | 39 | 71.0 |
| Part Owner | 14 | 25.5 | 8 | 14.5 |
| Tenant | 7 | 12.7 | 8 | 14.5 |

Income Source

The relationship of income source to loan classification in 1963, 1964, and 1965 is shown in Table XXVI. Of the 55 C borrowers in 1963, 22 percent had farm income only as compared to 78 percent with some form of outside income. The percentage of borrowers having only farm income was reduced to 16 percent in 1964, but the percentage remained constant for 1965 with considerable shifts in classification.

Considering classification changes in 1964 and 1965, five borrowers changed from C to AB, one from AB to C, and one from C to D. In summary, 13 percent of the 1964 borrowers changed classification but there were no changes in income source.

TABLE XXVI

RELATIONSHIP BETWEEN CHANGES IN LOAN CLASSIFICATION AND
AND CHANGES IN INCOME SOURCES, 1963-1964-1965,
COOKEVILLE PCA

| Year and Loan Group ^a | Income Source | | | |
|----------------------------------|---------------|---------|----------------|---------|
| | Farm Only | | Outside Income | |
| | Number | Percent | Number | Percent |
| <u>1963</u> | | | | |
| AB | -- | -- | -- | -- |
| C | 12 | 21.8 | 43 | 78.2 |
| D | -- | -- | -- | -- |
| Ignoring Loan Group | 12 | 21.8 | 43 | 78.2 |
| <u>1964</u> | | | | |
| AB | 6 | 10.9 | 24 | 43.6 |
| C | 3 | 5.5 | 22 | 40.0 |
| D | -- | -- | -- | -- |
| Ignoring Loan Group | 9 | 16.4 | 46 | 83.6 |
| <u>1965</u> | | | | |
| AB | 8 | 14.6 | 26 | 47.3 |
| C | 1 | 1.8 | 19 | 34.5 |
| D | -- | -- | 1 | 1.8 |
| Ignoring Loan Group | 9 | 16.4 | 46 | 83.6 |

^aThe chi square value for the relationship between income source and loan classification was not significant at .05 level.

CHAPTER VI

SUMMARY AND CONCLUSIONS

The objectives of this study were: (1) to compare farm and borrower characteristics for AB and C loan groups; (2) to compare factors which influence risk-bearing ability of AB borrowers and C borrowers; and (3) to examine the C borrowers over a period of time with emphasis on the capital growth and changing risk status of this group of loans.

Livestock farming was the most prominent type of farming in the study area and also for both AB and C borrowers. It accounted for 40 percent of the farm types for AB borrowers and about 38 percent for the C borrowers. The type of farming was not significantly different between the loan groups. Slight variations appeared in the percentage of farms by type, but the order of relative rank remained consistent between the AB and C borrowers.

A significant difference existed between the farm size distribution of AB and C borrowers. Forty-five percent of the farms of C borrowers were less than 100 acres while only 33 percent of the AB borrowers had farms in this size range. The average size farm for AB borrowers was 267.3 acres as compared to 184.6 acres for C borrowers and 128.2 acres for all Middle Tennessee farms. Cross classification of the borrowers by tenure and operator type revealed that average acreage for AB borrowers exceeded the C borrowers except in the part-time tenant and part-time part owner classification.

Economic classification of farms was based on the amount of gross sales from farm products. Variations occurred in the economic classification distribution for Middle Tennessee farms and AB and C borrower's farms, but the relationship was not as direct as for farm acreage distribution. The proportion of farms with gross sales of \$10,000 and above was 20 percent for AB borrowers, 13 percent for C borrowers, and 12 percent for all Middle Tennessee farmers.

The average age of AB borrowers was 45.6 years as compared to 42.2 years for C borrowers and 52.9 years for all Middle Tennessee farmers. Approximately 46 percent of the AB borrowers were under 44 years of age as compared to about 61 percent of the C borrowers.

No significant difference was found between type of tenure and AB and C loan classification. The tenant classification accounted for 9 percent of the C borrowers and 4 percent of the AB borrowers as compared to 11 percent of all Middle Tennessee farmers.

In considering the type of operator, major emphasis was placed on the possible influence of off-farm income on loan classification. Approximately 60 percent of the borrowers were part-time farmers. No association was found between part-time and full-time farmers and AB and C loan classification.

A combination of numerous factors interact to constitute the risk-bearing ability of an individual farmer. AB borrowers reported refinancing indebtedness, livestock, machinery and equipment, and improvement to land and buildings as the purpose for a greater percentage of the total number

of advances. C borrowers stated real estate purchases and operating expenses to a greater extent. Greater differences appeared in the dollar value of advances than for the number of advances for various purposes. About 11 percent of the cash advanced to AB borrowers was for real estate while 22 percent of the cash advanced to C borrowers was for this purpose. Advances for real estate averaged \$6,456 for AB borrowers as compared to \$8,672 per C borrower. The majority of advances for real estate were to buy small tracts of land and/or to supplement the purchase of larger acreages. The amount borrowed by AB borrowers was larger for asset-creating purposes of livestock, machinery and equipment, and improvement to land and buildings. C borrowers borrowed to a greater extent for non-asset-creating expenditures such as debt refinancing and operating expenses.

Nearly 32 percent of the AB loans and 26 percent of the cash advanced for AB loans were secured by a chattel mortgage only. For the C loan group about 32 percent of the loans and 30 percent of the cash advanced was secured by chattel plus first real estate mortgages. Approximately 19 percent of the number and 13 percent of the amount of cash advanced to AB borrowers was on an unsecured basis; whereas, for C borrowers only 2 percent of the number and 1 percent of the amount was disbursed with no security required. On the basis of security per dollar advanced, the AB loans were secured by \$1.53 per dollar advanced as compared to \$1.84 for C loans. Assets pledged by AB borrowers as a proportion of amount borrowed was lower than for C borrowers.

Average total assets for AB borrowers were \$62,601 as compared to \$46,597 for C borrowers. In contrast, total liabilities for AB and C borrowers were \$13,664 and \$18,594, respectively. Consequently, AB borrowers maintained a more favorable equity percentage of 78.2 contrasted to 60.1 for C borrowers. Comparison of asset and liability relationships further indicated the more favorable position held by AB borrowers. The percentage of current liabilities to current assets, a measurement of short run repayment prospects, was 27.4 percent for AB borrowers as compared to 47.9 percent for C borrowers. This percentage indicates that C borrowers were indebted an additional 20.5¢ per dollar of current assets. Further analysis of the borrowers' financial condition revealed that 20 percent of the AB borrowers utilized three or more sources of credit other than PCA, contrasted to 30 percent of the C borrowers.

Examination of C borrowers over a period of time revealed that approximately 62 percent of the sample of C borrowers graduated to an AB classification by 1965 and only one borrower, 2 percent, declined to a D classification. Changes in the average financial statements indicated that the borrowers made progress through an increase in total assets combined with a less than proportional increase in total liabilities. From 1963 to 1965 total assets increased from \$25,823 to \$31,104 with total liabilities increasing from \$10,721 to \$11,429; thus a \$4,573 increase in net worth occurred during the study period. It should be noted that the "normal" increase in real estate values was an important element in the capital growth of the borrowers.

The change in distribution of current and real estate liabilities indicated an improvement in the borrower's repayment ability. Current liabilities decreased 7.1 percent while real estate liabilities increased by 7.1 percent. Since real estate liabilities are normally on a longer term repayment schedule, this shift would strengthen repayment ability. Furthermore the short run repayment capacity of the borrowers was increased through decreased current liabilities combined with increased current assets.

The study revealed that definite characteristics were common to C borrowers as compared to AB borrowers. Credit factors were normally weaker among the C borrowers, but the C borrowers examined over time made substantial progress in their financial condition and repayment ability. Loan classification according to AB and C loan groups is an area of farm credit that deserves additional research regarding the feasibility of detailed loan classification.

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APPENDIXES

APPENDIX A

FACTORS CONSIDERED IN CLASSIFYING A LOAN

According to procedures approved by the Farm Credit Administration the following factors are considered in classifying a loan:

In classifying loans in the credit examination, the examiner determines the quality of each loan by an analysis similar to that which should be given to a loan application before the loan is made. The factors considered will include the five fundamentals listed in the following paragraph as well as the borrower's handling of and repayment performance on previous loans if he has borrowed from the association in recent years. In addition to reviewing these factors, the examiner will take into account all developments subsequent to the time the current loan was made, which have affected or may affect its repayment and the financial progress of the borrower. The classification of a loan relates not only to its present status as to collectibility but likewise to important factors of the farm business being financed and their probable effects upon the borrower's future credit requirements and his ability to repay.

The following five fundamentals of sound credit constitute a practical basis for extending credit and are of major importance in determining the classification of a loan in the credit examination:

1. The Man: moral responsibility, ability of management, continuity, family cooperation, etc.
2. Financial position and progress.
3. Repayment capacity of the farm or ranch business.
4. Purpose of loan and basis of approval.
5. Collateral taken or available as security.¹

¹C. E. Webb, Vice President Federal Intermediate Credit Bank of Louisville, personal correspondence, July 25, 1966.

APPENDIX B

DESCRIPTION OF LOAN CLASSES

The definitions of loan classifications are approved by the Farm Credit Administration as established standards for designating loan quality. The three basic classes are AB, C, and D with VC denoting a narrow subclass of the comparatively much broader C class. The following commentary provides a detailed description of the loan classes.

"AB" Loans Loans ranging from those of the highest quality to those having no more than moderate credit weaknesses.

This classification includes a wide range of loan quality. At the top of the range are loans to borrowers with well-managed, balanced farming or livestock units and a record of successful operation. Barring unusually adverse conditions, these borrowers may be expected to maintain their operations or improve them. Such loans are adequately supported by collateral or financial strength of the borrowers, with sufficient margin for continuing credit on a sound basis even under adverse conditions.

From loans of the high quality just described, this classification ranges on down through loans having moderate credit weaknesses. . . . Barring unforeseen developments, the existing weaknesses should not materially affect liquidation of the loan from income nor preclude future expansion of credit.

"C" Loans Loans having major credit weaknesses but believed to be collectible in full.

Loans. . . believed to be fully collectible from the income of the business or through realization on other resources of the borrower, or otherwise. Justification for entering or continuing credit relations with borrowers whose loans receive this classification rests in the belief that the major credit weakness found to exist can be controlled or in time can be corrected. In those cases where the major weakness cannot be corrected or adequately controlled, orderly collection of the loan and discontinuance of credit relations will be the usual

course of action. Because of the major credit weaknesses found in the loans of this group, they require more than normal supervision.

"D" Loans. . . These loans represent cases in which it appears that a portion of the borrower's total indebtedness to the association, including interest and any previous partial charge-off, will not be collected in full, or is of such doubtful collectibility that a reserve or partial charge-off is needed.

"VC" Loans. . . Loans considered collectible but of high risk with possibility of loss in the event repayment from available resources does not materialize.²

²Ibid.